

**Max Perlès**  
advanced industrial linings



*technical manual*  
*chemistry & industry*  
***TECHNOPERL systems***

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Chemical & other industries  
and « max perlès » coatings for industrial storage and treatment works

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## Chemical and Other Industries and *maxperlès coatings* for industrial storage and treatment works

### Why industrial storage and treatment works should be protected :

#### Optimized Asset Management :

To prevent or to stop the degradation of infrastructure, hence significantly increasing its life expectancy and operating period, therefore generating a *positive return on the investment in the coating*.

#### Functionally :

**a concrete substrate :** To obtain a *waterproof* or *watertight* surface that can furthermore *resist certain degrees of cracking in a concrete substrate* as well as *counter-pressure* through the concrete . The coating is either single-coat , « watertight » , resisting future cracking in the substrate of up to 2/10ths of a mm , or is a waterproof composite of epoxy resin reinforced with glass tissue or mat , that will resist future cracking in the substrate of up to 20/10ths of a mm , depending on the weight of the glass reinforcement used .

**or a steel substrate :** to apply an anti-corrosion and protective film to the steel surface.

#### Technically :

- To protect industrial storage and treatment works from premature degradation due to the contact, permanent or temporary, with chemically aggressive liquids and gases.
- To protect the chemical integrity of liquid and gas contents.
- To greatly *facilitate and accelerate cleaning and maintenance operations* due to the smooth finish of the coating .
- To conform with toxicological and sanitary regulations applicable in most countries

### Advantages of max perlès coatings

#### Health and Safety :

They are *solvent-free* and made of *non-toxic and non-polluting substances*. This *protects the environment* and allows them to be applied under *health and safety conditions* vital for both the personnel involved and the quality of the implementation. In particular , they *contain no carcinogenic or mutagenic substances or substances that are toxic to reproduction (CMRs)*

#### Experience and references :

They are the result of unmatched expertise and experience : our solvent-free epoxy *coatings* for the protection of storage capacities have been implemented by qualified applicators on worksites worldwide *since 1965*.

#### Quality Assurance :

Our Research & Development and Technical Assistance Departments work in collaboration to develop our products' reliability, as well as to fine-tune new products, for a quality that we strive to always improve – *a must for ISO 9001-2015 certification* – to better meet the users' expectations and those of an *environment* more and more strictly governed by *regulations*.

#### Technical Assistance :

Our Technical Assistance department offers upon request training or advice to application companies by assisting them before and/or during their work. It also operates post-application visits upon request by the Applicator or the end customer to detect possible defects.

### Guaranteed reliability :

Max Perlès coating systems are guaranteed for the duration indicated on the specification supplied for each project . This guarantee is based on a specific *Insurance Policy* issued by a world-class Insurance Company . Our Application partners , once trained by us , should supply a similar guarantee on their workmanship . The end customer can then request from the manufacturer/applicator partnership a *Joint Guarantee* indicating that any failure of the coating during the warranty period resulting from bad product quality or its incorrect application will be corrected free of charge for the client.

UPWARDS OF 10 MILLION SQM OF CAPACITIES HAVE BEEN PROTECTED WITH  
OUR PRODUCTS OVER THE LAST 60 YEARS.

# Technical specification

## Technical specification

Waterproof, Watertight and  
Protective coating.

# 1. Overview

This document describes our:

**TECHNOPERL®** <sup>(1)</sup> epoxy-based coatings,  
and  
**GELCOAT SV101** novolac-epoxy coating.

- They can be applied in one or several coats inside **concrete works** both **primary (storage) and secondary (retentions, sumps)**.

The resulting adherent or semi-adherent systems are generally reinforced so as to make the system **waterproof** (specifications 1A, 1B, 1D, 4A, 4B, 4D – 1C) that is incorporating a reinforcement of a certain quality and thickness that gives to the coating a **resistance to future cracking** in the substrate of up to 20/10<sup>th</sup> of a mm.

In some cases, particularly when they are not in permanent contact with reagents or effluents, they can be used only for **watertightness** (specification 10).

- They are also applied as anticorrosion protection of steel works, with added reinforcement or not (specifications 101B, 201B, 301B, 400B, 701B, 501, 110B, 112B).  
They are chosen with respect to the OHGPI circulars G31 and G37.

<sup>(1)</sup> To which are added the following appropriate topcoats:

**Gelcoat SV101,**  
**LP100/512 or 812,**  
**AR100/MD4 or CLX,**

These different possibilities are described in the appropriate specification sheets.

## Technical specification

Waterproof, Watertight and  
Protective coating.

### ***Areas and limits of use:***

- ◆ Interior coatings of reservoirs, tanks, basins, retentions, gutters, canalisations, etc...,
- ◆ Whether there are overground, buried or semi-buried
- ◆ Containing reagents or effluents, acids or bases.
- ◆ Are concerned:  
New work, or rehabilitation/maintenance.
- ◆ Are excluded pre-fabricated elements as per ITBTP definition 3.3.4.

### ***Reference documents:***

- ◆ ITBTP (Technical Institute of Building and Public Works) Annals No. 486, Professional Recommendations – May 1990.
- ◆ Technical Circulars G31 and G37 of the OHGPI (Office for Certification of Industrial Paint Guarantees) applicable to steel capacities.
- ◆ Data sheets of the specified products, which detail their characteristics and their application conditions, completed with Technical Advices.
- ◆ Specific tests that have been carried out with water-based, acid, base, alcohol-containing or greasy simulants, both in permanent immersions and temporary retention situations.



## Technical specification

Waterproof, Watertight and  
Protective coating.

## 2. Description of coating functionalities

**4 criteria are retained** with respect to the function requested of the coating.

### *1. Adherent waterproofing and protection, applicable to class C concrete works*

Consists of a multi-layer coating that absorbs without damage mechanical stresses generated in particular by quantified substrate crackings and some counterpressures, while ensuring a perfect inertia to the reagent or effluent with which it is in contact:

*The system consists of a jointless reinforced structure based on **Technoperl® R** solvent-free epoxy resin, reinforced with fiberglass, and **Technoperl® T** or **Gelcoat SV101** topcoat, according to the chemical aggressiveness of the content.*

### *2. Semi-independent waterproofing and protection, applicable to class C existing concrete works, whether coated or not*

Consist of a multi-layer coating fixed to the substrate by a mechanical process bridging all existing or future cracks, and inert to the reagent or effluent with which it is in contact:

*The system is identical to the previous system, with mechanical anchoring in addition.*

### *3. Watertight coating and protection, applicable to class B concrete works*

Consist of a single-layer coating that remains inert to gas emissions and accidental liquid spillings of the reagent or effluent, while ensuring surface watertightness and protection.

*The system consists of a continuous **Technoperl® T** or **Gelcoat SV101** or **LP100/512** or **812** coating, non-reinforced and adherent, except on cracks which are then bridged with a reinforcement.*

### *4. Anticorrosion protection, applicable to steel works*

Consist of a single-layer coating that remains inert to the reagent or effluent content, while protecting the steel to which it is applied:

*The system consists of a continuous **Technoperl® T** or other coating, preceded by a fiberglass reinforced coating if the steel is heavily corroded or if the chemical aggressiveness is high.*



## Technical specification

Waterproof, Watertight and  
Protective coating.

### 3. Tests

Reports on the tests that have been realized and that are mentioned in the product data sheets are available on request.

### 4. Origin of the products

- *Design and manufacture*

They are designed and manufactured in our plant at Hénonville, Oise, France, under a quality system conforming to the ISO 9001 standard version 2015 and certified by the Bureau Veritas Certification France under nr. FR067169-1

- *Labelling/packaging/storage*

Packaging includes in particular the following indications:

- > risk and safety phrases and logos:
- > manufacture date
- > shelf life
- > storage conditions
- > mixing proportions
- > polife





## Technical specification

Waterproof, Watertight and  
Protective coating.

### 5. Nature and quality of acceptable substrates

Whether new or old , substrates should be the object of a written assessment carried out jointly by the civil works contractor and the application contractor before proceeding with the coating works , describing the condition of the surface , quantifying and qualifying any existing disorders and determining who is responsible to carry out the necessary corrections .

- ***New concrete must be left to dry for at least 28 days before coating and old concrete must be in good condition*** , designed, calculated and constructed in conformity with the prescriptions of the regulatory texts mentioned in the reference documents.

This applies in particular to the state of the surface : are deemed acceptable surface conditions obtained and/or restored using solutions proposed in our system sheets – see Chapter 4 below - and in our ***Technical Advice Nr. 1 “Specification for preparation of concrete”*** - see Appendix 3.

The state of the surface must be of a good quality as indicated in the NFP 18-201 Standard – Technical Specification – ref. DTU 23.1 and in chapters 7-3-1 of Norm NF EN 1992-1 & 1992-3 (EUROCODE N°2).

Any products used for the repair of the concrete must be validated prior to application by the application contractor to make sure they are compatible with our coatings and that no risk exists of them creating a difference in potential between old and new concrete parts that could cause degradation in the concrete and corrosion of the steel reinforcement .

- ***New or old steel*** structures must be within the limits defined in ISO 8501-1 standard (1988) – page 15, and referred to in the OHGPI circular G31 and G37.

## Technical specification

Waterproof, Watertight and  
Protective coating.

## 6. Specifications by function and type of structure:

### Concrete substrates:

#### Waterproofing and protection

Sheets	1A	: Reinforced coating	450g Technoperl® R with Technoperl® T topcoat	–	2.0 mm
	1B	: Reinforced coating	800g Technoperl® R with Technoperl® T topcoat	–	2.6 mm
	1D	: Reinforced coating	1200g Technoperl® R with Technoperl® T topcoat	–	3.0 mm
	4A	: Reinforced coating	450g Technoperl® R with Gelcoat SV101 topcoat	–	2.0 mm
	4B	: Reinforced coating	800g Technoperl® R with Gelcoat SV101 topcoat	–	2.6 mm
	4D	: Reinforced coating	1200g Technoperl® R with Gelcoat SV101 topcoat	–	3.0 mm

### Concrete substrates, pre-coated or not:

#### Semi-independent (mechanically anchored) waterproofing and protection

Sheet	1C	: Reinforced coating	800g Technoperl® R with Technoperl® T topcoat	–	2.6 mm
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### New concrete substrates:

#### Watertightness and protection

Sheet	10	: Single coat	Technoperl® T	–	0.6 mm
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### Steel substrates:

#### Anti-corrosion protection

Sheets	101B	: Single coat	Technoperl® T	–	0.8 mm
	201B	: Single coat	LP100/512	–	0.8 mm
	301B	: Single coat	LP100/812	–	0.8 mm
	400B	: Single coat	Gelcoat SV101	–	0.6 mm
	701B	: Single coat	AR100/MD4	–	0.8 mm
	110B	: Reinforced coating	1 mat Technoperl® R with Technoperl® T topcoat	–	2.0 mm
	112B	: Reinforced coating	3 mats Technoperl® R with Technoperl® T topcoat	–	4.0 mm

### Notes:

- The above single coats may also be used as topcoats over a Technoperl® R laminate coating.

## Standard waterproof fiberglass/epoxy protective coating <sup>(1)</sup>

*made of:* reinforced epoxy with 450 g/sqm of fiberglass

*for:* retention or storage works

*in contact with:* industrial effluents to be qualified

*substrate:* new concrete or good looking existing concrete

### Preparation as per [Technical Advice nr 1](#)

«Specification for preparation of concrete», and as a minimum:

- ◆ **Obtaining** a healthy and homogeneous substrate, free from laitance, loose particles and dust, over 100 microns surface roughness, using appropriate mechanical means
- ◆ **Removal** of dust with industrial vacuum cleaner
- ◆ **Impregnation** of concrete with waterborne epoxy **Primer EDO** using a roller, **250 g/sqm**
- ◆ **Bridging** of existing cracks with a 10 cm wide plasticized adhesive tape  
(except if there exists a risk of un-drained-counter-pressure)
- ◆ **Rendering** of surface defects with epoxy **Render AR100**

Proper adherence of a coating depends on the quality of the substrate and on its surface preparation. **Surface cohesion must be 1,5 MPa minimum** in the case of new concrete and **1 MPa minimum** in the case of rehabilitation of existing concrete.

### System Technoperl® / P45 – thickness 2 mm:

- ◆ **Uninterrupted laminate** of fiberglass/epoxy as per [Technical Advice nr 14](#), comprising:  
**Technoperl® R** coat for **impregnation**, using a roller, **550 microns, 750 g/sqm**  
**Glassfabric P45** to be unrolled, and debubbled using a special roller, **450 g/sqm**  
**Technoperl® R**, coat for **saturation**, using a roller, **400 microns, 550 g/sqm**  
**Silica SBO** to be sprinkled while progressing by mechanical projection, **400 g/sqm**
- ◆ **Checking** as per [Technical Advice nr 3](#) “Performance testing” and [nr 4](#) “Dielectric testing”
- ◆ **Repair** of defects as per [Technical Advice nr 5](#) “Retouching”
- ◆ **Topcoat** one coat of **Technoperl® T**, using airless spray or roller, **600 microns, 800 g/sqm**

**Application conditions:** In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

### Guarantee : 10 years

Including the **resistance to existing and bridged substrate cracks, up to 20/10<sup>th</sup> mm** and **resistance to new cracks, up to 5/10<sup>th</sup> mm** and **resistance to counter-pressure through the substrate of up to 1 bar** (10 meters of water).

*Reservation:* surface colour may change

*This proposal is based on our XL n°FR00008519LI, products civil liability insurance policy “after delivery”, within its terms and limitations  
To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



<sup>(1)</sup> In accordance with the definition of Annals of the Technical Institute of the Building industry and Public works - ITBTP - May 1990, for the **works of class C**.

## High standard waterproof fiberglass/epoxy protective coating <sup>(1)</sup>

- made of:* reinforced epoxy with 800 g/sqm of fiberglass
- for:* retention or storage works
- in contact with:* industrial effluents to be qualified
- substrate:* new concrete or existing concrete without significant degradation

### Preparation as per [Technical Advice nr 1](#)

«Specification for preparation of concrete», and as a minimum:

- ◆ **Obtaining** a healthy and homogeneous substrate, free from laitance, loose particles and dust, over 100 microns surface roughness, using appropriate mechanical means
- ◆ **Removal** of dust with industrial vacuum cleaner
- ◆ **Impregnation** of concrete with waterborne epoxy **Primer EDO** using a roller, **250 g/sqm**
- ◆ **Bridging** of existing cracks with a 10 cm wide plasticized adhesive tape  
(except if there exists a risk of un-drained-counter-pressure)
- ◆ **Rendering** of surface defects with epoxy **Render AR100**

Proper adherence of a coating depends on the quality of the substrate and on its surface preparation. **Surface cohesion must be 1,5 MPa minimum** in the case of new concrete and **1 MPa minimum** in the case of rehabilitation of existing concrete.

### System Technoperl® / P80 – thickness 2,6 mm:

- ◆ **Uninterrupted laminate** of fiberglass/epoxy as per [Technical Advice nr 14](#), comprising:  
**Technoperl® R** coat for **impregnation**, using a roller, **700 microns, 950 g/sqm**  
**Glassfabric P80** to be unrolled, and debubbled using a special roller, **800 g/sqm**  
**Technoperl® R**, coat for **saturation**, using a roller, **500 microns, 700 g/sqm**  
**Silica SBO** to be sprinkled while progressing by mechanical projection, **400 g/sqm**
- ◆ **Checking** as per [Technical Advice nr 3](#) “Performance testing” and [nr 4](#) “Dielectric testing”
- ◆ **Repair** of defects as per [Technical Advice nr 5](#) “Retouching”
- ◆ **Topcoat** one coat of **Technoperl® T**, using airless spray or roller, **600 microns, 800 g/sqm**

**Application conditions:** In accordance with the rules of the art and the indications of our data sheets and technical advices.

**A loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

### Guarantee : 10 years

Including **the resistance to existing and bridged substrate cracks, up to 20/10<sup>th</sup> mm and resistance to new cracks, up to 10/10<sup>th</sup> mm** and **resistance to counter-pressure through the substrate of up to 1 bar (10 meters of water).**

*Reservation:* surface colour may change

*This proposal is based on our XL n°FR00008519LI, products civil liability insurance policy “after delivery”, within its terms and limitations  
To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



<sup>(1)</sup> In accordance with the definition of Annals of the Technical Institute of the Building industry and Public works - ITBTP - May 1990, for the works of class C.



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Septembre 2021  
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## sheet ex.nr.1D Technoperl® / P120

# Heavy standard waterproof fiberglass/epoxy protective coating <sup>(1)</sup>

- made of:* reinforced epoxy with 1200 g/sqm of fiberglass
- for:* retention or storage works
- in contact with:* industrial effluents to be qualified
- substrate:* new concrete or existing concrete liable to present a degraded surface aspect

### Preparation as per [Technical Advice nr 1](#)

«Specification for preparation of concrete», and as a minimum:

- ◆ **Obtaining** a healthy and homogeneous substrate, free from laitance, loose particles and dust, over 100 microns surface roughness, using appropriate mechanical means
- ◆ **Removal** of dust with industrial vacuum cleaner
- ◆ **Impregnation** of concrete with waterborne epoxy **Primer EDO** using a roller, **250 g/sqm**
- ◆ **Rendering** of surface defects with epoxy **Render AR100**

Proper adherence of a coating depends on the quality of the substrate and on its surface preparation. **Surface cohesion must be 1,5 MPa minimum** in the case of new concrete and **1 MPa minimum** in the case of rehabilitation of existing concrete.

### System Technoperl® / P120 – thickness 3 mm:

- ◆ **Uninterrupted laminate** of fiberglass/epoxy as per [Technical Advice nr 14](#), comprising:  
Technoperl® R coat for **impregnation**, using a roller, **800 microns, 1100 g/sqm**  
Glassfabric P120 to be unrolled, and debubbled using a special roller, **1200 g/sqm**  
Technoperl® R, coat for **saturation**, using a roller, **600 microns, 800 g/sqm**  
Silica SBO to be sprinkled while progressing by mechanical projection, **400 g/sqm**
- ◆ **Checking** as per [Technical Advice nr 3](#) “Performance testing” and [nr 4](#) “Dielectric testing”
- ◆ **Repair** of defects as per [Technical Advice nr 5](#) “Retouching”
- ◆ **Topcoat** one coat of **Technoperl® T**, using airless spray or roller, **600 microns, 800 g/sqm**

*Application conditions:* In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

### Guarantee: 10 years

Including the resistance to substrate cracks, existing or to come, up to 20/10<sup>th</sup> mm and resistance to counter-pressure through the substrate of up to 1 bar (10 meters of water).

*Reservation:* surface colour may change

*This proposal is based on our XL n°FR00008519LI, products civil liability insurance policy “after delivery”, within its terms and limitations  
To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



<sup>(1)</sup> In accordance with the definition of Annals of the Technical Institute of the Building industry and Public works - ITBTP - May 1990, for the **works of class C**.



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sheet ex.nr.4A

Technoperl® / P45, topcoat Gelcoat SV101

## High standard waterproof fiberglass/epoxy protective coating <sup>(1)</sup>

*made of:* reinforced epoxy with 450 g/sqm of fiberglass + specific topcoat

*for:* retention or storage works  
*in contact with:* industrial effluents to be qualified

*substrate:* new concrete or existing concrete without significant degradation

Preparation as per [Technical Advice nr 1](#)

«Specification for preparation of concrete», and as a minimum:

- ◆ **Obtaining** a healthy and homogeneous substrate, free from laitance, loose particles and dust, over 100 microns surface roughness, using appropriate mechanical means
- ◆ **Removal** of dust with industrial vacuum cleaner
- ◆ **Impregnation** of concrete with waterborne epoxy **Primer EDO** using a roller, **250 g/sqm**
- ◆ **Bridging** of existing cracks with a 10 cm wide plasticized adhesive tape  
*(except if there exists a risk of un-drained-counter-pressure)*
- ◆ **Rendering** of surface defects with epoxy **Render AR100**

Proper adherence of a coating depends on the quality of the substrate and on its surface preparation. **Surface cohesion must be 1,5 MPa minimum** in the case of new concrete and **1 MPa minimum** in the case of rehabilitation of existing concrete.

System Technoperl® / P45 with Gelcoat SV101 topcoat – thickness 2.2 mm:

- ◆ **Uninterrupted laminate** of fiberglass/epoxy as per [Technical Advice nr 14](#), comprising:  
Technoperl® R coat for impregnation, using a roller, **550 microns, 750 g/sqm**  
Glassfabric P45 to be unrolled, and debubbled using a special roller, **450 g/sqm**  
Technoperl® R, coat for saturation, using a roller, **400 microns, 550 g/sqm**  
Silica SBO to be sprinkled while progressing by mechanical projection, **400 g/sqm**
- ◆ **Checking** as per [Technical Advice nr 3](#) “Performance testing” and [nr 4](#) “Dielectric testing”
- ◆ **Repair** of defects as per [Technical Advice nr 5](#) “Retouching”
- ◆ **Topcoat** novolac-epoxy **Gelcoat SV101** divided in 2 passes, using a medium bristle roller/flat brush, **600 microns, 800 g/sqm**

**Application conditions:** In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

**Guarantee: 10 years**

Including the **resistance to existing and bridged substrate cracks, up to 20/10<sup>th</sup> mm and resistance to new cracks, up to 5/10<sup>th</sup> mm and resistance to counter-pressure through the substrate of up to 1 bar (10 meters of water).**

*Reservation:* surface colour may change

*This proposal is based on our XL n°FR00008519LI, products civil liability insurance policy “after delivery”, within its terms and limitations To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*

<sup>(1)</sup> In accordance with the definition of Annals of the Technical Institute of the Building industry and Public works - ITBTP - May 1990, for the **works of class C**.



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sheet ex.nr.4B

Technoperl® / P80, topcoat Gelcoat SV101

## High standard waterproof fiberglass/epoxy protective coating <sup>(1)</sup>

*made of:* reinforced epoxy with 800 g/sqm of fiberglass + specific topcoat

*for:* retention or storage works  
*in contact with:* industrial effluents to be qualified

*substrate:* new concrete or existing concrete without significant degradation

### Preparation as per [Technical Advice nr 1](#)

«Specification for preparation of concrete», and as a minimum:

- ◆ **Obtaining** a healthy and homogeneous substrate, free from laitance, loose particles and dust, over 100 microns surface roughness, using appropriate mechanical means
- ◆ **Removal** of dust with industrial vacuum cleaner
- ◆ **Impregnation** of concrete with waterborne epoxy **Primer EDO** using a roller, **250 g/sqm**
- ◆ **Bridging** of existing cracks with a 10 cm wide plasticized adhesive tape  
*(except if there exists a risk of un-drained-counter-pressure)*
- ◆ **Rendering** of surface defects with epoxy **Render AR100**

Proper adherence of a coating depends on the quality of the substrate and on its surface preparation. **Surface cohesion must be 1,5 MPa minimum** in the case of new concrete and **1 MPa minimum** in the case of rehabilitation of existing concrete.

### System Technoperl® / P80 with Gelcoat SV101 topcoat – thickness 2.6 mm:

- ◆ **Uninterrupted laminate** of fiberglass/epoxy as per [Technical Advice nr 14](#), comprising:  
Technoperl® R coat for **impregnation**, using a roller, **700 microns, 950 g/sqm**  
Glassfabric P80 to be unrolled, and debubbled using a special roller, **800 g/sqm**  
Technoperl® R, coat for **saturation**, using a roller, **500 microns, 700 g/sqm**  
Silica SBO to be sprinkled while progressing by mechanical projection, **400 g/sqm**
- ◆ **Checking** as per [Technical Advice nr 3](#) “Performance testing” and [nr 4](#) “Dielectric testing”
- ◆ **Repair** of defects as per [Technical Advice nr 5](#) “Retouching”
- ◆ **Topcoat** novolac-epoxy **Gelcoat SV101** divided in 2 passes, using a medium bristle roller/flat brush, **600 microns, 800 g/sqm**

**Application conditions:** In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

### Guarantee: 10 years

Including the **resistance to existing and bridged substrate cracks, up to 20/10<sup>th</sup> mm** and **resistance to new cracks, up to 10/10<sup>th</sup> mm** and **resistance to counter-pressure through the substrate of up to 1 bar (10 meters of water)**.

*Reservation:* surface colour may change

*This proposal is based on our XL n°FR00008519LI, products civil liability insurance policy “after delivery”, within its terms and limitations. To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



<sup>(1)</sup> In accordance with the definition of Annals of the Technical Institute of the Building industry and Public works - ITBTP - May 1990, for the **works of class C**.



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sheet ex.nr.4D

Technoperl® / P120, topcoat Gelcoat SV101

## High standard waterproof fiberglass/epoxy protective coating <sup>(1)</sup>

- made of:* reinforced epoxy with 1200 g/sqm of fiberglass + specific topcoat
- for:* retention or storage works
- in contact with:* industrial effluents to be qualified
- substrate:* new concrete or existing concrete liable to present a degraded surface aspect

### Preparation as per *Technical Advice nr 1*

«Specification for preparation of concrete», and as a minimum:

- ◆ **Obtaining** a healthy and homogeneous substrate, free from laitance, loose particles and dust, over 100 microns surface roughness, using appropriate mechanical means
- ◆ **Removal** of dust with industrial vacuum cleaner
- ◆ **Impregnation** of concrete with waterborne epoxy **Primer EDO** using a roller, **250 g/sqm**
- ◆ **Rendering** of surface defects with epoxy **Render AR100**

Proper adherence of a coating depends on the quality of the substrate and on its surface preparation. **Surface cohesion must be 1,5 MPa minimum** in the case of new concrete and **1 MPa minimum** in the case of rehabilitation of existing concrete.

### System Technoperl® / P120 with Gelcoat SV101 topcoat – thickness 3 mm:

- ◆ **Uninterrupted laminate** of fiberglass/epoxy as per *Technical Advice nr 14*, comprising:  
**Technoperl® R** coat for **impregnation**, using a roller, **800 microns, 1100 g/sqm**  
**Glassfabric P120** to be unrolled, and debubbled using a special roller, **1200 g/sqm**  
**Technoperl® R**, coat for **saturation**, using a roller, **600 microns, 800 g/sqm**  
**Silica SBO** to be sprinkled while progressing by mechanical projection, **400 g/sqm**
- ◆ **Checking** as per *Technical Advice nr 3* “Performance testing” and *nr 4* “Dielectric testing”
- ◆ **Repair** of defects as per *Technical Advice nr 5* “Retouching”
- ◆ **Topcoat** novolac-epoxy **Gelcoat SV101** In 1 layer using airless spray 45/1 minimum, or divided in 2 passes, using a medium bristle roller, **600 microns, 800 g/sqm**

*Application conditions:* In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

### Guarantee: 10 years

Including the resistance to substrate cracks, existing or to come, up to 20/10<sup>th</sup> mm and resistance to counter-pressure through the substrate of up to 1 bar (10 meters of water).

*Reservation:* surface colour may change

*This proposal is based on our XL n°FR00008519LI, products civil liability insurance policy “after delivery”, within its terms and limitations To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



<sup>(1)</sup> In accordance with the definition of Annals of the Technical Institute of the Building industry and Public works - ITBTP - May 1990, for the **works of class C**.





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Perlès

September 2021  
Chemical and other products  
manual

## sheet ex.nr.1C Technoperl® / P80, anchored

### Mechanically anchored waterproof<sup>(1)</sup> lining

- made of:* reinforced epoxy with 800 g/sqm of fiberglass
- for:* retention or storage works
- in contact with:* industrial effluents to be qualified
- substrate:* existing concrete previously coated or not, without significant degradation

#### Preparation as per *Technical Advice nr 1*

«Specification for preparation of concrete», and as a minimum:

- ◆ **Removal** of every bad or non adhesive particules of the previous coating by any suitable means,
- ◆ **Levelling** of the blistered or projecting zones by grinding, until obtaining an even, plane surface
- ◆ **Cleaning** by any suitable means until total depollution, removal of dust with industrial vacuum cleaner
- ◆ **Rendering** of surface defects with epoxy **Render AR100**

The existing coating can be preserved in whole or part on condition that its adherence to the substrate is minimum 1 MPa according to NF EN 24624. The naked concrete zones must be prepared identically to those receiving an adherent coating.

Advice: the application under the laminate of our conductive primer **SCREENPERL® (200µ)** allows homogeneous dielectric testing despite the potentially insulating presence of the previous coating.

#### System Technoperl® / P80 anchored – thickness 2,6 mm:

- ◆ **Uninterrupted laminate** of fiberglass/epoxy as per *Technical Advice nr 14*, comprising:
  - . Technoperl® R coat for **impregnation**, using a roller, **700 microns, 950 g/sqm**
  - Glassfabric P80 to be unrolled, and debubbled using a special roller, **800 g/sqm**
  - . Technoperl® R, coat for **saturation**, using a roller, **500 microns, 700 g/sqm**
  - Silica SBO to be sprinkled while progressing by mechanical projection, **400 g/sqm**
- ◆ **Fixed** mechanically every 50 cm with **Exco plugs/PP 8/50 Ø 32 mm**, as per *Technical Advice nr 21* “Mechanical fixing in one piece of laminates”
- ◆ **Reinforcement** with mat washers **RM 60 Ø 12 cm, 5 u/sqm**, saturated of **Technoperl R, 10 g/u**, and sprinkled with silice SBO while progressing
- ◆ **Checking** as per *Technical Advice nr 3* “Performance testing” and *nr 4* “Dielectric testing”
- ◆ **Repair** of defects as per *Technical Advice nr 5* “Retouching”
- ◆ **Topcoat** one coat of **Technoperl® T**, using airless spray or roller, **600 microns, 800 g/sqm**

*Application conditions:* In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

#### Guarantee: 10 years

Including **the resistance to all substrate cracks, existing or to come.**

**Exclusion:** any defects resulting from **the counter-pressure exercised at the back of the coating by un-drained water**

Reservation: surface colour may change

*This proposal is based on our XL n°FR00008519LI, products civil liability insurance policy “after delivery”, within its terms and limitations To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



<sup>(1)</sup> In accordance with the definition of Annals of the Technical Institute of the Building industry and Public works - ITBTP - May 1990, for the **works of class C**. to NF EN 24624. The naked concrete zones must be prepared identically to those receiving an adherent coating.



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## sheet ex.nr.10 Technoperl® – 0.6 mm

### Protective watertight coating <sup>(1)</sup>

- made of:* single-layer solventfree epoxy
- for:* capacity walls, floors and under-faces
- in contact <sup>(2)</sup> with:* industrial effluents to be qualified
- substrate:* new concrete

Preparation as per *Technical Advice nr 1*  
«Specification for preparation of concrete», and as a minimum:

- ◆ **Obtaining** a healthy and homogeneous substrate, free from laitance, loose particles and dust, over 100 microns surface roughness, using appropriate mechanical means
- ◆ **Removal** of dust with industrial vacuum cleaner
- ◆ **Impregnation** of concrete with waterborne epoxy **Primer EDO** using a roller, **250 g/sqm**
- ◆ **Rendering** of surface defects with epoxy **Render AR100**

Proper adherence of a coating depends on the quality of the substrate and on its surface preparation. **Surface cohesion must be 1,5 MPa minimum** in the case of new concrete and **1 MPa minimum** in the case of rehabilitation of existing concrete.

#### Technoperl® coating – thickness 0.6 mm:

- ◆ **Application** of **Technoperl® T**:  
In 1 layer using airless spray 45/1 minimum  
Theoretical consumption: **800 g/sqm** for **600 microns**,
- ◆ **Checking** as per *Technical Advice nr 3* “Performance testing” and *nr 4* “Dielectric testing”
- ◆ **Repair** of defects as per *Technical Advice nr 5* “Retouching”

*Application conditions:* In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

*Guarantee: up to 5 years*, depending on the nature and temperature of the effluent <sup>(2)</sup>

#### **Reservations:**

. any defects coming from a microscopic crack or a nonbridged/reinforced crack,  
or from an underpressure non drained water in the back of the coating.  
surface colour may change

*This proposal is based on our XL n°FR00008519LI, products civil liability insurance policy “after delivery”, within its terms and limitations  
To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



<sup>(1)</sup> In accordance with the definition of Annals of the Technical Institute of the Building industry and Public works - ITBTP - May 1990, for the **works of class B, not resistant to cracks.**

<sup>(2)</sup> **Indirect contact only,**  
Or in the form of **accidental splashes cleaned as they occur.**



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March 2022  
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# sheet ex.nr.101B Technoperl® 800µ, on Sa2.5 & Primer

## Anti-corrosion protection

- made of:* single-layer solventfree epoxy
- for:* inside capacities
- in contact with:* industrial effluents to be qualified
- substrate:* new steel or steel in good looking surface state <sup>(1)</sup>

Preparation as per [Technical Advice nr 2](#)  
«Specification for preparation of steel», and as a minimum:

- ◆ Grinding of barbs and welding projections until elimination, and of the weld beads and sharp angles for softening
- ◆ Blasting <sup>(2)</sup> by any appropriate means to obtain equivalent to Sa 2.5 standard, with a Medium G or a Rt 50-75 microns profile
- ◆ Removal of dust with industrial vacuum cleaner
- ◆ Application while progressing and before any flash-rusting of one stand-by coat of **Primer EDP**, solvent borne epoxy, 40 µm dry film, **150 g/sqm**

### Technoperl® coating – thickness 0.8 mm:

- ◆ Application of **Technoperl® T**:  
In 1 layer using airless spray 45/1 minimum,  
Theoretical consumption: **1100 g/sqm** for **800 microns**,
- ◆ Checking as per [Technical Advice nr.3](#) “Performance testing” and [nr.4](#) “Dielectric testing”
- ◆ Repair of defects as per [Technical Advice nr.5](#) “Retouching”

*Application conditions:* In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

*Possible guarantee : 5 years*, depending on the nature and temperature of the effluent.

In accordance with Circular G37 of the OHGPI

*This proposal is based on our n° FA0095300, products civil liability insurance policy “after delivery”, within its terms and limitations  
To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



- (1) **This specification is for works to the maximum with the state C of the standard ISO 8501-1988 - page 15:**
- On the assumption of an important corrosion where the state D would be reached without however being exceeded, a specific rendering of the corrosion cankers is necessary with **Render AR100**, solventfree epoxy gel charged with silica.
  - If corrosion exceeds the state D, the implementation of a structure **Technoperl® R reinforced with glassfiber** is necessary before the application of the topcoat **Technoperl® T**.
- (2) **In case of sweating of steel plates which contained oily products, observe 48 h delay after blasting.**  
The appearance of brown stains must lead to a new blasting onto the affected areas until they disappear.



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March 2022  
Chemical and other products  
manual

# sheet ex.nr.201B LP100/512 800µ, on Sa2.5 & Primer

## Anti-corrosion protection

- made of:* single-layer solventfree epoxy
- for:* inside capacities
- in contact with:* industrial effluents to be qualified
- substrate:* new steel or steel in good looking surface state <sup>(1)</sup>

Preparation as per [Technical Advice nr 2](#)  
«Specification for preparation of steel», and as a minimum:

- ◆ Grinding of barbs and welding projections until elimination, and of the weld beads and sharp angles for softening
- ◆ Blasting <sup>(2)</sup> by any appropriate means to obtain equivalent to Sa 2.5 standard, with a Medium G or a Rt 50-75 microns profile
- ◆ Removal of dust with industrial vacuum cleaner
- ◆ Application while progressing and before any flash-rusting of one stand-by coat of **Primer EDP**, solvent borne epoxy, 40 µm dry film, **150 g/sqm**

### LP100/512 coating – thickness 0.8 mm:

- ◆ Application of LP100/512: In 1 layer using airless spray 45/1 minimum, Theoretical consumption: **1150 g/sqm** for **800 microns**,
- ◆ Checking as per [Technical Advice nr.3](#) “Performance testing” and [nr.4](#) “Dielectric testing”
- ◆ Repair of defects as per [Technical Advice nr.5](#) “Retouching”

*Application conditions:* In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

*Possible guarantee : 5 years*, depending on the nature and temperature of the effluent.

In accordance with Circular G37 of the OHGPI

*This proposal is based on our n° FA0095300, products civil liability insurance policy “after delivery”, within its terms and limitations To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



- (1) **This specification is for works to the maximum with the state C of the standard ISO 8501-1988 - page 15:**
- On the assumption of an important corrosion where the state D would be reached without however being exceeded, a specific rendering of the corrosion cankers is necessary with **Render AR100**, solventfree epoxy gel charged with silica.
  - If corrosion exceeds the state D, the implementation of a structure **Technoperl®R reinforced with glassfiber** is necessary before the application of the topcoat **LP100/512**.
- (2) **In case of sweating of steel plates which contained oily products, observe 48 h delay after blasting.**  
The appearance of brown stains must lead to a new blasting onto the affected areas until they disappear.



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# sheet ex.nr.301B LP100/812 800µ, on Sa2.5 & Primer

## Anti-corrosion protection

- made of:* single-layer solventfree epoxy
- for:* inside capacities
- in contact with:* industrial effluents to be qualified
- substrate:* new steel or steel in good looking surface state <sup>(1)</sup>

Preparation as per [Technical Advice nr 2](#)  
«Specification for preparation of steel», and as a minimum:

- ◆ Grinding of barbs and welding projections until elimination, and of the weld beads and sharp angles for softening
- ◆ Blasting <sup>(2)</sup> by any appropriate means to obtain equivalent to Sa 2.5 standard, with a Medium G or a Rt 50-75 microns profile
- ◆ Removal of dust with industrial vacuum cleaner
- ◆ Application while progressing and before any flash-rusting of one stand-by coat of **Primer EDP**, solvent borne epoxy, 40 µm dry film, **150 g/sqm**

### LP100/812 coating – thickness 0.8 mm:

- ◆ Application of LP100/812:  
In 1 layer using airless spray 45/1 minimum,  
Theoretical consumption: **1100 g/sqm** for **800 microns**,
- ◆ Checking as per [Technical Advice nr.3](#) “Performance testing” and [nr.4](#) “Dielectric testing”
- ◆ Repair of defects as per [Technical Advice nr.5](#) “Retouching”

*Application conditions:* In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

*Possible guarantee : 5 years*, depending on the nature and temperature of the effluent.

In accordance with Circular G37 of the OHGPI

*This proposal is based on our n°FA0095300, products civil liability insurance policy “after delivery”, within its terms and limitations  
To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



- (1) **This specification is for works to the maximum with the state C of the standard ISO 8501-1988 - page 15:**
- On the assumption of an important corrosion where the state D would be reached without however being exceeded, a specific rendering of the corrosion cankers is necessary with **Render AR100**, solventfree epoxy gel charged with silica.
  - If corrosion exceeds the state D, the implementation of a structure **Technoperl®R reinforced with glassfiber** is necessary before the application of the topcoat **LP100/812**.
- (2) **In case of sweating of steel plates which contained oily products, observe 48 h delay after blasting.**  
The appearance of brown stains must lead to a new blasting onto the affected areas until they disappear.



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October 2021  
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## sheet ex.nr.400B Gelcoat SV101 600µ, on Sa2.5 & Primer

### Anti-corrosion protection

- made of:* single-layer solventfree epoxy
- for:* inside capacities
- in contact with:* industrial effluents to be qualified
- substrate:* new steel or steel in good looking surface state <sup>(1)</sup>

Preparation as per [Technical Advice nr 2](#)  
«Specification for preparation of steel», and as a minimum:

- ◆ Grinding of barbs and welding projections until elimination, and of the weld beads and sharp angles for softening
- ◆ Blasting <sup>(2)</sup> by any appropriate means to obtain equivalent to Sa 2.5 standard, with a Medium G or a Rt 50-75 microns profile
- ◆ Removal of dust with industrial vacuum cleaner
- ◆ Application while progressing and before any flash-rusting of one stand-by coat of Primer EDP, solvent borne epoxy, 40 µm dry film, 150 g/sqm

#### Gelcoat SV101 coating – thickness 0.6 mm:

- ◆ Application of Gelcoat SV101:  
In 1 layer using airless spray 45/1 minimum, or roller with spalter smoothing, in 2 passes from 2h to 6h of interval, Theoretical consumption: 800 g/sqm for 600 microns,
- ◆ Checking as per [Technical Advice nr.3](#) "Performance testing" and [nr.4](#) "Dielectric testing"
- ◆ Repair of defects as per [Technical Advice nr.5](#) "Retouching"

*Application conditions:* In accordance with the rules of the art and the indications of our data sheets and technical advices.

A loss factor has to be added for practical consumption, **about 15%**, according to means and methods used.

*Guarantee: 5 years*, depending on the nature and temperature of the effluent

In accordance with Circular G37 of the OHGPI

*This proposal is based on our XL n°FR00008519LI, products civil liability insurance policy "after delivery", within its terms and limitations To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



- (1) This specification is for works to the maximum with the state C of the standard ISO 8501-1988 - page 15:
- On the assumption of an important corrosion where the state D would be reached without however being exceeded, a specific rendering of the corrosion cankers is necessary with Render AR100, solventfree epoxy gel charged with silica.
  - If corrosion exceeds the state D, the implementation of a structure Technoperl® R reinforced with glassfiber is necessary before the application of the topcoat Gelcoat SV101.
- (2) In case of sweating of steel plates which contained oily products, observe 48 h delay after blasting.  
The appearance of brown stains must lead to a new blasting onto the affected areas until they disappear.



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# sheet ex.nr.701B

## AR100/MD4 800µ, on Sa3 & Primer

### Anti-corrosion protective coating

- made of:* single-layer solventfree epoxy
- for:* permanent or temporary storage works
- in contact with:* industrial effluents to be identified
- substrate:* new steel or steel in good looking surface state <sup>(1)</sup>

Preparation as per [Technical Advice nr 2](#)  
«Specification for preparation of steel», and as a minimum:

- ◆ Grinding of barbs and welding projections until elimination, and of the weld beads and sharp angles for softening
- ◆ Blasting <sup>(2)</sup> by any appropriate means to obtain equivalent to Sa3 standard, with a Medium G or a Rt 50-75 microns profile
- ◆ Removal of dust with industrial vacuum cleaner
- ◆ Application while progressing and before any flash-rusting of one stand-by coat of **Primer EDP**, solvent borne epoxy, 40 µm dry film, **150 g/sqm**

AR100/MD4 coating – thickness 0.8 mm:

- ◆ Application of AR100/MD4: In 1 layer using airless spray 45/1 minimum, Theoretical consumption: **1250 g/sqm** for **800 microns**,
- ◆ Checking as per [Technical Advice nr.3](#) “Performance testing” and [nr.4](#) “Dielectric testing”
- ◆ Repair of defects as per [Technical Advice nr.5](#) “Retouching”

*Application conditions:* In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

*Possible guarantee : 5 years*, depending on the nature and temperature of the effluent.

In accordance with Circular G37 of the OHGPI

*This proposal is based on our n°FA0095300, products civil liability insurance policy “after delivery”, within its terms and limitations To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



- (1) **This specification is for works to the maximum with the state C of the standard ISO 8501-1988 - page 15:**
- On the assumption of an important corrosion where the state D would be reached without however being exceeded, a specific rendering of the corrosion cankers is necessary with **Render AR100**, solventfree epoxy gel charged with silica.
  - If corrosion exceeds the state D, the implementation of a structure **Technoperl® R reinforced with glassfiber** is necessary before the application of the topcoat **AR100/MD4**.
- (2) **In case of sweating of steel plates which contained oily products, observe 48 h delay after blasting.**  
The appearance of brown stains must lead to a new blasting onto the affected areas until they disappear.



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## sheet ex.nr.110B Technoperl® / 1 glassmat

### Anti-corrosion reinforced protection

- made of:* reinforced epoxy with 450 g/sqm of fiberglass
- for:* inside capacities
- in contact with:* industrial effluents to be qualified
- substrate:* new steel or existing with non-penetrating internal corrosion

#### Preparation as per *Technical Advice nr 2*

«Specification for preparation of steel», and as a minimum:

- ◆ Grinding of barbs and welding projections until elimination, and of the weld beads and sharp angles for softening
- ◆ Blasting <sup>(1)</sup> by any appropriate means to obtain equivalent to Sa 2.5 standard, with a Medium G or a Rt 50-75 microns profile
- ◆ Removal of dust with industrial vacuum cleaner
- ◆ Application <sup>(2)</sup> while progressing and before any flash-rusting of one stand-by coat of **Primer EDP**, solvent borne epoxy, 40 µm dry film, **150 g/sqm**

#### System Technoperl® / 1 glassmat 450 – thickness 2 mm:

- ◆ Uninterrupted laminate of fiberglass/epoxy **Technoperl® R**, as per *Technical Advice nr.14*:  
**Technoperl® R** coat for **impregnation**, using a roller, **600 microns, 800 g/sqm**  
**M450 type glassmat**, to be unrolled, and debubbled using a special roller, **450 g/sqm**  
**Technoperl® R** coat for **saturation**, using a roller, **500 microns, 700 g/sqm**  
**Silica SBO** to be sprinkled while progressing by mechanical projection, **400 g/sqm**
- ◆ Checking with *Technical Advice nr.3* “Performance testing” and *nr.4* “Dielectric testing
- ◆ Repair of defects as per *Technical Advice nr.5* “Retouching”
- ◆ Top coat One coat of **Technoperl® T**, solventfree epoxy, using airless spray, **600 microns, 800 g/sqm**

*Application conditions:* In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

*Possible guarantee : 5 years*, depending on the nature and temperature of the effluent.

In accordance with Circular G37 of the OHGPI

*This proposal is based on our n° FA0095300, products civil liability insurance policy “after delivery”, within its terms and limitations To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



- (1) **In case of a risk of sweating of steel plates which contained oily products, observe 48 h delay after blasting.**  
The appearance of brown stains must lead to a new blasting onto the affected areas until they disappear.
- (2) **Is not mandatory in the case of treatment of small steel tanks where there is no risk of reoxidation of the steel after blasting:**  
in this case, its roughness will be increased to 100 microns or rough G.





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## sheet ex.nr.112B Technoperl® / 3 glassmats

### Anti-corrosion reinforced protection

*made of:* reinforced epoxy with 1350 g/sqm of fiberglass

*for:* inside capacities

*in contact with:* industrial effluents to be qualified

*substrate:* new steel or existing steel with penetrating internal corrosion and/or external corrosion

Preparation as per *Technical Advice nr 2*

«Specification for preparation of steel», and as a minimum:

- ◆ Grinding of barbs and welding projections until elimination, and of the weld beads and sharp angles for softening
- ◆ Blasting <sup>(1)</sup> by any appropriate means to obtain equivalent to Sa 2.5 standard, with a Medium G or a Rt 50-75 microns profile
- ◆ Removal of dust with industrial vacuum cleaner
- ◆ Application <sup>(2)</sup> while progressing and before any flash-rusting of one stand-by coat of **Primer EDP**, solvent borne epoxy, 40 µm dry film, **150 g/sqm**

*System Technoperl® / 3 glassmats 450 – thickness 4 mm:*

- ◆ Uninterrupted laminate of fiberglass/epoxy **Technoperl® R**, as per *Technical Advice nr.14:*  
One impregnating coat of **Technoperl® R**, using a roller, **600 microns, 800 g/sqm**  
**M450 type glass mat**, to be unrolled, and debubbled using a special roller, **450 g/sqm**  
Same operation for the **2<sup>nd</sup>**, then the **3<sup>rd</sup>** glassmat  
One saturation coat of **Technoperl® R**, using a roller, **500 microns, 700 g/sqm**  
Sprinkle while progressing with **silica SB 0** by mechanical pulverization, **400 g/sqm**
- ◆ Checking with *Technical Advice nr.3* “Performance testing” and *nr.4* “Dielectric testing
- ◆ Repair of defects as per *Technical Advice nr.5* “Retouching”
- ◆ Top coat One coat of **Technoperl® T**, solventfree epoxy, using airless spray, **600 microns, 800 g/sqm**

*Application conditions:* In accordance with the rules of the art and the indications of our data sheets and technical advices.

A **loss factor** has to be added for practical consumption, **about 15%**, according to means and methods used.

*Possible guarantee : 5 years*, depending on the nature and temperature of the effluent.

In accordance with Circular G37 of the OHGPI

*This proposal is based on our n° FA0095300, products civil liability insurance policy “after delivery”, within its terms and limitations To become effective, it must have been formalised in a duly signed guarantee commitment certificate.*



- (1) **In case of a risk of sweating of steel plates which contained oily products, observe 48 h delay after blasting.**  
The appearance of brown stains must lead to a new blasting onto the affected areas until they disappear.
- (2) **Is not mandatory in the case of treatment of small steel tanks where there is no risk of reoxidation of the steel after blasting:**  
in this case, its roughness will be increased to 100 microns or rough G.



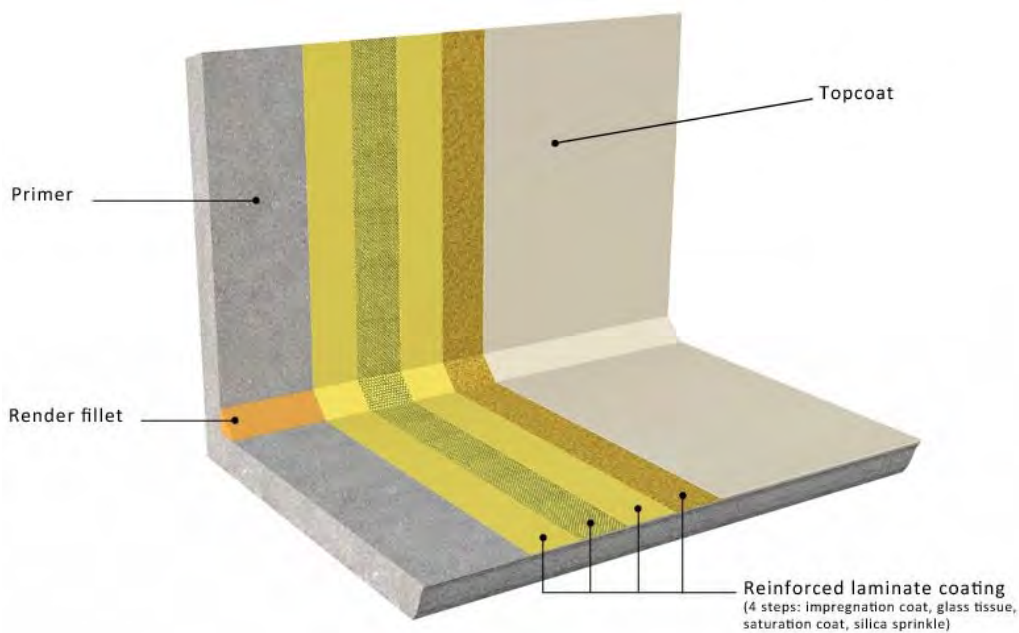
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advanced industrial coatings

Coating of concrete structures

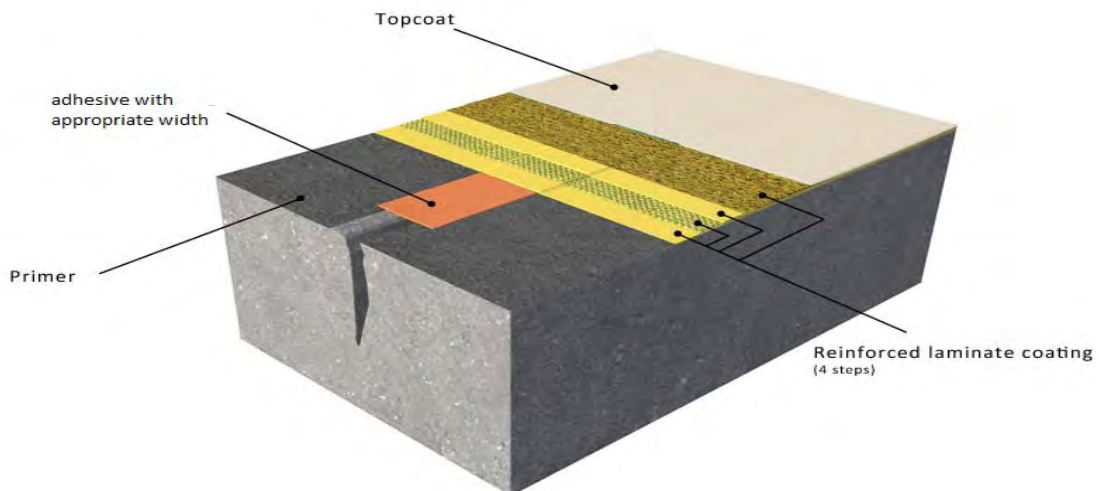
August 2019

# Dealing with singular points: Sketch Book

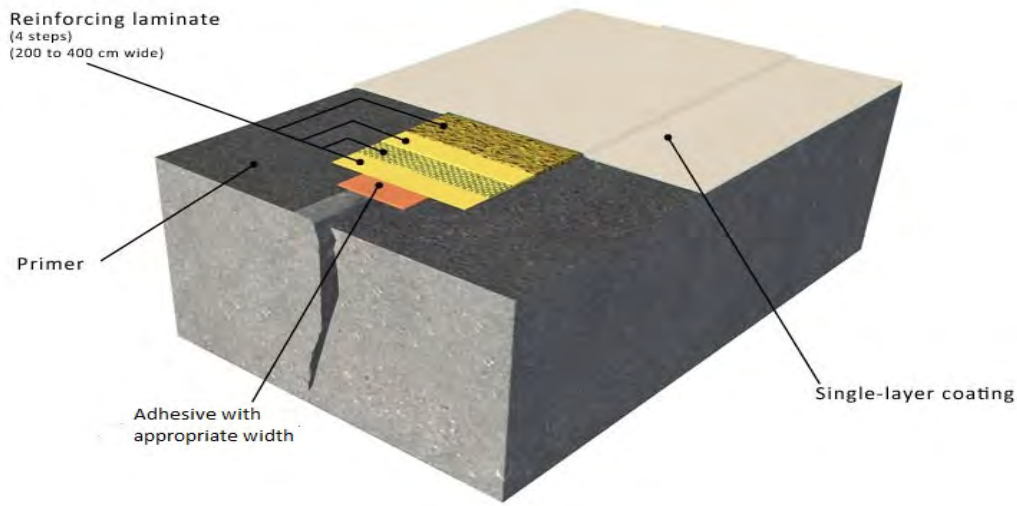
## *Layered presentation of a laminate coating*



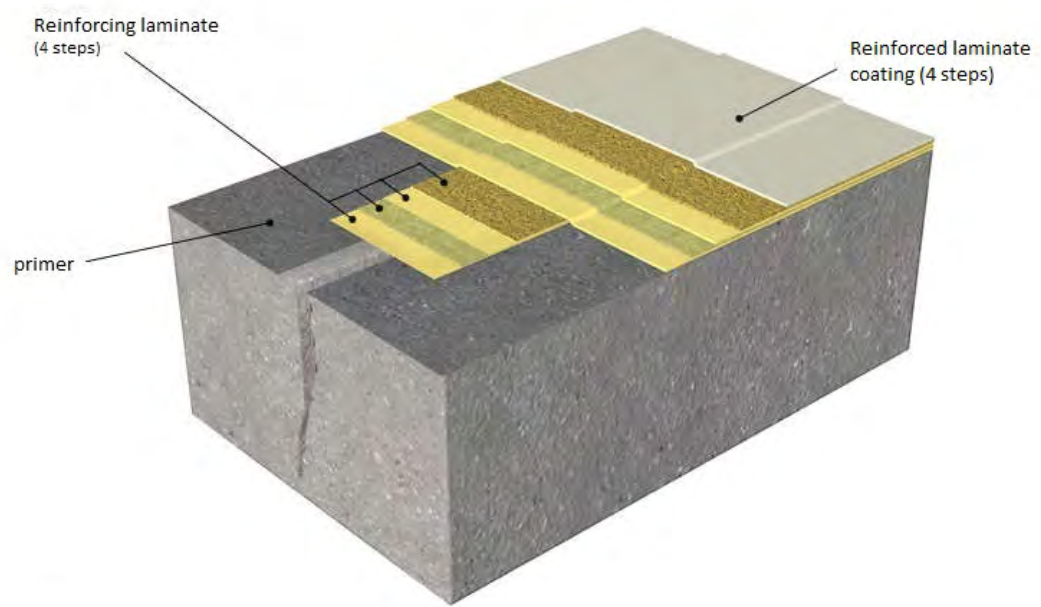
## *Sketch no.1: Treating a non active and non penetrating crack when applying a laminate coating*



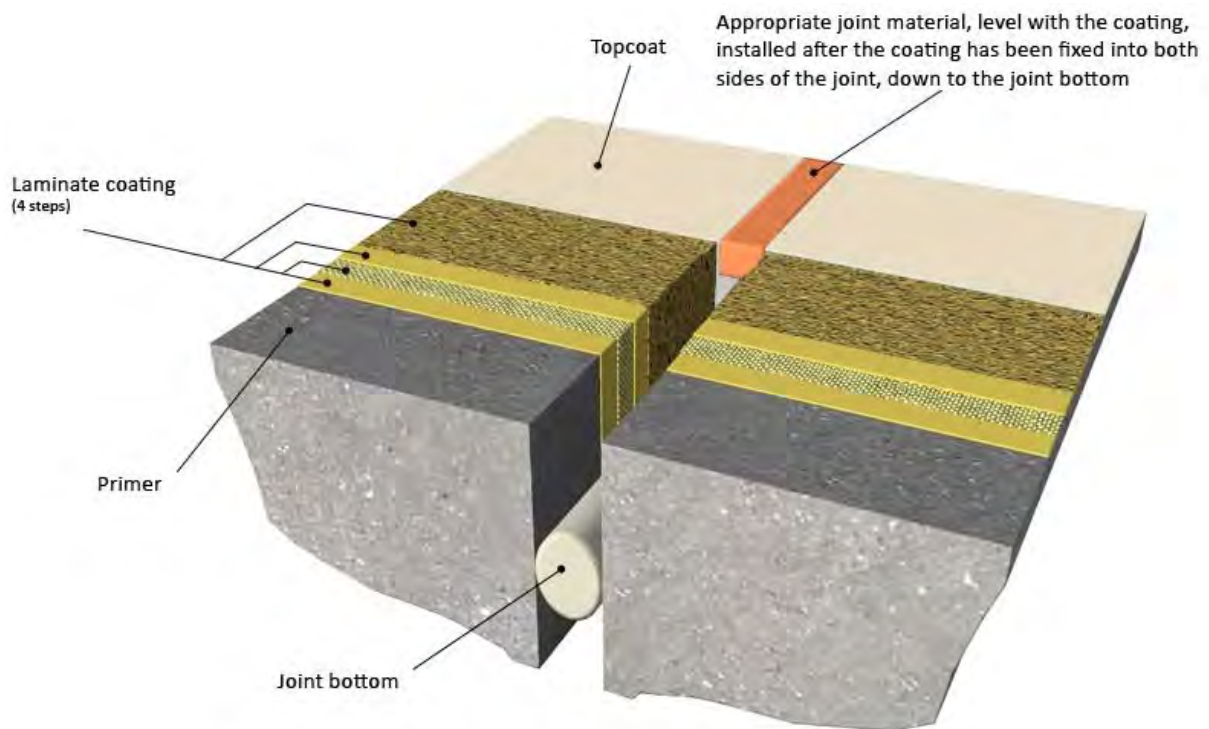
*Sketch no.2: Treating a crack when applying a single-layer coating*



*Sketch no.3: Treating a crack when applying a laminate coating*

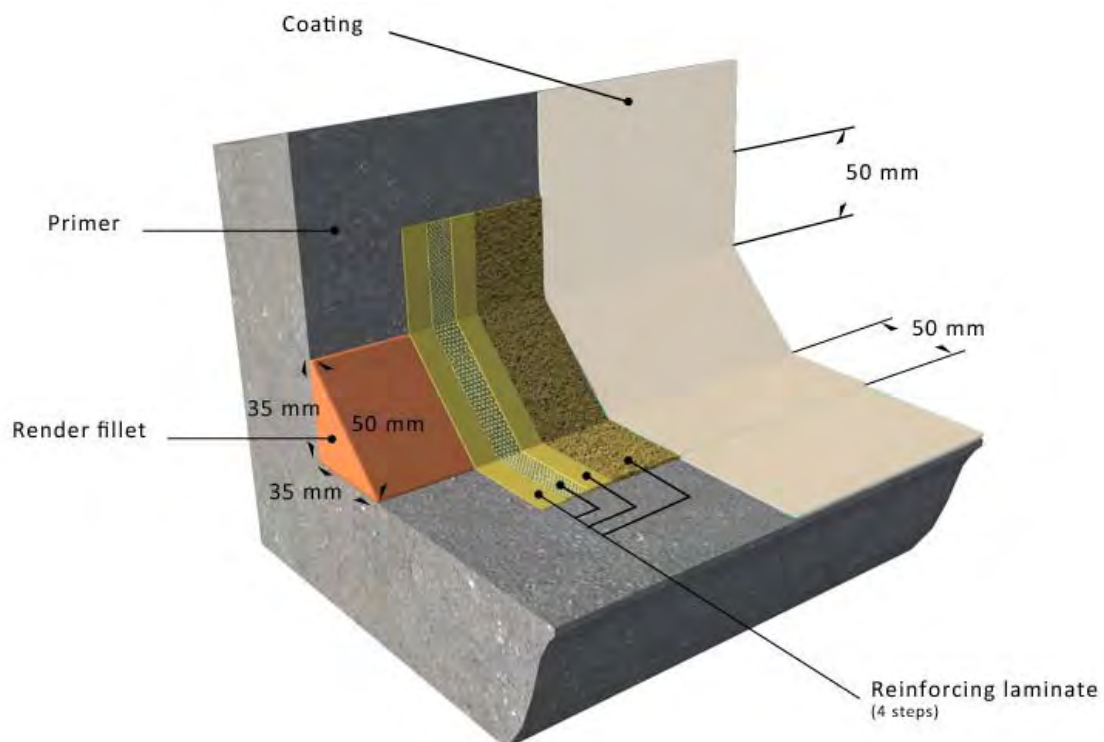


*Sketch no.4: Treating an expansion joint or an active and penetrating crack when applying a laminate coating*

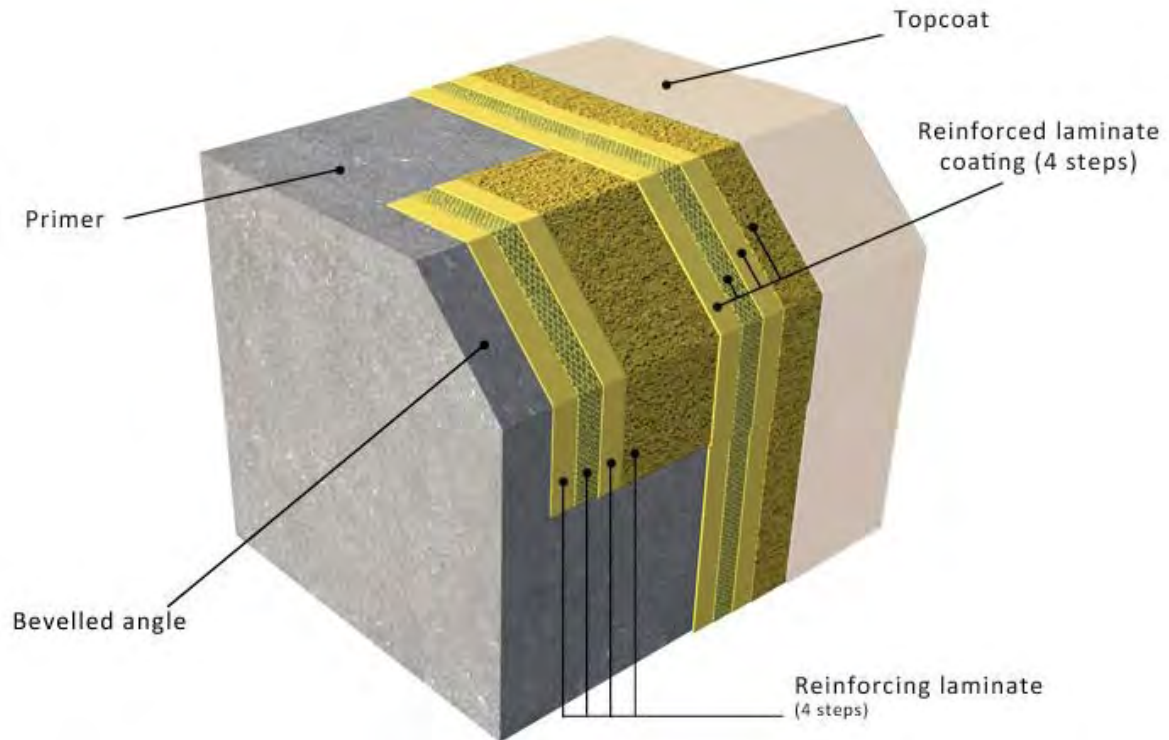


Treatment is the same when applying a single-layer coating

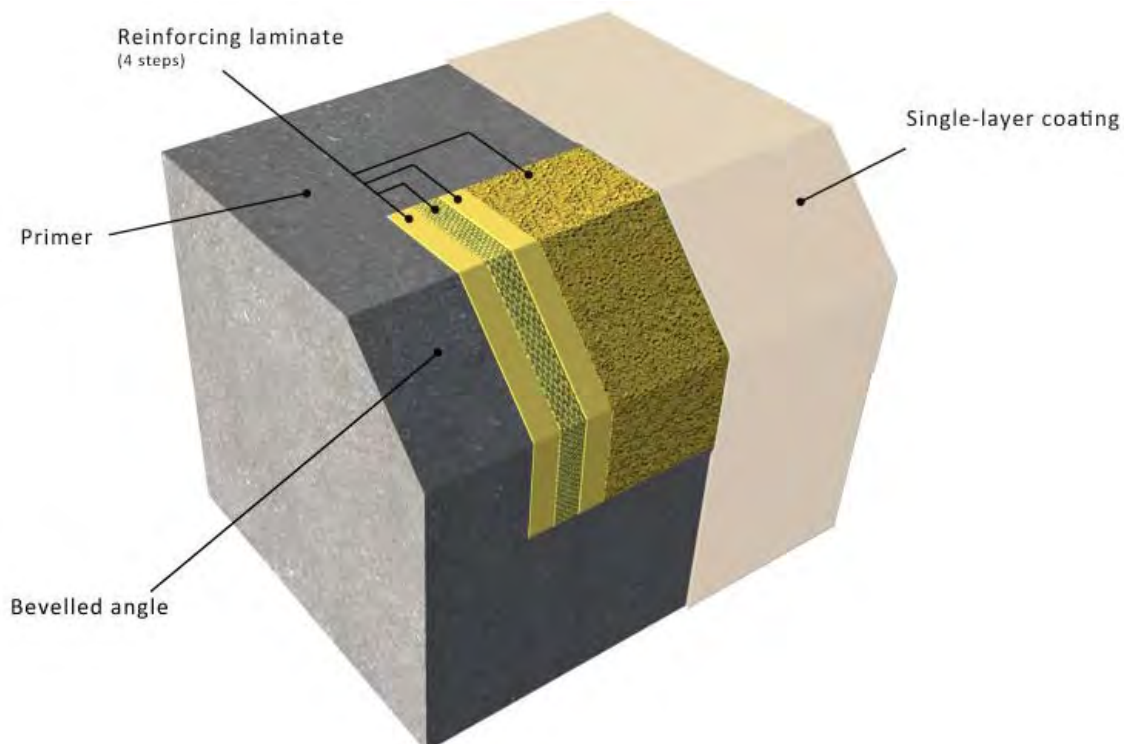
*Sketch no.5: Treating a closed angle corner*



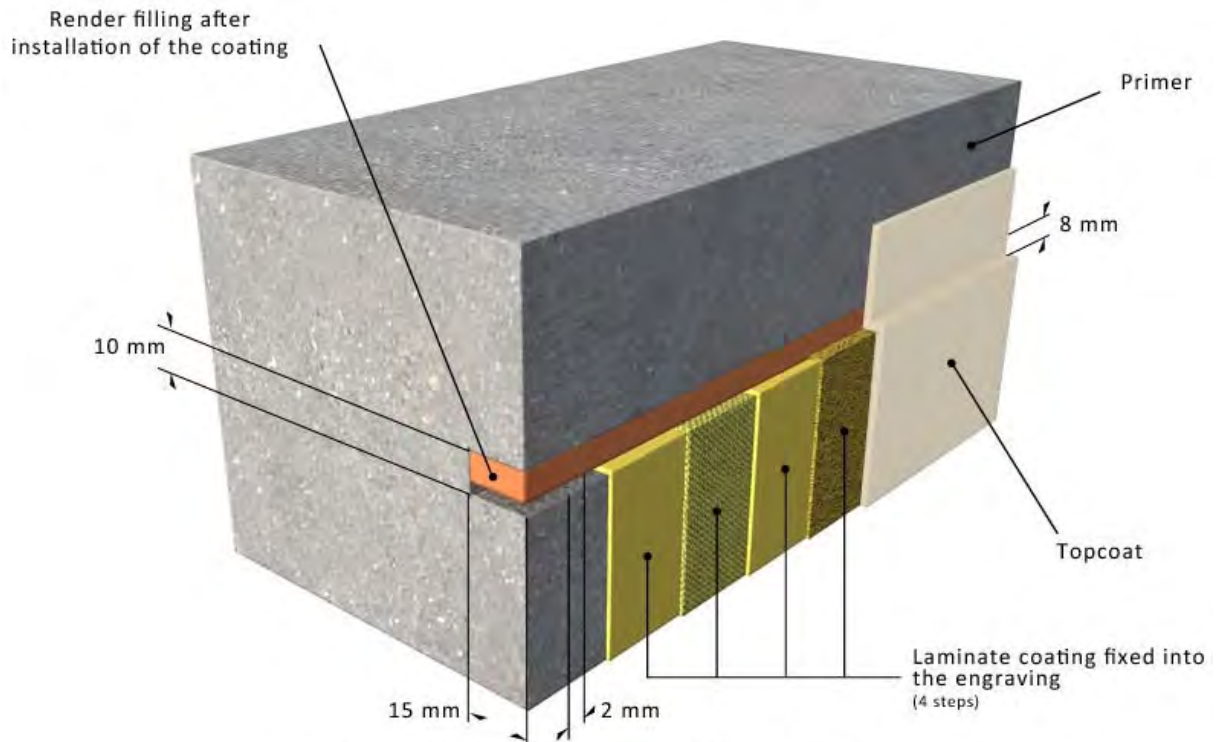
*Sketch no.6: Treating an open angle when applying a laminate coating*



*Sketch no.7: Treating an open angle when applying a single-layer coating*

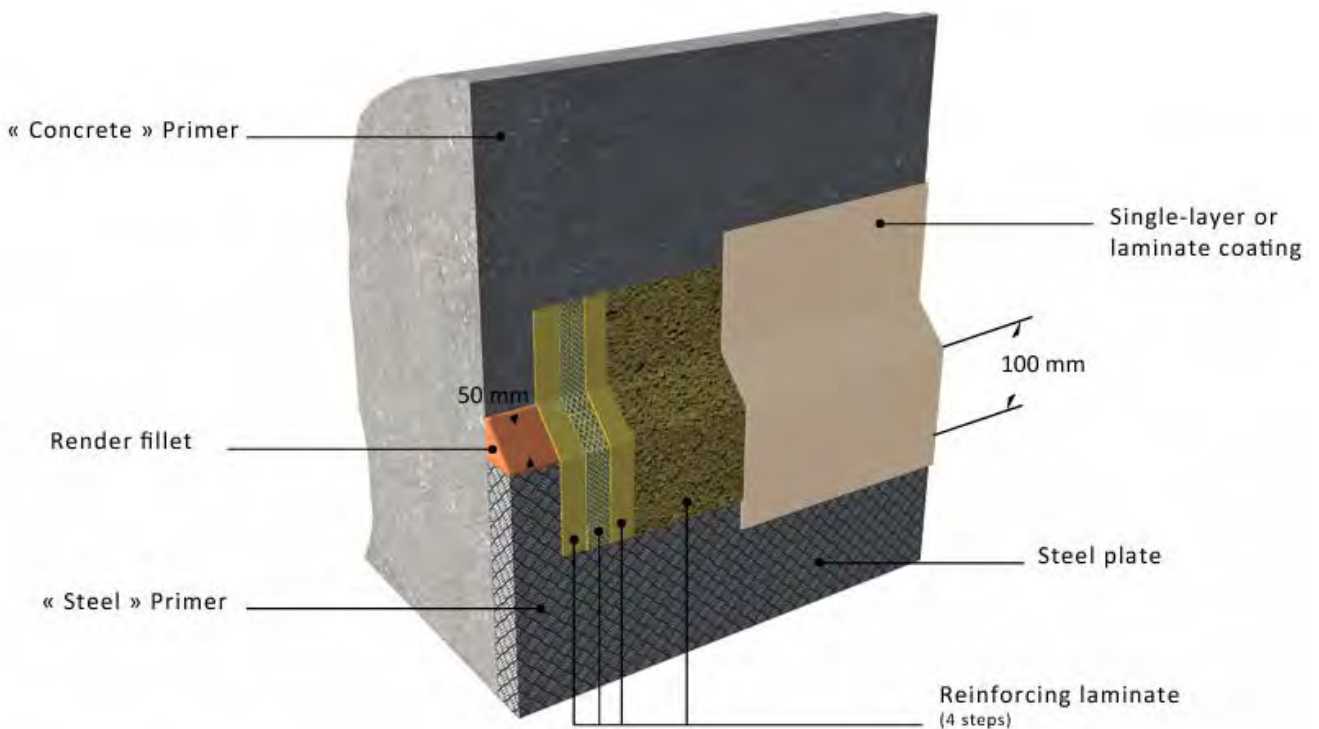


*Sketch no.8: Treating an engraving when applying a laminate coating*

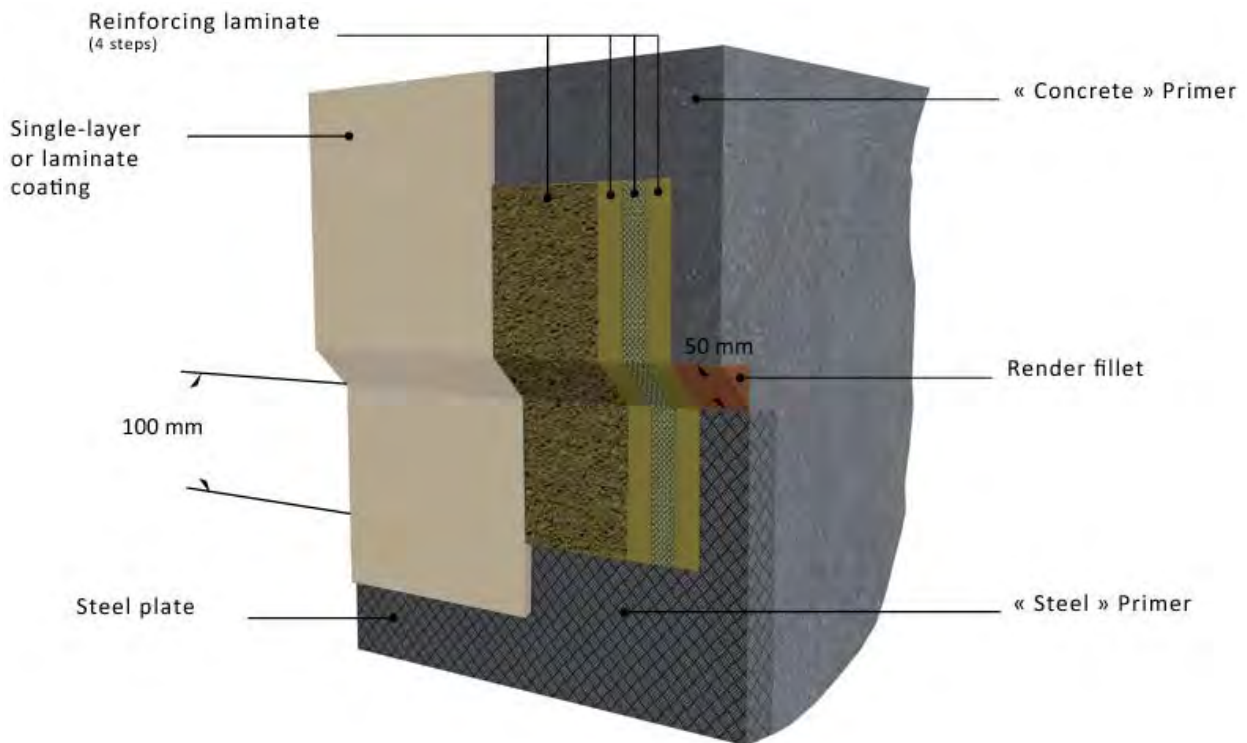


Treatment is the same when applying a single-layer coating

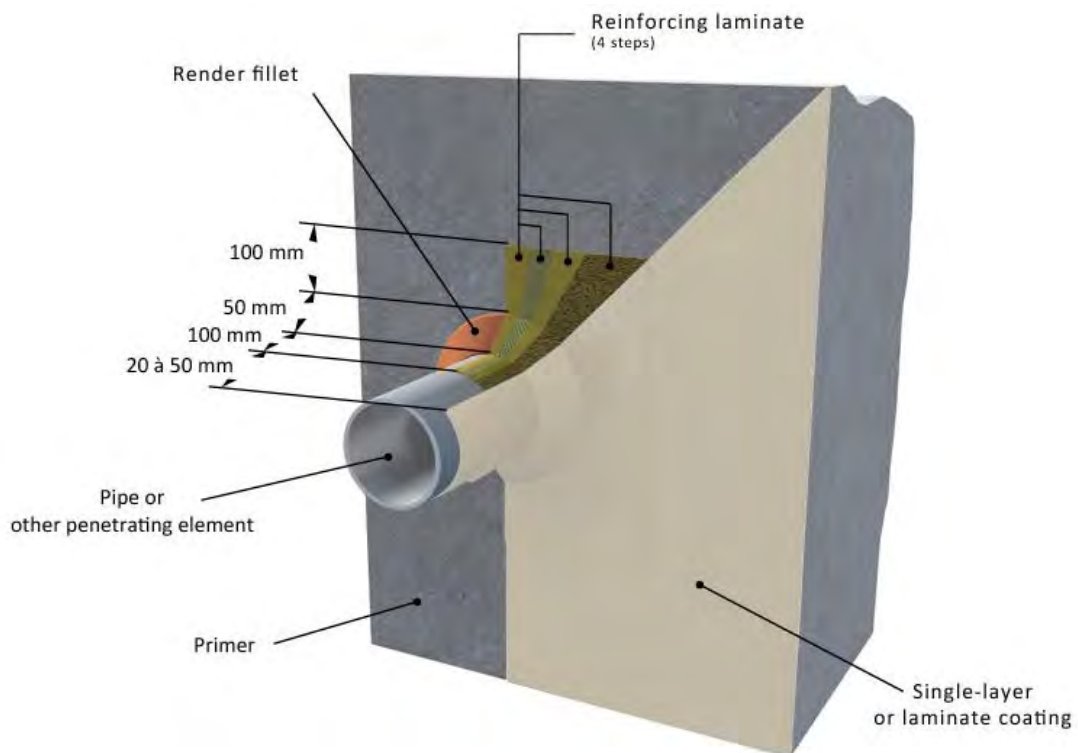
*Sketch no.9: Treating an outgoing steel plate*



*Sketch no.10: Treating an ingoing steel plate*

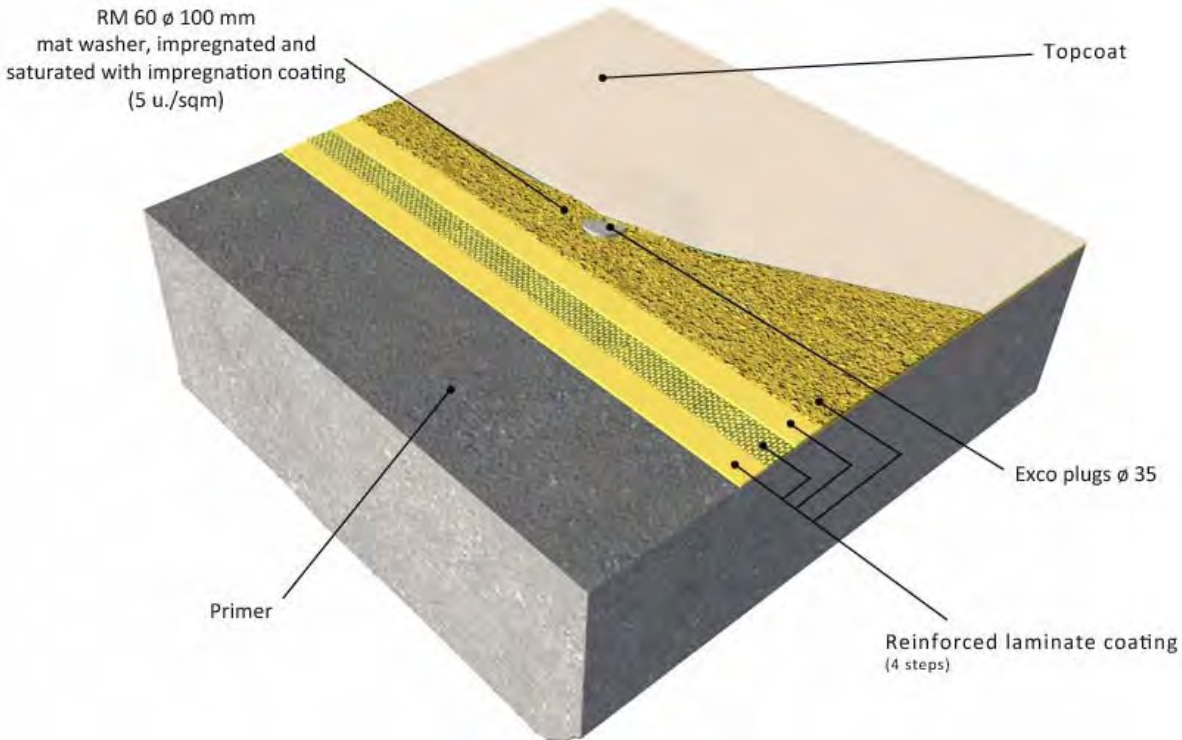


*Sketch no.11: Treating an incoming pipe or other penetrating element*





*Sketch no.12: Treating a mechanically-fixed (or anchored) coating*





## Technical specification

Waterproof, Watertight and  
Protective coating.

## 7. Performance testing and retouching

Testing is performed by the application company to check the reliability of its work.

Tests take place:

- > during the application
- > after the application.

They are carried out in conformity with the processes described in our *Technical Advice Nr. 3 "Performance Testing"* and *Technical Advice No. 4 "Dielectric Testing"* - see appendix 2.

They may lead to repairs or retouches using the *Technical Advice Nr. 5 "Retouching"* – see appendix 2.

## 8. Technical assistance

It is provided by our **Technical Assistance Department** upon request from the application contractor.

It comprises:

- > theoretical and practical training
- > recapitulating the main implementation phases
- > performing jointly with the application company a **"reference zone" on a representative area.**

## 9. Commissioning

It can take place after a certain waiting time which varies according to the curing time of the coating at different temperatures:

- > 10°C: 10 days
- > 20°C: 7 days
- > 30°C: 4 days
- > 40°C: 3 days

## 10. Servicing / maintenance / repairs

They must be ensured in compliance with the principles described in Chapter 10 of the ITBTP Annals. Refer also to the appropriate specific details in the *Technical Advice No. 5 "Retouching"* – see appendix 2.

## Technical specification

Waterproof, Watertight and  
Protective coating.

## 11. Qualification of application companies

They must:

- > either give proof of successful and equivalent experiences under similar conditions,
- > or have received from us significant training specific to the products to be applied.

## 12. Warranty – modalities and operation

- Principle of operation:

It operates on the principle described in Chapter 11 of the ITBTP Annals.

- Definition:

This is a **performance guarantee** meaning that the coating or lining implemented is capable of fulfilling the functions of:

- > waterproofing or watertightness and protection of the interior surfaces of a concrete structure
- > protection of the interior surfaces of a steel structure
- > non pollution of the contents, where appropriate, under specified conditions and for a specified time.

- Criteria:

They are studied according to the structure's specific operating parameters.

These criteria are notably:

- > the degree of allowable cracking for the waterproofing or watertightness function
- > possible nature, concentration, pH and temperature of the effluents.

- Operating mode:

In all cases, the guarantee is **jointly** agreed to by *max perlès et cie* and the application contractor.

It is materialized in a **Joint guarantee** co-signed by the two parties and handed over to the beneficiary client / building owner.

It stipulates that, in case of a problem, the costs for removing the defective coating and supplying and applying a new coating are covered.

It is covered by an **insurance policy** taken out by each of the joint parties for its own liability according to the model hereafter.



## Insurance Certificate – General Liability

We **SCOR Europe SE**, located 5 Avenue Kléber - 75 116 Paris - France, hereby certifies that the company:

**MAX PERLES et Cie**  
4 rue du Professeur René Dubos  
60119 HENONVILLE

is insured under the policy n° **FA0095300** underwritten with our Company in respect of pecuniary consequences of general liability risks that may result from the Insured's Premises and due to Insured activities as mentioned in the policy.

Activity: Sale of products for the execution of covering work for storage and transport capacities in the field of industry and chemistry.

The guarantees of the Contract are exercised up to the amounts indicated below:

Combined Insurance limit:

### **PUBLIC LIABILITY / PRODUCT LIABILITY**

ALL COVERED DAMAGES COMBINED (Bodily injuries, Property damages and Financial losses): **10 M€** per year

Including:

- Pure Financial Losses ("D.I.N.C.") with the amount of **5 M€** per year
- "Faute inexcusable de l'employeur" with the amount of **5 M€** per year
- Dismantling/Reinstalling costs with the amount of **5 M€** per year
- Professional liability with the amount of **2.5 M€** per year
- Pollution Sudden and Accidental (classified locations excluded) with the amount of **3 M€** per year
- Damages resulting from exports to the USA/Canada, all damages aggregate (Bodily injuries, Property damages and Financial losses): with the amount of **5 M€** per year
- Including: Pure financial losses ("D.I.N.C.") on "Loss of use" basis with the amount of **1 M€** per year

DEFENSE AND RECOURSE: EUR 30'000 per claim and per year

The present certificate is certificate is valid for the period from 01/01/2022 to 31/12/2022 inclusive. It is addressed to whom it may concern and cannot bind the insurer beyond the limits of the clauses and conditions of the policy that it refers to and notably with respect to the activities covered by this policy.

This certificate is evidence the insurance as identified is in force and conveys all rights and privileges afforded under the policy, limits shown may have been reduced by paid claims.

Issued in Paris, 11/01/2022



Digitally signed  
by Ana Vázquez  
Ballestín  
Date: 2022.01.11  
14:51:15 +01'00'



## Technical specification

Waterproof, Watertight and  
Protective coating.

# appendix 1

## Product technical Data sheets

EDO PRIMER

EDP PRIMER

SCREENPERL

AR100 RENDER

TECHNOPERL®

LP100/512

LP100/812

GELCOAT SV101

AR100/MD4

FIBERGLASS FABRICS P45, P80, P120



**Max  
Perlès**  
advanced industrial coatings

data sheet

April 2022

Primer

**EDO**

waterborne epoxy

scope:

*concrete preparation*

## CHARACTERISTICS

### Description / purpose

**Where:** On concrete or under our epoxy systems.

**What:** Improving adhesion and wetting ability for our epoxy systems.

Reducing or even stopping of water infiltrations before coating.

Primer EDO is a component of two systems that carry a **CE Marking** and are adapted for the following protection situations: principle 1, method 1.3; principle 2, method 2.2 and principle 8, method 8.2 of Norm NF EN 1504-2.

### Colour / finish

Clear / satin.

### Packaging

In 2 separate cans, pre-adjusted for 8 kg.

Proportions, *by weight*: base **385** / hardener **615**.

### Storage conditions

- 18 months max, in the original cans, never opened,
- Under shelter,
- At temperatures of between 1°C/34°F and 35°C/95°F <sup>(1)</sup>.

### V.O.C. content

0 g/l according to ISO 11890-1 (statistic average).

### Composition

Resin: epoxide                      Pigments: none  
Hardener: polyamide              Vehicle: water

### Specific gravity (mix) at 20°C/68°F

1.20 ± 0.05 g/ml as per ISO 2811

### Solids content (mix)

By weight : 47 % ± 2 as per ISO 3251

By volume : 36 % per calculation

### Viscosity (mix) at 20°C/68°F

Fluid.

<sup>(1)</sup> which might increase or decrease by 10°C/50°F, once only, during a 5 days max transport time to destination.

## IMPLEMENTATION

For all use:

refer to relevant material safety data sheets indicating risk sentences and safety recommendations

### Surface preparation

Concrete free from oil, laitance and dust.

Possible application on damp but non sweating surface.

### Instructions for use

- **Air temperature for application:**

**Substrate:** 3°C/37°F above dewpoint,  
with 5°C/41°F at least ♦ 45°C/113°F at most.

**Product:** 5°C/41°F mini ♦ 35°C/95°F maxi.

- **Reducing viscosity when temp. <15°C/60°F:** add 10% water to the hardener **prior to mixing with the base.**

- **Mix:** Pour **the base into hardener** while carefully stirring mechanically until a perfectly homogeneous mixture is obtained.

- **Maturing:** none.
- **Potlife mixture** at 20°C/68°F: 2 hours <sup>(2)</sup>
- **Application:** roller or brush, exclusively.

<sup>(2)</sup> The limit shows when a separation of phases becomes visible on the surface, producing a "turned" mix effect.

### Consumption / thickness

- 250 g/sqm in a single coat. EDO being an impregnation material, no specific thickness is required.
- 2, even 3 coats should be applied when lasting dampness on the substrate or in case of infiltration risks.

### Curing at 10°C/50°F – 30°C/86°F

- Dust free: ..... 6 and 3 hours
  - Recoatable: ..... mini: 6 and 3 hours ♦ maxi: none
- Make sure of absence of humidity before recoating.**

### Precautions and safety

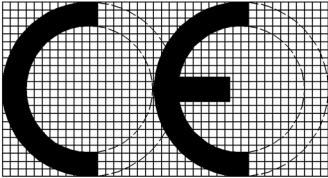
Waterborne product. Flash point (cc) : >100°C/212°F

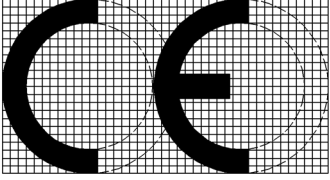
### Cleaning of application equipment

- Immediately after use : water
  - Afterwards and up to 3 hours standby :
- Flammable ED Thinner – Flash point (cc) : 25°C/77°F.

ISO 9001 certified since 1996

4 rue du Professeur Dubos – BP 80439 – 60119 Hénonville Cedex (France) – Tel : 33 (0) 3 44 49 86 22 – Fax: 33 (0) 3 44 49 85 00 – Web: www.maxperles.com


<p>Primaire EDO – Aquaperl T Max Perlès – 4 rue du professeur Dubos – BP 80439 – 60119 Hénonville</p>
<p>16</p>
<p>1164-CPR-PPR008 EN 1504-2 : 2005 DOP : 16.08.001</p>
<p>Produits de protection de surface Revêtement</p>
<p>Perméabilité au CO<sub>2</sub> : NF EN 1062-6 : S<sub>D</sub> &gt; 50 m</p>
<p>Perméabilité à la vapeur d'eau : NF EN ISO 7783-2 : Classe II</p>
<p>Absorption capillaire et perméabilité à l'eau : NF EN 1062-3 : W &lt; 0,1 kg/ (m<sup>2</sup> x h<sup>0,5</sup>)</p>
<p>Adhérence NF EN 1542 Pour système rigide avec trafic ≥ 2,0 MPa</p>


<p>Primaire EDO – Bioperl T Max Perlès – 4 rue du professeur Dubos – BP 80439 – 60119 Hénonville</p>
<p>17</p>
<p>1164-CPR-PPR008 EN 1504-2 : 2005 DOP : 17.12.001</p>
<p>Produits de protection de surface Revêtement</p>
<p>Perméabilité au CO<sub>2</sub> : NF EN 1062-6 : S<sub>D</sub> &gt; 50 m</p>
<p>Perméabilité à la vapeur d'eau : NF EN ISO 7783-2 : Classe II</p>
<p>Absorption capillaire et perméabilité à l'eau : NF EN 1062-3 : W &lt; 0,1 kg / (m<sup>2</sup> x h<sup>0,5</sup>)</p>
<p>Adhérence NF EN 1542 Pour système rigide avec trafic ≥ 2,0 MPa</p>



**Max  
Perlès**  
advanced industrial coatings

data sheet

august 2019

Primer

**EDP**

Epoxy with solvents

scope:  
*steel surface preparation*

## CHARACTERISTICS

### Description / purpose

**Where :** On steel // Under our epoxy systems

**What :** Temporary protection of steel surfaces. 1 to 3 months outdoors, depending on climatic conditions. Up to 6 months indoors. Can be applied on pre-painted steel .

**Concrete :** Impregnation for adhesion and wetting ability. Reduction or even stopping of water infiltrations.

### Colour / finish

Reddish brown / semi-mat.

### Packaging

In 2 separate cans, pre-adjusted for 8 kg.

Proportions, *by weight*: base **82** / hardener **18**.

### Storage conditions

- 18 months max, in the original cans, never opened,
- Under shelter,
- At temperatures of between 0°C/32°F and 35°C/95°F.

### V.O.C. content

349 g/l according to ISO 11890-1 (statistical average).

### Composition

Resin : epoxide

Hardener : polyamide

Pigments : stable synthetic oxydes

Solvents : a mixture of hydrocarbons/alcohols/cetone

### Specific gravity (mix) at 20°C/68°F

1.50 ± 0.05 g/ml as per ISO 2811

### Solids content (mix)

By weight : 75 % ± 2 as per ISO 3251

By volume : 53 % per calculation

### Viscosity (mix) at 20°C/68°F

60 to 90 seconds, as per Afnor n°4.

## IMPLEMENTATION

For all use:  
refer to relevant material safety data sheets indicating risk sentences and safety recommendations

### Surface preparation

- **Steel :** on abrasive blasted surfaces to Sa 2,5 degree, average profile : Medium G or Rt 50-75 µ.

Shop primer compatible, after appropriate preparation.

### Instructions for use

- **Application temperature:**

**Substrate:** 3°C/37°F above dewpoint,  
*with* 5°C/41°F at least ♦ 45°C/113°F at most.

**Product:** 5°C/41°F mini ♦ 35°C/95°F maxi.

- **Mix:** First re-homogenize the base using a mechanical mixer, then pour the hardener into the base, while carefully stirring mechanically until a perfectly homogeneous mixture is obtained.

- **Maturing:** 30 to 60 minutes, re-mix before application.

- **Potlife mixture** at 20°C/68°F: 10 hours

- **Application:** Spray gun. For small surfaces, roller brush can be used, after 5% dilution with ED thinner.

### Coverage for 40 micron thickness, dry film

- Theoretical : 8,8 m<sup>2</sup>/kg ♦ 114 g/m<sup>2</sup>

- Practical : 6,6 m<sup>2</sup>/kg ♦ 150 g/m<sup>2</sup>

### Curing

t°	Dust Free	Tack Free	Recoatable (Minimum)
10°C	45 mn	3 h 00	18 h 00
30°C	20 mn	1 h 00	6 h 00

### Precautions and safety

Inflammable product. Flash point (cf) : 16°C

### Cleaning of application equipment

Flammable ED Thinner – Flash point (cf) : 25°C/77°F.

ISO 9001 certified since 1996

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Max  
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data sheet

April 2022

# SCREENPERL®

conductive epoxy primer, solvent-free

scope:  
concrete surface treatment

## CHARACTERISTICS

### Description / purpose

**Where:** On concrete or under our epoxy coatings.

**What:** Conductive layer guaranteeing homogeneous holiday (porosity) testing of the watertightness of the coating above.

### Colour / finish

Black / glossy.

### Packaging

In 2 separate cans, pre-adjusted for 8 kg.

Proportions, *by weight*: base **60** / hardener **40**.

### Storage conditions

- 18 months max, in the original cans, never opened,
- Under shelter,
- At temperatures of between 0°C/32°F and 35°C/95°F.

### V.O.C. content

42 g/l (maximum), according to ISO 11890-1 (P1-M2).

### Composition

Resin: epoxide                      Pigments: carbonated  
Hardener: polyamine

### Specific gravity (mix) at 20°C/68°F

1.05 ± 0.05 g/ml as per ISO 2811

### Solids content (mix)

By weight : 96-100% after 6 hrs maturation - ISO 3251  
By volume : 100 % per calculation

### Viscosity (mix) at 20°C/68°F

36 Poises ± 4 poises.

### Electrical resistivity (by volume) :

10<sup>6</sup> – 10<sup>9</sup> Ω.cm as per ASTM D257.

## IMPLEMENTATION

For all use:  
refer to relevant material safety data sheets indicating risk sentences and safety recommendations

### Surface preparation

Concrete free from oil, laitance and dust.

If above an existing epoxy coating, sand-sprinkle first.

### Instructions for use

- **Air temperature for application:**

**Substrate:** 3°C/37°F above dewpoint,  
with 5°C/41°F at least ♦ 45°C/113°F at most.

**Product:** 5°C/41°F mini ♦ 35°C/95°F maxi.

- **Mix:** Pour *the hardener into the base* while carefully stirring mechanically until a perfectly homogeneous mixture is obtained.
- **Maturing:** none.
- **Potlife mixture** at 20°C/68°F: 45mn
- **Application:** roller brush or airless spray.

### Practical consumption

- 250 g/sqm

### Curing

t°	Dust Free	Overcoatable (minimum)	Overcoatable (maximum)
10°C	10 h 00	12 h 00	30 days
20°C	5 h 00	6 h 00	15 days

### Precautions and safety

Solvent-free. Flash point (cf) : >100°C/212°F

### Cleaning of application equipment

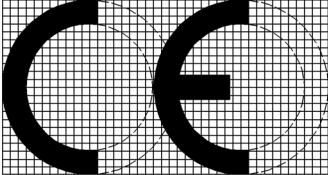
Flammable ED Thinner – Flash point (cf) : 25°C/77°F.

1/2

ISO 9001 certified since 1996

4 rue du Professeur Dubos – BP 80439 – 60119 Hénonville Cedex (France) – Tel : 33 (0) 3 44 49 86 22 – Web: www.maxperles.com

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<p>SCREENPERL – BIOPERL T Max Perlès – 4 rue du professeur Dubos – BP 80439 – 60119 Hénonville</p>
<p>20</p>
<p>1164-CPR-PPR008 EN 1504-2 : 2005 DOP : 20.11.001</p>
<p>Produits de protection de surface Revêtement</p>
<p>Perméabilité au CO<sub>2</sub> : NF EN 1062-6 : S<sub>D</sub> &gt; 50 m</p>
<p>Perméabilité à la vapeur d'eau : NF EN ISO 7783-2 : Classe II</p>
<p>Absorption capillaire et perméabilité à l'eau : NF EN 1062-3 : W &lt; 0,1 kg/ (m<sup>2</sup> x h<sup>0,5</sup>)</p>
<p>Adhérence NF EN 1542 Pour système rigide avec trafic ≥ 2,0 MPa</p>



**Max  
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advanced industrial coatings

## data sheet

March 2022

# Render AR100

solventfree epoxy

*scope:  
concrete and steel  
preparation*

## OVERVIEW

### Purpose

**Where:** Under our epoxy systems or other compatible.

**What:** Surfacing, rendering, plugging, patching cavities, filling fixed joints, chamfers.

**Which:** Steel or concrete structures.

### Description

**Product :** Solventfree epoxy, CMR's free, in the form of a pasty gel, after mixing of the 2 components.

**Use :** It can be used both for racking and for heavy filling, up to 15/20, or even 30 mm, vertically without recharging.

### Properties and benefits

#### Mechanical properties :

Exceptional adhesion and sticking properties, with a very high mechanical cohesion.

#### Use properties :

**Render AR100** is easy to use and polyvalent.

It requires neither powdering, nor grinding, except in case of binder raising at the surface: see page 2/2 « **Recoating** ».

#### Compliance with safety and regulatory requirements:

**Render AR100** is **solventfree**, flash point (cc): > 90°C/194°F for optimal safety and minimized application constraints.

It is **aromatic amines or phthalates free** for compliance with current regulations.

## CHARACTERISTICS

### Packaging

- In 2 separate cans, pre-adjusted for 4 or 12 kg.
- Proportions, *in weight*: base **85** / hardener **15**

### Storage conditions

- 18 months max, in the original cans, never opened,
- Under shelter,
- At temperatures of between 0°C/32°F and 35°C/95°F<sup>(1)</sup>,  
<sup>(1)</sup> which might increase or decrease by 10°C/50°F, once only during a 5 days max transport time to destination.

### Colours

Yellow ochre, approaching RAL 8001.

### Finish

Semi-flat.

### V.O.C. content

17.7 g/l, according to ISO 11890-1 (statistic average).

### Composition

Resin	:	epoxide
Hardener	:	non aromatic polyamine
Pigments	:	synthetic oxides
Filler	:	silicates/silica
Solvent	:	none

### Specific gravity (mix) at 20°C/68°F

1.90 ± 0,05 g/ml as per ISO 2811

### Solids content (mix)

By weight	:	96–100% after 6 hrs maturation - ISO 3251
By volume	:	100% per calculation

### Viscosity (mix) at 20°C/68°F

Pasty.

## IMPLEMENTATION

Conform and controlled conditions during application and hardening periods are necessary to obtain required quality

For all use:  
Refer to relevant material safety data sheets as to risk sentences and safety recommendations

### ◆ Before:

#### Surface preparation

Concrete impregnated with [Primer EDO](#), [Primer EDA](#) or [Screenperl®](#) :

see relevant data sheets and [Technical Advice nr 1](#): « Specification for preparation of concrete ».

**Steel** after smoothing sharp edges, on abrasive blasted surfaces to Sa 2,5 minimum.

Average profile :

- Case of prior application of [Primer EDA](#) (see data sheet) :  
Medium G or Rt 50-75µ.
- Case of direct application :  
Rough G or Rt 100µ.

*Always apply on clean and dry substrates*

#### Products preparation

24 hours minimum before application, place the drums in a temperate place at 10°C/50°F min and 30°C/86°F max.

#### Application temperatures:

**Substrate:**

3°C/37°F mini above dew point,

**with** 5°C/41°F at least ◆ 45°C/113°F at most.

**Product:**

While mixing : 10°C/50°F ◆ 30°C/86°F max

Use: at mixing temperature

#### Mixing

- **Never make up partial mixtures**, in order to avoid the risks of incorrect proportions.
- Pour the hardener on the base while carefully stirring mechanically until a perfectly homogeneous mixture is obtained.

#### Conditions for use

- Maturing : none.
- Apply immediately as far as mixing has been done.
- **Never dilute**, before nor during application.

#### Application conditions

- Manual :  
Palette knife, spatula or trowel.
- Mechanically :  
Pump for past-like product, or pneumatic double cartridge caulking gun with a static mixer

### ◆ During:

#### Potlife of mixture

10°C/50°F	20°C/68°F	30°C/86°F
4 h 00	2 h 00	1 h 00

#### Consumption / thickness per mm

1,9 kg/sqm.

This theoretical value should be **10-5% increased** to get it practical, according to nature of substrate and implementation method.

**Note:**

*Consumption will increase when surface temperature is < 20°C, making the product viscous with its contact.*

#### Overcoating

No minimum neither maximum after application, and no particular prior conditions, except in the following case :

*Application with a thickness > 5 mm, as well as a strong smoothing, may result in a binder rise on the surface :*

*In that case it is necessary :*

- *either to sprinkle Silica SBO or F15 on the fresh application, while progressing,*
- *either to sand down the coated surface, after at least 12/24 hours drying according to temperature in order to get a Rough G.*

#### Cleaning of application equipment

Flammable ED Thinner. Flash point (cc): 25°C/77°F.

### ◆ After:

#### Curing

t°	Dust free	Tack free
10°C	8 to 9 h 00	24 h 00
20°C	5 to 6 h 00	15 to 18 h 00
30°C	2 to 2 h 30	5 to to 6 h 00



**Max  
Perlès**  
advanced industrial coatings

data sheet

August 2019

# TECHNOPERL

« cold applied » solventfree epoxy

scope:  
*industries*

## OVERVIEW

### Purpose

**Where:** Interior of tanks, reservoirs, gutters, sumps, retention pits.

**What:** Contact with industrial effluents.

**Which:** Steel or concrete structures.

### Description

**Product:** solventfree epoxy, C.M.R.'s free.

As **lamine lining**, it is designed for tightness in cement works, or for reinforcement of steel works in which corrosion resulted in significant damage to the substrate.

As **single thick coat**, it is suitable for anticorrosion of steel.

#### Use:

**Technoperl R:** Impregnation/saturation of reinforcements

**Technoperl T:** Top or single coat, from 400 to 1000µ

They can be applied with all the devices commonly used on job sites, see below **Application**.

### Properties and benefits

#### Chemical performance:

Very good inertia to raw waters, detergents and greases, to many of diluted bases and acids, and to some gaseous environments: please consult us.

#### Mechanical resistance and proofing of laminate:

Especially high with laminate lining, as a result of its resistance to shearing, fissuring and underpressure.

#### Surface properties:

Aspect : uniform and seamless glossy surface.

Result : very easy to clean, no weak areas.

#### Compliance with safety and regulatory requirements:

**Technoperl** is **solventfree**, flash point (cc): > 90°C/194°F for optimal safety and minimized application constraints.

It is **aromatic amines or phthalates free** for compliance with current regulations.

## CHARACTERISTICS

### Packaging

- In 2 separate cans, pre-adjusted: **R**: for 12 kg  
**T**: for 12 or 20 kg.
- Proportion, *by weight*: base **3** / hardener **1**

### Storage conditions

- 18 months max, in the original cans, never opened,
- Under shelter,
- At temperatures between 0°C/32°F and 35°C/95°F<sup>(1)</sup>,  
<sup>(1)</sup> which might increase or decrease by 10°C/50°F, once only during a 5 days max transport time to destination.

### Colours

R/T: Almond green.

### Finish

Glossy with limited chalking and yellowing in operation *especially if implementation requirements are respected*.

### Reinforcements

Please consult us.

### V.O.C. content

**R** : 7.9 g/l, according to ISO 11890-1 (statistical average)

**T** : 12.3 g/l, according to ISO 11890-1 (statistical average)

### Composition

Resin : epoxy

Hardener : non-aromatic polyamine

Pigments : synthetic oxides

Solvent : none

### Specific gravity (mix) at 20°C/68°F

R/T : 1.33 ± 0.05 g/ml as per ISO 2811

### Solids content (mix)

By weight : 96–100% after 6 hrs maturation - ISO 3251

By volume : 100% per calculation

### Viscosity (mix) at 20°C/68°F

**R** : 5 000 mPa.s ± 1 000 ◆ 50 poises ± 10

**T** : 7 000 mPa.s ± 1 000 ◆ 70 poises ± 10

*A slight evolution may happen during the storage period, with no effect on the application conditions.*

## IMPLEMENTATION

Conform and controlled conditions  
During application and hardening periods  
Are necessary to obtain required quality

For all use:  
Refer to relevant material safety data sheets as to  
risk sentences and safety recommendations

### ◆ Before:

#### Surface preparation

Concrete impregnated with **Primer EDO, EDA** or **Screenperl®**:

Refer to relevant data sheet and *Technical Advice nr1* « Specification for preparation of concrete ».

**Steel** after smoothing sharp edges, on abrasive blasted surfaces to Sa 2.5 degree. Average profile:

- In case of prior application of **Primer EDA** or **Varnish ED1** (see data sheet):

Medium G or Rt 50-75µ.

- In case of direct application: Rough G or Rt 100µ.

Our epoxy **laminates**, according to specification.

**Always apply on clean and dry substrates**

#### Products preparation

24 hours minimum before application, place the drums in a temperate area at 10°C/50°F min and 30°C/86°F max.

#### Application temperatures

**Substrate:**

3°C/37°F mini above dew point,

**with** 5°C/41°F at least ◆ 45°C/113°F at most.

**Product:**

While mixing: 10°C/50°F mini ◆ 30°C/86°C maxi

Spraying: at 25/35°C // 77/86°F at hose exit

Manual use: at mixing temperature

#### Mixing

- **Never make up partial mixtures**, in order to avoid the risks of incorrect proportions.

- Stir the base with a power mixer to an even consistency. Then, add hardener and continue stirring until a perfectly homogeneous mixture is obtained.

#### Conditions for use

- No maturing before use.
- Start the application immediately after mixing.
- **Technoperl should never be diluted.**

#### Application

**Laminate – grade R:**

- Roller, or airless pump (see below **gradeT**) for the binder,

- Debubblizer roller for the glass fiber,

- Mechanical sprinkling of Silica SB 0 before drying.

Detailed procedure is described in our *Technical Advice nr 14* available on request.

**singlecoat and/or topcoat – grade T:**

- Airless spraying unit, with a 45/1 min pump ratio.
- Or Medium bristle roller, for small or difficult to access areas, on condition to **pay particular attention to the thickness and regularity of applied coat: this shall be followed by smoothing the surface with a flat brush.**

### ◆ During:

#### Pot life of mixture

Grades	10°C/50°F	20°C/68°F	30°C/86°F
R	3 h 00	1 h 00	0 h 25
T	2 h 00	0 h 35	0 h 10

*In case of long lasting spraying application, the hose should be cleaned once per hour with ED Thinner.*

#### Number of coats

2 per layer, except in case of multi-layer continuous application, plus 1 for topcoating or for a singlecoat.

#### Thicknesses

**Laminate – grade R:**

They are given upon specification, and vary with nature of the reinforcement: they are generally comprised between 2.0 and 4.0 mm, **including** a 500 to 800µ **topcoat**.

**Top or Singlecoat – grade T:**

Min 500 microns – max 1000 microns, according to spec.

#### Consumptions

**Laminate – grade R:**

- 1,4 kg/m<sup>2</sup> of binder for a P45 fabric-450 g/m<sup>2</sup>: 1,5 mm

- 1,8 kg/m<sup>2</sup> of binder for a P80 fabric-800 g/m<sup>2</sup>: 2,0 mm

- 2,2 kg/m<sup>2</sup> of binder for a P120 fabric-1200 g/m<sup>2</sup>: 2,5 mm

**Top or singlecoat – grade T:**

133 g/sqm per 100 microns thickness. This theoretical value should be **20±5% increased** to get it practical, according to nature of substrate and implementation method.

**Note:**

**Consumption will increase by 100 to 300 g/m<sup>2</sup> when surface temperature is < 20°C, making the product viscous with its contact.**

#### Cleaning of application equipment

Flammable ED Thinner. Flash point (cc): 25°C/77°F.

### ◆ After:

#### Curing

t°	Dust free	Tack free
10°C	R: 8 h 00 – T: 3 h 30	S: 24 h 00 – T: 12 h 00
20°C	R: 5 h 00 – T: 3 h 00	S: 15 h 00 – T: 10 h 00
30°C	R: 2 h 00 – T: 1 h 30	S: 6 h 00 – T: 3 h 30

**Delay before use:** 10, 7 or 4 days, depending on temperature.

#### Repairs

Report to our *Technical Advice nr 5*.

Replaces and cancels any former issue.

The above mentioned information is given with objectiveness but cannot involve our company beyond our manufacturer's responsibility.

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**Max  
Perlès**  
advanced industrial coatings

data sheet

March 2022

Coating  
**LP100/512**

solventfree epoxy

scopes:  
*petroleum, foodstuffs  
and energy*

## OVERVIEW

### Intended use

**Where :** Interior of capacities for primary and secondary containments, pipelines.

**What :** Contact with a large number of products, especially those containing alcohol, but also in petroleum, nuclear, and food industries (excluding wine).

**Which :** Steel or concrete structures.

### Description

**Product:** solventfree epoxy, C.M.R.'s free.

**Use:** In a single layer – to avoid problems with delays between coats causing disbondings – using a high ratio airless spraying pump:

- either as a direct single coat
- or as a topcoat over a glassfibre-epoxy compound such as one of the « perl » range.

**Typical thickness:** 300 to 1000 microns, horizontally as well as vertically.

### Properties and benefits

#### Chemical Properties:

Foodgrade quality: report E16-15824 by IANESCO Lab.

Foodgrade quality: report E16-15824-2 by IANESCO Lab.

Decontamination test: report nr 06/11 by CEA Saclay.

#### Mechanical properties:

Taber abrasion test report nr CET0065246-6D1-m by CETIM Nantes.

#### Surface properties:

Aspect : uniform and seamless glossy surface.

Result : very easy to clean, no weak areas.

#### Compliance with safety and regulatory requirements:

**LP100/512 is solventfree**, flash point (cc): > 90°C/194°F for optimal safety and minimized application constraints.

It is **aromatic amines or phtalates free** for compliance with current regulations.

## CHARACTERISTICS

### Packaging

In 2 separate cans, pre-adjusted for 20 kg.

Proportions, *by weight*: base **1** / hardener **1**

### Storage conditions

- 18 months max, in the original cans, never opened,
- Under shelter,
- At temperatures of between 0°C/32°F and 35°C/95°F<sup>(1)</sup>,  
<sup>(1)</sup> which might increase or decrease by 10°C/50°F, once only during a 5 days max transport time to destination.

### Colours

Sand-colored, approaching yellow RAL 1017

White on request <sup>(2)</sup>

<sup>(2)</sup> with awareness that the mixture's quality cannot be controlled.

### Finish

Glossy with limited chalking and yellowing in operation, **especially if implementation requirements are respected.**

### V.O.C. content

15.8 g/l, according to ISO 11890-1 (statistical average)

### Composition

Resin : epoxy  
Hardener : non-aromatic polyamine  
Pigments : synthetic oxides  
Solvent : none

### Specific gravity (mix) at 20°C/68°F

1.42 ± 0.05 g/ml as per ISO 2811

### Solids content (mix)

By weight : 96–100% after 6 hrs maturation - ISO 3251  
By volume : 100% per calculation

### Viscosity (mix) at 20°C/68°F

8 500 mPa.s ± 1 500 ◆ 85 poises ± 15

*A slight evolution may happen during the storage period, without any effect on the application conditions.*

## IMPLEMENTATION

Conform and controlled conditions during application and hardening periods are necessary to obtain required quality

For all use :  
Refer to relevant material safety data sheets as to risk sentences and safety recommendations

### ◆ Before:

#### Surface preparation

Steel after smoothing sharp edges, on abrasive blasted surfaces to Sa 3 degree, or equivalent.

Average profile:

- Case of prior application of **Varnish ED1**, **Primer EDA**, **Primer EDP**, or **Primer W** (see data sheet):

Medium G or Rt 50-75µ.

- Case of direct application:

Rough G or Rt 100µ.

Our epoxy **laminates**, according to specification.

On recommendation: suitable **concrete**, impregnated with **Primer EDO**, **EDA** or **Screenperl®**: consult us.

*Always apply on clean and dry substrates*

#### Products preparation

24 hours minimum before application, place the cans in a temperate area at 10°C/50°F min and 30°C/86°F max.

#### Application temperatures

Substrate:

3°C/37°F minimum above dew point,

With: 5°C/41°F at least ◆ 45°C/113°F at most.

Product:

While mixing: 10°C/50°F min ◆ 30°C/86°F max

Manual use: at mixing temperature

Spraying: at 30/35°C // 86/95°F min at hose exit.

#### Mixing

- *Never make up partial mixtures*, in order to avoid the risks of incorrect proportions.

- Stir the base with a power mixer to an even consistency.

Then, add hardener and continue stirring until a perfectly homogeneous mixture is obtained.

#### Conditions for use

- No maturing before use.

- Start the application immediately after mixing.

- **LP100/512 should never be diluted.**

#### Application

- 1 or 2-component airless spraying unit, with a 45:1 min pump ratio, *without dilution*, fitted with heating hose.

- Or medium bristle roller, in case of pretouching, or for small surfaces or difficult to access areas, on condition *to pay particular attention to thickness and regularity of the applied coat: this shall be followed by smoothing the surface with a flat brush.*

### ◆ During:

#### Pot-life of mixture

10°C/50°F	20°C/68°F	30°C/86°F
1 h 00	0 h 30	0 h 15

*In case of long lasting spraying application, the hose should be cleaned once per hour with ED Thinner.*

#### Number of coats

one.

#### Recommended thickness

300 to 1000 microns, according to specification.

Note:

Thicknesses are proposed in agreement with the method of the International standard ISO 19840:

**Do not exceed 30%** above the maximum value, except for pre-touchups and local overcoatings.

#### Theoretical consumption

142 g/sqm per 100 microns thickness.

This theoretical value should be **20±5 % increased** to get it practical, according to nature of substrate and implementation method.

Note:

*Consumption will increase by 100 to 300 g/m<sup>2</sup> when surface temperature is < 20°C, making the product viscous with its contact.*

#### Cleaning of application equipment

Flammable ED Thinner. Flash point (cc): 25°C/77°F.

### ◆ After:

#### Curing

t°	Dust free	Tack free
10°C	6 h 00	20 h 00
20°C	3 h 00	11 h 00
30°C	1 h 30	4 h 00

Delay before use: 10 to 4 days, depending on temperature.

#### Repairs

Report to our *Technical Advice nr 5*.





**Max  
Perlès**  
advanced industrial coatings

data sheet

March 2022

Coating

**LP100/812**

solventfree novolac epoxy

scope:

*chemical stresses*

## OVERVIEW

### Intended use

**Where :** Internal protection of capacities and pipes.

**What :** Contact with chemically highly aggressive liquids, gas or solids – particularly in alkaline, alcoholic or food environments (except wine).

**Which :** Steel or concrete structures.

### Description

**Product :** solventfree novolac epoxy, C.M.R.'s free.

**Use :** in a single layer – to avoid problems with delays between coats causing disbondings – using a high ratio airless spraying pump:

- either as a direct single coat
- or as a topcoat over a glassfibre-epoxy compound such as one of the « *perl* » range.

**Typical thickness:** in 1 coat, according to specification: 600 to 1000 microns, horizontally as well as vertically.

### Properties and benefits

**Chemical performance:**

High inertia to a large number of basic reagents, alcohols, organic and mineral acids: please consult us.

Food-grade quality report RE 11/08076 by IANESCO Lab.

**Application properties:**

To take advantage of the safety and the comfort of an automatic dosing and mixing process by the spraying machine, gradually as needed.

**Surface properties:**

Aspect : uniform and seamless glossy surface.

Result : very easy to clean, no weak areas.

**Compliance with safety and regulatory requirements:**

**LP100/812 is solventfree**, flash point (cc): > 90°C/194°F for optimal safety and minimized application constraints.

It is **aromatic amines, phthalates and styrene free** for compliance with current regulations.

## CHARACTERISTICS

### Packaging

In 2 separate cans, pre-adjusted for 20 kg.

Proportion, *by volume*: base **1** / hardener **1**

### Storage conditions

- 18 months maximum, in the original cans, never opened,
- Under shelter,
- At temperatures of between 0°C/32°F and 35°C/95°F<sup>(1)</sup>,  
<sup>(1)</sup> which might increase or decrease by 10°C/50°F, once only during a 5 days max transport time to destination.

### Colours

Beige.

### Finish

Glossy with limited chalking and yellowing in operation, **especially if implementation requirements are respected.**

### V.O.C. content

17.7 g/l, according to ISO 11890-1 (statistical average)

### Composition

Resin	:	novolac epoxy
Hardener	:	non-aromatic polyamine
Pigments	:	stable synthetic oxides
Solvent	:	none

### Specific gravity (mix) at 20°C/68°F

1.34 ± 0.05 g/ml as per ISO 2811

### Solids content (mix)

By weight : 96–100% after 6 hrs maturation - ISO 3251

By volume : 100% per calculation

### Viscosity (mix) at 20°C/68°F

10 000 mPa.s ± 1500 ◆ 100 poises ± 15

*A slight evolution may happen during the storage period, without any effect on the application conditions.*

## IMPLEMENTATION

Conform and controlled conditions during application and hardening periods are necessary to obtain required quality

For all use:  
Refer to relevant material safety data sheets as to risk sentences and safety recommendations

### ◆ Before:

#### Surface preparation

**Steel** after smoothing sharp edges, on abrasive blasted surfaces to Sa 3 degree. Average profile:

- In case of prior application of **Primer EDA**, **EDP** or **Varnish ED1** (see data sheets):

Medium G or Rt 50-75µ.

- In case of direct application:

Rough G or Rt 100µ.

Our epoxy **laminates**, according to specification.

On specific recommendation: **concrete** impregnated with **EDO** or **EDA Primer**: please consult us.

*Always apply on clean and dry substrates*

#### Products preparation

24 hours minimum before application, place the drums in a temperate area at 10°C/50°F min and 30°C/86°F max.

#### Application temperatures

**Substrate:**

3°C/37°F mini above dew point,

**with** 5°C/41°F at least ◆ 45°C/113°F at most.

**Product:**

While mixing: 10°C/50°F min ◆ 30°C/86°F max

Spraying: at 35/45°C // 95/113°F at hose exit

Manual use: at mixing temperature

#### Mixing

- *Never make up partial mixtures*, in order to avoid the risks of incorrect proportions.

- Stir the base with a power mixer to an even consistency. Then, add hardener and continue stirring until a perfectly homogeneous mixture is obtained.

#### Conditions for use

- No maturing before use.
- Start the application immediately after mixing.
- **LP100/812 should never be diluted.**

#### Application

- Airless spraying unit, with a 45/1 min pump ratio, fitted with heating hose.

- Medium bristle roller, for small or difficult to access areas, on condition to *pay particular attention to the thickness and regularity of applied coat: this shall be followed by smoothing the surface with a flat brush.*

### ◆ During:

#### Pot life of mixture

10°C/50°F	20°C/68°F	30°C/86°F
2 h 00	0 h 30	0 h 15

*In case of long lasting spraying application, the hose should be cleaned once per hour with ED Thinner.*

#### Number of coats

one.

#### Recommended thickness

Min 600 microns - max 1000 microns, according to spec.

**Note:**

Thicknesses are proposed in agreement with the method of the International standard ISO 19840:

**Do not exceed 30%** above the maximum value, except for pre-touchups and local overcoatings.

#### Theoretical consumptions

134 g/sqm per 100 microns thickness.

This theoretical value should be **20 ±5 % increased** to get it practical, according to nature of substrate and implementation method.

**Note:**

*Consumption will increase by 100 to 300 g/m<sup>2</sup> when surface temperature is < 20°C, making the product viscous with its contact.*

#### Cleaning of application equipment

Flammable ED Thinner. Flash point (cc): 25°C/77°F.

### ◆ After:

#### Curing

t°	Dustfree	Tack free
10°C	5 h 00	14 h 00
20°C	2 h 00	9 h 00
30°C	1 h 00	4 h 00

**Delay before use:** 10 to 4 days, depending on temperature.

#### Repairs

Report to our *Technical Advice nr 5*.



**Max  
Perlès**  
advanced industrial coatings

data sheet

March 2022

Gelcoat  
**SV101**

solventfree novolac epoxy

scopes:  
*chemical industry  
and energy*

## OVERVIEW

### Purpose

**Where:** Internal protection of tanks, retention pits, gutters.

**What:** Occasional or permanent contact with effluents, which may be radioactive or not, acid or basic, in energy production sites or chemical industries.

**Which:** Steel or concrete structures.

### Description

**Product:** solventfree epoxy-novolac, C.M.R.'s free.

**Use:**

- either as a direct single coat,
- either as a topcoat of an epoxy-fibre reinforced structure such as one of the « **perl** » range.

**Typical thickness:** according to specification: from 500 to 800 microns.

Application in one vertical coat: up to 500µ with an airless pump, or 300µ with a roller.

### Properties and benefits

**Chemical and nuclear performance:**

Exceptional inertia to a very large number of mineral and organic acids at ambient temperature: please consult us.

Decontamination test: report nr 06/07 by CEA Saclay.

**Application properties:**

To take advantage of a simple and cost effective standard spraying machine.

**Surface properties:**

Aspect : uniform and seamless glossy surface.

Result : very easy to clean, no weak areas.

**Compliance with safety and regulatory requirements:**

**SV101 is solventfree**, flash point (cc): > 90°C/194°F for optimal safety and minimized application constraints.

It is **aromatic amines, phthalates and styrene free** for compliance with current regulations.

## CHARACTERISTICS

### Packaging

- In 2 separate cans, pre-adjusted for 12 kg.
- Proportions, *by weight*: base **1** / hardener **1**

### Storage conditions

- 18 months max, in the original cans, never opened,
- Under shelter,
- At temperatures of between 0°C/32°F and 35°C/95°F<sup>(1)</sup>,  
<sup>(1)</sup> which might increase or decrease by 10°C/50°F, once only during a 5 days max transport time to destination.

### Colours

Beige, approaching RAL 1015.

### Finish

Glossy with limited chalking and yellowing in operation, *especially if implementation requirements are respected.*

### Reinforcements

Please consult us.

### V.O.C. content

52 g/l (maximum), according to ISO 11890-1 (P1-M2)

### Composition

Resin : novolac-epoxy  
Hardener : non-aromatic polyamine  
Pigments : synthetic oxides  
Solvent : none

### Specific gravity (mix) at 20°C/68°F

1.30 ± 0.05 g/ml as per ISO 2811

### Solids content (mix)

By weight : 96–100% after 6 hrs maturation - ISO 3251  
By volume : 100% per calculation

### Viscosity (mix) at 20°C/68°F

6 000 mPa.s ± 1 000 ◆ 60 poises ± 10

*A slight evolution may happen during the storage period, without any effect on the application conditions.*

## IMPLEMENTATION

Conform and controlled conditions  
During application and hardening periods  
Are necessary to obtain required quality

For all use:  
Refer to relevant material safety data sheets as to  
risk sentences and safety recommendations

### ◆ Before:

#### Surface preparation

Steel after sharp edges have been smoothed, on abrasive blasted surfaces to Sa3 degree.

Average profile:

- In case of prior application of **Varnish ED1** or **Primer EDA** (see data sheet):

Medium G or Rt 50-75µ.

- In case of direct application:

Rough G or Rt 100µ.

Our epoxy **laminates**, according to specification.

On specific recommendation: **concrete** impregnated with **EDO**, **EDA Primer** or **Screenperl®**: please consult us.

*Always apply on clean and dry substrates*

#### Products preparation

24 hours minimum before application, place the cans in a temperate area at 10°C/50°F min and 30°C/86°F max.

#### Application temperatures

**Substrate:**

3°C/37°F minimum above dew point,

**With:** 5°C/41°F at least ◆ 45°C/113°F at most.

**Product:**

While mixing: 10°C/50°F min ◆ 30°C/86°F max

Spraying at: 25°C/77°F min at hose exit

Manual use: at mixing temperature

#### Mixing

- *Never make up partial mixtures*, in order to avoid the risks of incorrect proportions.
- Stir the base with a power mixer to an even consistency. Then, add hardener and continue stirring until a perfectly homogeneous mixture is obtained.

#### Conditions for use

- No maturing before use.
- Start the application immediately after mixing.
- **Gelcoat SV101 should never be diluted.**

#### Application

- Airless spraying unit, with a 45/l min pump ratio, fitted with heating hose.
- Or medium bristle roller, *in 2 passes*, with an interval of 2 to 6 hours between both at 20°C, *each one to be followed by smoothing the surface with a flat brush.*

### During:

#### Pot-life of mixture

10°C/50°F	20°C/68°F	30°C/86°F
2 h 00	0 h 30	0 h 10

*In case of long lasting spraying application, the hose should be cleaned once per hour with ED Thinner.*

#### Number of coats

Horizontal application: 1

Vertical application: 2, *within the acceptable recoating interval*: see below.

#### Recommended thickness

500 to 800 microns, according to specification.

Thicknesses are proposed in agreement with the method of the International standard ISO 19840:

**Do not exceed 30%** above the maximum value, except for pre-touchups and local overcoatings.

#### Theoretical consumption

130 g/sqm per 100 microns thickness.

This theoretical value should be **20±5 % increased** to get it practical, according to nature of substrate and implementation method.

**Note:**

*Consumption will increase of 100 to 300 g/sqm when surface temperature is < 20°C, making the product viscous with its contact.*

#### Cleaning of application equipment

Thinner ED. Flammable product. Flash point (cf): 25°C.

### ◆ After:

#### Curing

t°	Dustfree	Recoatable
10°C	5 h 00	min 5 h 00 – max 8 h 00
20°C	2 h 00	min 2 h 00 – max 6 h 00
30°C	1 h 00	min 1 h 00 – max 3 h 00

**Delay before use:** 10, 7 or 4 days, depending on temperature.

#### Repairs

Report to our *Technical Advice nr 5*.



**Max  
Perlès**  
advanced industrial coatings

data sheet

august 2019

Coating

**AR100/MD4**

« hot applied » solventfree epoxy

scope:

*chemicals and  
heavy chemical stresses*

## OVERVIEW

### Intended use

**Where :** Interior of tanks and pipes.

**What :** Contact with alcohols such as diluted phenol, chlorinated solvents, reducing acids (hydrochloric), in aggressive chemical environment.

To be also used in nuclear and food industries.

**Which :** Steel or concrete structures.

### Description

**Product :** solventfree epoxy product, C.M.R.'s free.

**Use :** in a single layer – to avoid problems with delays between coats causing disbondings – with a 2-component hot spraying machine:

- either in direct single coat
- or as a suitable finish of a glassfibre-epoxy compound of the « perl » range.

**Typical thickness:** 800 microns, horizontally as well as vertically

### Properties and benefits

#### Chemical Performance:

Foodgrade quality: report RE-05/07241 by IANESCO Lab.

Decontamination test: report 830.605 by CEA Saclay

Higher Heating Value and Lower Heating Value: L080091DE3 by LNE Trappes.

#### Application properties:

To take advantage of the safety and the comfort of an automatic dosing and mixing process by the spraying machine, gradually as needed.

#### Surface properties:

Aspect : uniform and seamless glossy surface.

Result : very easy to clean, no weak areas.

#### Compliance with safety and regulatory requirements:

**AR100/MD4** is **solventfree**, flash point (cc): > 90°C/194°F for optimal safety and minimized application constraints. It is **aromatic amines or phthalates free** for compliance with current regulations.

## CHARACTERISTICS

### Packaging

In 2 separate cans, pre-adjusted for a 40 kg quantity.

Proportions, *by weight and by volume* base **1** / hardener **1**

### Storage conditions

- 18 months max, in the original cans, never opened,
- Under shelter,
- At temperatures of between 0°C/32°F and 35°C/95°F<sup>(1)</sup>,  
<sup>(1)</sup> which might increase or decrease by 10°C/50°F, once only during a 5 days max transport time to destination.

### Colours

Mother of pearl, approaching Red beige RAL3012.

### Finish

Glossy with limited chalking and yellowing in exploitation, **especially if implementation requirements are respected.**

### V.O.C. content

4.6 g/l, according to ISO 11890-1 (statistical average)

### Composition

Resin	:	epoxide
Hardener	:	non-aromatic polyamine
Pigments	:	synthetic oxides
Solvent	:	none

### Specific gravity (mix) at 20°C/68°F

1.52 ± 0.05 g/ml as per ISO 2811

### Solids content (mix)

By weight	:	96–100% after 6 hrs maturation - ISO 3251
By volume	:	100% per calculation

### Viscosity (mix) at 20°C/68°F

120 000 mPa.s ± 10 000 ◆ 1 200 poises ± 100.

## IMPLEMENTATION

Conform and controlled conditions during application and hardening periods are necessary to obtain required quality

For all use:  
Refer to relevant material safety data sheets as to risk sentences and safety recommendations

### ◆ Before:

#### Surface preparation

**Steel** after smoothing sharp edges, on abrasive blasted surfaces to Sa 3 degree, or equivalent.

Average profile:

- Case of prior application of **Varnish ED1, Primer EDA**:

Medium G or Rt 50-75µ.

- Case of direct application:

Rough G or Rt 100µ.

**Our** epoxys **laminates**, according to specification.

**On recommendation:** suitable **concrete**, impregnated with **Primer EDO** or **EDA**: consult us.

*Always apply on clean and dry substrates*

#### Products preparation

At least 12 hours before they are used, pre-heat the drums to a temperature of 40/50°C // 104/122°F.

#### Application temperatures

**Substrate:**

3°C/37°F mini above dew point,

**with** 15°C/59°F at least ◆ 45°C/113°F at most.

**Product:**

See below

#### Conditions for use

• Since the base and hardener components are very viscous at ambient temperature, but also very reactive at high temperature, it is absolutely necessary to respect all the implementation instructions

**In particular:**

- **Never make up partial mixtures**, in order to avoid the risks of incorrect proportions.
- **Never try to mix "manually"** the base with the hardener, except for pre-touchups or touchups with quantities not exceeding 1 kg.
- Potlife of a 1 kg mixture at 20°C/68°F: 10 min - see further in the **Repairs** section.
- **Components should never be diluted**

#### Application

- 2-component dosing and mixing equipment designed for hot spraying.
- Product spraying temperature:  
90°C/194°F at hose exit.

### ◆ During:

#### Number of coats

One.

#### Recommended thickness

800 microns.

May be raised at 1000 microns on specification.

**Note:**

Thicknesses are proposed in agreement with the method of the International standard ISO 19840:

**Do not exceed 30%** above the maximum value, except for pre-touchups and local overcoatings

#### Theoretical consumptions

152 g/sqm per 100 microns thickness.

This theoretical value should be **20 ±5 % increased** to get it practical, according to nature of substrate and implementation method

**Note:**

*Consumption will increase by 100 to 300 g/m<sup>2</sup> when surface temperature is < 20°C, making the product viscous with its contact.*

#### Cleaning of application equipment

Flammable ED Thinner. Flash point (cc): 25°C/77°F.

### ◆ After:

#### Curing

t°	Dustfree	Dry to touch
15°C	2 h 00 min	5 h 00 min
30°C	0 h 30 min	2 h 00 min

**Delay before use:** 10 to 4 days, depending on temperature and/or corrosive action of the liquid to be in contact.

Please consult us.

#### Repairs

Report to our *Technical Advice nr 5*.

## Technical specification

Waterproof, Watertight and  
Protective coating.

## appendix 2

### Technical advices

Technical Advice No. 1

“Specification for preparation of concrete”

Technical Advice No. 2

“Specification for steel preparation”

Technical Advice No. 3

“Performance testing”

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“Retouching”

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“Engraving of a laminate”

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“Application of fiberglass/epoxy laminates”

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“Mechanical fixing in one piece of laminates”



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## Specification for preparation of concrete

### Scope :

This document describes:

- the necessary requirements, in terms of substrate surface condition, to undertake coating work, new or remedial.
- the products to use and measures to take if such requirements are not fulfilled.
- the sequence of steps to implement.

*It does not cover the structural state or strength of the concrete substrate, which is presumed to comply with all applicable norms, rules and regulations ( see list at the beginning of our Technical Manuals ).*

### Requirements :

#### Drying of new or refurbished substrates :

- New concrete:  
28 days minimum, depending on temperature and ventilation.
- Mortars and water based renders:  
Refer to the indications provided in the manufacturer's relevant product data sheet.

#### Substrate aspect :

- Uniform and smooth, free of sharp edges and/or cavities exceeding 0.5 mm from the average level. The profile must have a roughness of between CSP 3 to 5 of concrete surface profiles according to the ICRI (International Concrete Repair Institute).
- The air holes in fresh concrete must be filled up when the casing is released, without yielding a glossy surface.

#### Laitance :

Is absolutely prohibited, as are pure cement finishes.

#### Substrate cleanliness:

- Casing release agents and additives must be eliminated.
- Substrate must be free of loose particles and of any pollutants such as paint, oil, grease and wax – which would be harmful to the adherence of the coating. It must be vacuum cleaned very carefully to eliminate dust .

#### Water infiltration and counter-pressure:

Install drainage solutions or apply specific treatment – see following page .

### Substrate reconditioning to fulfil these requirements :

#### Implementation conditions:

Make sure the ambient conditions for each operation are in accordance with the relevant product data sheets.

#### Presence of laps, edges, scrapes, etc:

Grind off and vacuum the dust.

#### Light laitance, traces of pure cement, oil and other pollutants:

**Lightly** clean off, using fine grade abrasives with limited pressure or light waterjet. Vacuum the dust and/or dry off.

#### Thick laitance, pure cement finish, fresh cast concrete:

**Carefully** sandblast using fine grade abrasives with limited pressure, or adapted waterjet. Vacuum the dust and/or dry off.

#### Repair :

Mortars and other products used for the repair of the concrete must be chemically compatible with Max Perlès coatings , must be fast-setting and checked against the risk of them creating a difference in potential between old and new concrete parts .

Apparent steel reinforcement must be passivated before being covered over : carefully brush off loose oxydes and passivate using our modified epoxy PRIMER W.



#### Dry substrate:

Impregnate with one coat of EDO PRIMER or of SCREENPERL®, waterborne epoxy.

Double the coat in case of high porosity.

#### Damp substrate:

Impregnate with one coat of EDO PRIMER or of SCREENPERL®, in order to neutralize moisture. To be repeated two or three times in case of moisture re-sweating.

#### Air holes in cast concrete / coarse trowelling:

The surface must be rendered with our AR100 RENDER, a solvent-free epoxy charged with silica, in one or two coats.

#### Damaged surface with deep cavities:

Fill with AR100 RENDER, in successive passes up to 2 cm thick each, after adding in silica F15, if necessary, to constitute a mortar (up to 1 for 1 in weight).

#### Stabilized cracks (\*) and passive concrete overlaps:

- Bridge them over with a 5 to 10 cm wide plasticized adhesive tape
- Then reinforce them:
  - by applying a fiberglass fabric strip 20 cm wide, saturated with the appropriate Max Perlès epoxy resin and sprinkled while progressing with SB0 SILICA SAND, when under a single-layer watertight coating
  - by implementing the fully-adherent multi-layer coating system directly in the case of waterproofing.

#### Un-stabilized cracks (\*) and active concrete overlaps:

As above, adapting the width of the bridging as well as the nature and weight of the local or general reinforcement according to the width of the crack.

(\*) according to French standard NFP 95-103.

### Sequence :

- ◆ Grinding
- ◆ Blasting
- ◆ Dust removal
- ◆ EDO PRIMER or SCREENPERL®
- ◆ AR100 RENDER
- ◆ Bridging/reinforcement
- ◆ Coating

### Particular case :

#### Counter-pressure:

Can be accepted, in the case of a reinforced waterproof coating, for a value of up to 0.5 MPa (5 bar). Value obtained according intern method CEBTP.

## Specification for preparation of steel

### Scope

This document describes:

- the necessary requirements, in terms of substrate surface conditions, to undertake coating work, new or remedial.
- the products to use and measures to take if such requirements are not fulfilled.

*It does not cover the structural state or strength of the steel substrate, which is presumed to comply with all applicable norms, rules and regulations.*

### Requirements

#### Preparation of sheet steel :

**Must be to degree P2 as per standard NF EN ISO 8501-3.**

- Barbs, scratches or weld projections must be eliminated by chipping and grinding.
- Sharp edges and weld beads must be rounded by grinding.

#### Environmental conditions:

- **All coating work must be undertaken at ambient temperature within the range indicated in the product data sheet of the chosen coating.**

Appropriate air heating or, symmetrically, air cooling and ventilation equipment must be used if necessary.

Work in cold weather on an open air surface is not recommended.

- **Always operate at a difference of at least +3°C / + 38°F between the measured temperature of the steel substrate and the dew point – see standard NF EN ISO 8502-4.**

Use appropriate air heating, or deshydration equipment if necessary.

ISO 12944 recommendations should be applied.

#### Blasting:

- **Before:** if using solid abrasive material, check that it is of appropriate quality and not damp, check that the blasting equipment is operational and that air pressure at the nozzle is sufficient to cover pressure losses.
- **Implementation:** by sand blasting or hydro blasting or combined blasting until the profile and the roughness specified in our system sheet is obtained.
- **After:** vacuum-dust very carefully and eliminate all abrasive deposits, including those on the scaffolding.

*The residual dust content on the steel surface is measured according to ISO 8502-3 and must not exceed category 2.*

*The soluble salt content on the steel surface is measured according to ISO 8502-6 and 9 and must be lower than 50 mg/sqm.*

#### Primer:

Immediately after blasting and before any re-oxidation, apply a 30 microns dry film thickness stand-by coat of Varnish ED1 or Primer EDA, colorless epoxies, unless our specification stipulates direct application of the coating on the blasted steel.

### Specific points

#### Sheet holes:

Before applying the coating, fill all holes and craters with Render AR100, solventfree epoxy.

#### Floating roof tank strut supports:

After blasting and prior to any coating, screw struts one by one and stick in place 5 mm thick prefabricated reinforced epoxy plates using Render AR100.

Pre-cut to a size slightly smaller than the one of the metallic reinforcement plates which may exist.



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Technical Advice

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## Performance testing

### Scope

This document describes the tests that must be done to carry out the reliability of the coating implementation.

They take place: . **during** the application,  
. **after** the application.

### Testing during application

- **Environmental conditions:**

While progressing with humidity and temperature recording devices, placed and moved depending on work progress to ensure at all times that the dew point is not reached and the temperature ranges are met.

- **Wet film thickness:**

At each coat, using a **calibrated** notched gauge, while progressing and at least once every sqm.

- **Consumption:**

It is complementary to the thickness test and detects any possible discrepancy in real time.

- **Aspect :**

Permanent verification that bubbles or "pinholes" do not appear and that the film presents a uniform and homogeneous surface.

### Testing after application:

- **Dry film thickness on metallic surfaces:**

After physical "drying", using a magnetic sensor device, calibrated under the conditions defined by the standard ISO 19840.

- **Polymerization:**

After 48 hours minimum (at 20°C // 68°F), by a test, with white cotton rubbed once on the film onto which a few drops of acetone were deposited: cotton should not show any trace of the coating colour.

- **Porosities:**

Verification of the coating's dielectric sealing following the method described in our *Technical Advice nr.4* "Dielectric testing" by sweeping all the coated surfaces with an electrical brush adapted to the substrate.

*In case of linings reinforced with fiberglass fabric, this test is carried out on the laminate before topcoat is applied.*

*If the laminate is implemented on an old supposedly insulating coating, it is necessary to apply a coat of conducting interface beforehand: ref. Interface CF.*

*It is also possible to test the topcoat independently if a coat of the same Interface CF has been applied between the two layers.*

*Please consult us.*

### Repairs:

If necessary, all tests must be followed by the appropriate corrective actions:

– immediately, if tests are carried out during the application

*or*

– as described in our *Technical Advice nr.5* then re-tested in case of tests carried out after application.

Replaces and cancels any former issue

The above mentioned information is given with objectiveness but cannot involve our company beyond our manufacturer's responsibility.

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# Dielectric testing

## Scope

This document describes the operation to be carried out to detect perforations, porosities, micro-cracks, conductive inclusions or other defects in a waterproof coating, whether applied on concrete or on steel.

## Principle

With the substrate connected to ground, test the integrity of the coating by sweeping its surface with a continuously powered "brush" or "broom" probe:

A **yellowish-white electric arc** is created in case of perforation or conductive inclusion in the coating, accompanied by a sharp audible signal.

**Note:** When this control is done on a laminated coating, a bluish glow can be observed due to surface ionization, accompanied by a continuous buzz of the device. This phenomenon is not in itself indicative of porosity. It can be eliminated by reducing either the tension or the sensitiveness of the equipment .

## Conditions

### Time limit :

Dielectric testing should be performed at least 48 hours (when ambient temperature is around 20°C // 68°F), or 72 hours ( at around 15°C // 59°F ) , after coating application.

*If the coating is multi-layered, glass-tissue reinforced, this test is carried out on the coating before the topcoat ( finishing coat ) is applied.*

*If the coating is being applied on a previously-existing, supposedly insulating coating, it is necessary to apply a coat of our conductive interface CF onto the old coating before proceeding with the new coating.*

*It is also possible to test the topcoat only if a coat of this Interface CF is applied between the reinforced laminate and the topcoat.*

## Equipment

ELCOMETER or similar.

## Steps

**1. Connect the equipment to ground using the ground wire**

**2. Power up and test the charge**

**3. Calibrate the equipment:**

Connect the brush or broom fibers with a surface of bare concrete or of bare metal and progressively increase the voltage until an audible or luminous error signal is obtained. The indicated value at this point is considered as the tare, and must be added to the control voltage defined by the coating thickness – see NF EN ISO 29601 standard and paragraph 4 below.

**4. Set the equipment to the appropriate voltage:**

Film thickness:	Test voltage:
0,5 mm	2,9 kVolts
1,0 mm	5,5 kVolts
1,5 mm	8,5 kVolts
2,0 mm	11,7 kVolts
3,0 mm	17,0 kVolts
4,0 mm	22,5 kVolts

**5. Perform the test :**

After checking that the coating is dry and clean, the operation is carried out at a constant speed of about 5 linear meters/min :

- with a broom for large flat surfaces
- with a brush for corners and in areas with irregular profile.

The yellowish-white arc together with the sharp audible signal indicate the presence of perforations or conductive inclusions in the coating.

Defects detected this way are marked out for later repairs as per our [Technical Advice nr.5](#). Once corrected, they too will be checked according to the same process.



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Technical Advice

Nr.5

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## Retouching

### Scope

This document describes the steps to carry out localized repairs in the following cases:

- Correction, after polymerization of the coating, of areas showing porosity, appearance or hardness defects, insufficient thickness, etc.
- Repair of accidental mechanical or chemical damages.
- Reinstating the watertightness of the coating when it has been drilled through by chemical plugging to install equipment fittings.

### Implementation conditions

Environmental conditions, including temperature and humidity, must be those specified in the relevant product data sheets.

### Surface preparation

- **Clearly delimitate** the areas to be repaired by surrounding them with adhesive tape at a distance of 5cm from the damaged or faulty spot.
- **Totally eliminate** the coating inside the delimited area, back to the substrate, by grinding.
- **Re-create** the same roughness as originally both on the bared substrate and on the adjacent undamaged areas, using appropriate mechanical means, in order to provide optimum adhesion of the new coating.

### Cleaning

Must be done on all prepared areas, ensuring elimination of pollution, dust or heterogeneous particles.

### Retouching

*Use the same coating products as initially implemented, under the same conditions.*

- **In the case of an originally airless-sprayed topcoat or single coat :**

- **homogeneous or open surfaces:**

Apply the new coating using the same machine/pump as originally, after having protected the surrounding surfaces in order to avoid the deposit of spray mist or "overspray" which can cause surface roughness which, in turn, would complicate ulterior cleaning operations and reduce the sanitary characteristics of the coating.

- **small or difficult to access surfaces :**

Apply the new coating using a flat nylon brush, followed, if necessary, by smoothing with a spalter brush.

- **In the case of an originally roller-brush applied coating :**

Proceed exactly in the same way as with the original coating.

### At the end of the retouching operation

Remove the delimiting adhesive tape as soon as the retouching operation is finished.

Replaces and cancels any former issue

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Nr.7

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## Engraving of a laminate lining

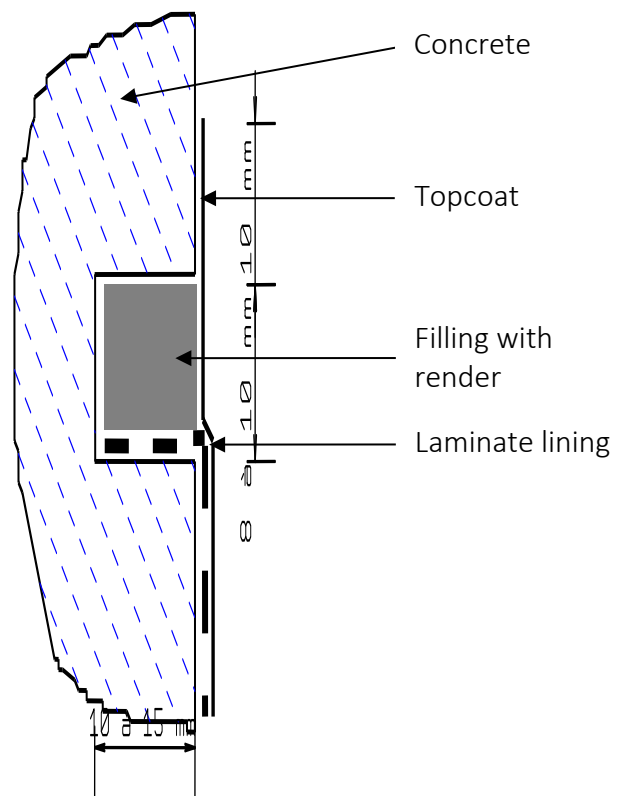
### Scope

This document describes the operations to be carried out to insert a laminate coating into an engraving serving as the end of the area to be coated.

### Operation

- Prepare the substrate according to the system specified and to our Technical Advices.
- Trace the limits of the engraving.
- Create a regular engraving 10 to 15 mm high or wide and 10 to 15 mm deep, by any appropriate mechanical means.
- Vacuum-clean carefully of dust.
- Place an adhesive protection starting 10mm away from the engraving, on the side which won't be coated.
- Press the reinforced laminate (topcoat excluded) into the underside of the engraving and sprinkle with Silica sand.
- Fill the engraving with AR100 Render.
- Check for any defects ( such as glass fibers standing out ), correct and repair.
- Apply the topcoat fully over the engraving, and until the adhesive protection is reached.
- Pull off the adhesive no longer than 10 minutes after the topcoat application.

### Sketch



Replaces and cancels any former issue

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## Implementation of fiberglass/binder laminates

### Scope

This document describes the operations to perform to obtain a homogeneous, reinforced, waterproof epoxy or vinylester coating.

### Process

**1. Prepare**, before starting the operation, the required quantities of fiberglass, taking into account the necessary 4 inches / 10 cm wide overlaps and all specific cuts to be done to deal with singular points (curves, rivet lines, seams, columns, penetrations, ...)

**2. Make sure** that the application work is going to be carried out in the environmental and usage conditions prescribed in the product data sheet.

**3. Proceed** with the laminate application, making sure no interruption of more than 0h30 to 3 hours <sup>(1)</sup> occurs between any two steps:

- **Apply** a first, *impregnation*, coat of the selected resin, using a medium-bristle roller or an airless spray gun, as per the quantity specified in the system sheet.

- **Unroll and lay-out** the fiberglass tissue or mat onto the resin.

- **Debubblize** carefully by strongly cross-rolling the tissue or mat with a debubbling roller <sup>(2)</sup> until a homogeneous impregnation is obtained. The resin's colour must come up through the tissue/mat, more or less strongly depending on the type and weight of the fiberglass ( tissue or mat ), knowing that for example a 300 g/sqm fiberglass tissue will "sweat" more, and more easily, than a 900 g/sqm fiberglass mat.

- **Apply** a second, *saturation*, coat of the same resin, using a medium-bristle roller or an airless spray gun, as per the quantity specified in the system sheet, preferably using new cans to benefit from a maximum period of use.

- **Debubblize again** to ensure the resin's penetration through the fibers. At this stage, the surface aspect must be perfectly homogeneous and uniform.

**4. If specified in the system sheet being used, repeat** the operation, depending on the number of fiberglass layers specified, using each time the *saturation* coat of the previous ply as the next ply's *impregnation* coat. Shift the layers of fiberglass by half a width in order to spread out the zones of overlapping.

**5. If specified in the system sheet being used, mechanically sprinkle** the still-wet saturation coat, while progressing, with 400 g/sqm of Silica sand ( 100/300 microns in particle size for our reference F15 , 100/600 microns for our reference SB0 ), respecting a minimum distance of 1m between the spray nozzle and the laminate. This in order to obtain a uniform surface roughness for proper topcoat adhesion. Use a low-pressure sand pistol.

**NB: Taking into account the dispersion resulting from the projection, prepare to use an effective quantity of 600 g/sqm of silica sand on horizontal surfaces, 800 g/sqm on vertical surfaces and 1000 g/sqm on roof undersides.**

**6. Proceed** in the same way on adjacent areas, being sure that overlaps is 10cm on previous tissue or mat.

**7.** After drying, **sandpaper or very softly grind off** all areas that stand out, such as fiberglass overlaps, for example, and then thoroughly vacuum away any dust.

**8. Carry out a general review of the coating** in order to detect any defects, as per our *Technical Advice nr.4 " Dielectric Testing "* and proceed with any corrections and repairs as per our *Technical Advice nr.5 " Retouching "*.

**9. Apply** the specified topcoat on the entire laminated surface, that must be non-condensing.

<sup>(1)</sup> Depending on the resin used and the temperature of the substrate at the time of use: if in doubt, please consult us.

<sup>(2)</sup> Polyamide, Teflon or aluminum monoblock type rollers.



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## Mechanical fixing of a laminate

### Scope

This document describes the two usual methods of mechanical fixing of reinforced “anchored” laminated structures applied to non-metallic substrates.

### Nature of fixing system

L.R.Etanco polypropylene plug Exco Ø 32, 50 mm long is powerful, for multipurpose and easy to install:

It is a monoblock type piece to hit with a flat head and thin (thickness 2 mm). Its length can be adjusted depending on the substrate’s nature and condition.

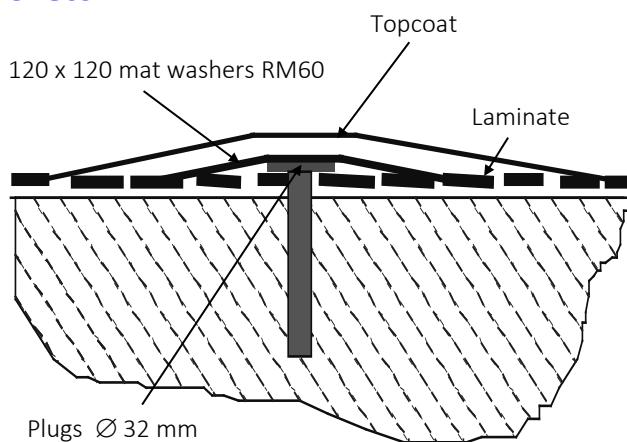
### Criteria of method to use

The implementation on “dry” is simple and traditional.

The one on “wet” has the advantage of being faster, offers greater overall homogeneity and ensures an improved esthetic aspect with a less pronounced “bump” effect.

But, it requires coordination that does not make it applicable in all capacities.

### Sketch



### Principle

#### ◆ Implementation on « dry » laminate:

- Apply the first or unique ply of laminate with specified reinforcement, and sprinkle with silica SB 0.
- Dry 6 to 24 h mini. depending on ambient temperature.

- Use a circular drilling machine to drill holes at the nominal plastic plug diameter and corresponding depth in a way to respect the mesh specified, generally every 50 cm in each direction, 5 to 6 per sqm.

The operation must start in a top corner or on a reinforcement overlap making sure that the plugs are always positioned on the overlap, independently of those positioned between them. Avoid drilling less than 20 cm from the corners.

- Blow holes with air.

- Use a hammer to fit the plastic plug.

- Reinforce each head with a mat washer RM60 Ø 12 cm, impregnated with coating 20g/washer, applied and then debubbled and saturated with 10 g/washer, and sprinkled with silica SB 0 while progressing.

**NB: in case of multiple plies**, the implementation of the 2nd ply (and the 3rd ply if necessary) as per the method described in our [Technical advice nr.14](#) replaces the mat washers.

#### ◆ Implementation on « wet » laminate:

- Drill the same holes, **before** the beginning of the laminating, in the same quantity and within the specified mesh, as well as implementation instructions.

- Blow with air.

- Place a marker (nail) in each hole.

- Apply the laminate (through the nails).

- Fit the plastic plug **after** removing the marker which have pierced the laminate.

- Recover with a mat washer.

Replaces and cancels any former issue

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## Technical specification

Waterproof, Watertight and  
Protective coating.

## appendix 3

## Reference list



**Max  
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## Reference list

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# chemical and other industries

## 1965 – 1977

<b>PAPETERIE LACROIX ET FILS MAZERES SUR SALAT (31)</b> Cuve des piles HERY de préparation des pâtes	AR 100/11B	1965 CONCRETE
<b>PAPETERIE DE LEDAR SAINT GIRONS (09)</b> Tour de blanchiment et cuve de désintégrateur	AR 100/11B	1968 STEEL
<b>MICHELIN CLERMONT-FERRAND (63)</b> Bac d'émulsion de caoutchouc 90°C	AR 100/11B	1969 STEEL
<b>UNION GENERALE DES GLYCERINES YAINVILLE (76)</b> Bac de glycérine pure 50/100°C	AR 100/11B	1969 STEEL
<b>ESSO CHIMIE PORT JEROME (76)</b> Bac d'acide sulfonique chaud	AR 100/MD1	1971 STEEL
<b>UGINE KUHLMANN BOUSSENS (31)</b> Wagons de transport de soude caustique chaude	AR 100/11B	1972 STEEL
<b>UNION CHAMPAGNE MALT VITRY LE FRANCOIS (51)</b> Cellules de germination 90°C	AR 100/11B	1973 CONCRETE
<b>TUBES DE LA MEUSE BELGIQUE</b> Eaux usées avec traces de solvants	AR 100/11B	1973-74 STEEL
<b>PAPETERIE DE LA RISLE PONT AUDEMER (27)</b> Cuviers de trituration	AR 100/11B	1975 CONCRETE
<b>COMPLEXE SIDERURGIQUE D'EL HADJAR ANNABA (ALGERIE)</b> 3 tours de lavage de gaz	AR 100/11B	1976 STEEL
<b>CREUSOT LOIRE ENTREPRISES</b>		
<b>AZOT SANAYII - COMPLEXE D'ENGRAIS DE GEMLIK (TURQUIE)</b> Tour de prilling de l'Urée	AR 100/11B	1976 CONCRETE
<b>SACILOR USINES DE : JOEUF (54), KNUTANGE (57), ROMBAS (57)</b> Casings-dépoussiéreurs fumées 100-250°C	AR 100/MD1	1976 STEEL
<b>PARACHIMIC ROUEN (76)</b> Camion-citerne de transport d'acide chlorhydrique concentré	AR 100/MD4	1977 STEEL
<b>PAPETERIE DALLE ET LECOMTE BOUSBECQUE (59)</b> Cuviers de pâte à papier et eaux blanches	AR 100/MD2	1977 CONCRETE
<b>CELLULOSE DES ARDENNES VIRTON (BELGIQUE)</b> Tours à chlorate de soude 80-90°C	AR 100/MD2	1977 STEEL/CONCRETE
<b>CDF CHIMIE - H.B.L. SAINT AVOLD (57)</b> Trémies à fines de minerais 40-80°C	AR 100/MD2	1977 STEEL
<b>ARBED DIFFERDANGE (LUXEMBOURG)</b> Casing-dépoussiéreurs fumées 120-180°C	AR 100/MD1	1977 STEEL
<b>SALINES DE L'EST VARANGEVILLE (54)</b> Trémies à sel et à saumure 60-80°C	AR 100/MD2	1977 STEEL

## 1978

<b>SOLVAY DOMBASLE (54)</b>		
• Trémies de stockage de sel	}	AR 100/MD2
• Trémies à chlorure de baryum		
• Trémies à chlorure de calcium		
• Trémies à chlorure de potassium		
<b>SOLLAC SEREMANGE (57)</b>		
Trémies à fines de charbon 40-80°C		AR 100/MD2
<b>PAPETERIE DE PONT AUDEMER (27)</b>		
Cuviers de trituration pour traitement de papier de récupération		AR 100/MD2
<b>ANTWERP CLEANING AND STORAGE (A.C.S.) ANVERS (BELGIQUE)</b>		
3 réservoirs de rejets chlorés		AR 100/MD4
<b>SUCRERIE DE VAUCIENNES (60)</b>		
Parois d'un échangeur d'ions véhiculant du jus sucré 95°C		AR 100/MD1
<b>CELLULOSE DE STRASBOURG (67)</b>		
Tours de pâte à papier 40-90°C		AR 100/MD2
<b>SOGESTROL LE HAVRE (76)</b>		
Bac 44 : rejets chlorés		AR 100/MD4
<b>FAUVET GIREL ARRAS (62)</b>		
Wagons de transport d'huile d'arachide 70°C		AR 100/X
<b>PAPETERIE GREGOIRE REMIREMONT (88)</b>		
Tours de pâte à papier		AR 100/MD1
<b>CELLULOSE DE LA LOIRE ALLAIRE (56)</b>		
10 cuviers de pâte à papier sous agitation		AR 100/MD2
<b>HEURTEY INDUSTRIES</b>		
<b>COMPLEXE D'ENGRAIS DE SEPA GABES (TUNISIE)</b>		
Fosses de rétention des bacs d'acide sulfurique et phosphorique		EDB+AC3

STEEL

STEEL

CONCRETE

STEEL

STEEL

STEEL/CONCRETE

STEEL

STEEL

STEEL

CONCRETE

CONCRETE

## 1979

<b>AGACHE WILLOT - FILATURES DE ARRIS (ALGERIE)</b> <i>Réservoirs d'eau de process</i>	EB 100/018M stratifié	CONCRETE
<b>PAPETERIE LA CHAPELLE DARBLAY SAINT ETIENNE DU ROUVRAY (76)</b> <i>5 tours de pâte à papier et 7 cuiviers de trituration</i>	AR 100/MD2	CONCRETE
<b>CENTRALE THERMIQUE DE RICHEMONT (57)</b> <i>Intérieur de la cheminée n°4</i>	AR 100/MD1	CONCRETE
<b>SOCIETE DES EAUX DE VITTEL (88)</b> <i>Laveuse Seitz</i>	AR 100/MD4	STEEL
<b>LESAFFRE MARCQ EN BAROEUIL (59)</b> <i>Intérieur d'un tambour sécheur de levure - 90°C</i>	AR 100/MD2	STEEL
<b>ROQUETTE FRERES LESTREM (62)</b> <i>Stockage glucose, dextrose, sorbitol, eau stérilisée - 90°C</i>	AR 100/MD1	STEEL

## 1980

<b>RENAULT BILLANCOURT (92)</b> <i>Tunnels de phosphatation et traitement de surfaces</i>	AR 100/MD1	STEEL
<b>A.C.S. ANVERS (BELGIQUE)</b> <i>Tanks 35 et 3 - Résidus d'hydrocarbures chlorés</i>	AR 100/MD4	STEEL
<b>ELF FRANCE RAFFINERIE DE FEYZIN (69)</b> <i>Décanteur biologique D 64305 eaux résiduaires</i>	AR 100/CLX	STEEL/CONCRETE
<b>CELLULOSE DU RHONE TARASCON (13)</b> <i>2 tours stockage de pâte à papier</i>	AR 100/MD1	STEEL
<b>SHELL - C.R.R. RAFFINERIE DE REICHSTETT (67)</b> <i>Bac T2220 : eau épurée 100/110 °C</i>	AR 100/HT	STEEL
<b>BRASSERIE PELFORTH MONS EN BAROEUL (59)</b> <i>Réservoir d'eau de fabrication environ 100°C</i>	AR 100/HT	STEEL
<b>SHELL FRANCAISE RAFFINERIE DE PETIT COURONNE (76)</b> <i>Ballon V5201/DB4 : hydrocarbures lourds avec H2S, 80°C</i>	AR 100/MD1	STEEL
<b>CENTRE D'ETUDES NUCLEAIRES SACLAY (91)</b> <i>Parois internes d'une batterie d'aéroréfrigérants</i>	AR 100/CLX	CONCRETE
<b>RENAULT SANDOUVILLE (76)</b> <i>Tunnels de phosphatation et traitement de surfaces</i>	AR 100/MD1	STEEL
<b>CITROEN RENNES (35)</b> <i>Cuve cataphorèse</i>	AR 100/MD4	STEEL
<b>SHELL FRANCAISE RAFFINERIE DE PETIT COURONNE (76)</b> <i>Bac T 104 : soude 50-60°C</i>	AR 100/MD1	STEEL

# 1981

<b>JORDAN FERTILIZER CY - AQABA (JORDANIE)</b> 2 bacs d'eau déminéralisée 110°C	AR 100/HT	STEEL
<b>ESSO S.A.F. RAFFINERIE DE FOS SUR MER (13)</b> Unité soufre N°2 : partie supérieure de la tour sud de traitement des eaux sûres	AR 100/HT	STEEL
<b>ESSO S.A.F. RAFFINERIE DE PORT JEROME (76)</b> Fosse de récupération acide sulfurique concentré	AL8+AC3	CONCRETE
<b>REGIE RENAULT DOUAI (59)</b> Tunnel de phosphatation	AR 100/MD1	STEEL
<b>ESSO CHIMIE NOTRE DAME DE GRAVENCHON (76)</b> • Bac TK 604 : méthanol pur 63°C • Bac TK 608 : méthanol + toluène + eau 80°C • Bac TK 602 : acide sulfonique 90°C	Galvaperl } Galvaperl } AR 100/MD1 }	STEEL
<b>TOTAL - C.F.R. RAFFINERIE DE NORMANDIE (76)</b> Bâche à soude 60/80°C (au raffinage des essences)	AR 100/HT	STEEL
<b>ATO CHIMIE GONFREVILLE (76)</b> • Fond du bac 1115B : benzène • Fond du bac 1115A : benzène • Fond du bac 1254B : para-xylène	} } }	AR 100/MDF
<b>USINOR DUNKERQUE (59)</b> Cuve de glycol	AR 100/MD2	STEEL
<b>SOLMA LA HAVRE (76)</b> • Cuve d'eau déminéralisée - 70/75°C • Cuve d'oxalate	AR 100/MD2	STEEL
<b>ROQUETTE FRERES LESTREM (62)</b> Cuve EC1 d'eau stérilisée + chlore	AR 100/HT	STEEL
<b>DIAMOND SHAMROCK COURTENAY (45)</b> Cuve de Lauryl Ether Sulfate de soude	AR 100/MD2	STEEL
<b>ESSO S.A.F. RAFFINERIE D'AMBES (33)</b> • Fond du bac TK 1002 : eau épurée d'alimentation de chaudière • Robe du bac TK 1002 : eau épurée d'alimentation de chaudière	AR 100/MDF AR 100/MD2	STEEL STEEL

## 1982

<b>TRANE EPINAL (88)</b> <i>Bac de lavage et rinçage tôles d'aluminium sortant des fours de brasage 80-100°C</i>	AR 100/HT	STEEL
<b>ELF FRANCE RAFFINERIE DE FEYZIN (69)</b> <i>Bac d'eau résiduaire pH 3 à 12</i>	AR 100/MD1	STEEL
<b>CIE PARISIENNE DES ASPHALTES ROUEN (76)</b> <i>Dessous toit et virole haute du bac 15 : mélasse, lignosulfite et huiles végétales ou minérales</i>	AR 100/MD1	STEEL
<b>BEGHIN SAYTHUMERIES (59)</b> <i>Echangeur d'ions contenant solution de chlorure de magnésium 92°C maxi</i>	AR 100/MD1	STEEL
<b>ATO CHIMIE GONFREVILLE (76)</b> <ul style="list-style-type: none"> <li>• Fond du bac TK 1116 : éthylbenzène</li> <li>• 7 ballons au Steam Cracking</li> <li>• d'isopentène avec soude et Mérox</li> </ul>	AR 100/MD2	STEEL
<b>DOCK DES ALCOOLS BORDEAUX (33)</b> <i>4 cuves d'alcool éthylique</i>	AR 100/CLX	STEEL

## 1983

<b>ROQUETTE FRERES LESTREM (62)</b> <ul style="list-style-type: none"> <li>• Cuve de lait d'amidon et lait de fécule</li> <li>• Cuve de jus sucré 80°C maxi</li> <li>• 2 cuves de jus sucré 65°C maxi</li> <li>• 2 cuves d'eau + farine de blé</li> <li>• Cuve ER1 de retour de condensats 80°C - pH 3 à 8</li> <li>• Essoreuse à amidon 30 à 40°C</li> <li>• Cuve d'eau décarbonatée</li> <li>• 3 cuves de sirop de sucre 80°C avec stérilisation vapeur 110°C 15mn/24h</li> </ul>	AR 100/MD1 AR 100/MD1 AR 100/MD2 AR 100/MD2 AR 100/MD1 AR 100/MD2 AR 100/MD4 AR 100/MD1	STEEL
<b>PAPETERIE DE GASCOGNE MIMIZAN (40)</b> <i>Cuvier de pâte à papier</i>	AR 100/MD1	CONCRETE
<b>DEGREMONT POUR CREUSOT LOIRE ENTREPRISES USINE D'ENGRAIS DE ROSTOCK (R.D.A.)</b> <i>Bac d'acide chlorhydrique 38 %</i>	AR 100/MD4	STEEL
<b>ALU PECHINEY NOGUERES (64)</b> <i>Intérieurs de laveurs</i>	LP 100/612	STEEL

## 1984

<b>TECHNIP - PAPETERIE DE LETJES IV JAVA (INDONESIE)</b>		
Cuves de pâte à papier et tours de blanchiment :	AR 100/MD1	STEEL
Ensemble des capacités process et stockage	ST 100/02 + AR 100/MD1	CONCRETE
<b>ALU PECHINEY NOGUERES (64)</b>		
Intérieurs de laveurs	LP 100/612	STEEL
<b>KOREAN GAS CORPORATION PYEONG TAEK (COREE)</b>		
Réservoirs TK 101 - TK 102 - TK 103 :	EB 100/018M	CONCRETE
gaz naturel liquéfié - membrane pare-vapeur		
<b>PAPETERIE DE GASCOGNE MIMIZAN (40)</b>		
Cuve de pâte à papier	AR 100/MD1	STEEL
<b>SOGESTROL LE HAVRE (76)</b>		
Bac 44 : rejets chlorés	AR 100/MD6	STEEL

## 1985

<b>WHESOE DUBLIN (IRLANDE)</b>		
Réservoirs d'huiles alimentaires et distillats acides 60°C	LP 100/612	STEEL
<b>BATA VERNON (27)</b>		
Réservoir d'eau déminéralisée de chaudière 80 à 100°C	AR 100/HT	STEEL
<b>CELLULOSE DU RHONE TARASCON (13)</b>		
Tour de pâte à papier haute densité	AR 100/MD1	STEEL
<b>AUSSEDAT REYARNOULD (88)</b>		
Filtre de récupération pâte à papier	AR 100/MD2	STEEL
<b>RENAULT BILLANCOURT (92)</b>		
Cuves cataphorèse	AR 100/MD4	STEEL
<b>RAFFINERIE D'AMERYA - S.N.C.M.P. ALEXANDRIE (EGYPTE)</b>		
Réservoir d'eau déminéralisée 70 à 85°C	AR 100/MD1	STEEL
<b>RENAULT SANDOUILLE (76)</b>		
Cuves cataphorèse	AR 100/MD4	STEEL
<b>C.D.F. CHIMIE CARLING (57)</b>		
Caniveaux dans station des eaux usées	AR 100/MD1	CONCRETE
<b>WALKER ENGINEERING BIBBY'S LIVERPOOL (ANGLETERRE)</b>		
Bacs à huiles alimentaires et distillats acides 60°C	LP 100/612	STEEL
<b>ALU PECHINEY NOGUERES (64)</b>		
Intérieurs de laveurs	LP 100/612	STEEL
<b>PECHINEY ALUMINIUM SAINT JEAN DE MAURIENNE (73)</b>		
Intérieur d'un refroidisseur pour gaz de four de cuisson d'anodes	AR 100/MD1	STEEL



## 1986

<b>DOCKS DES ALCOOLS BORDEAUX (33)</b> Réservoir d'alcool éthylique dénaturé par 10 % méthanol + 3 % d'alcool isopropylique	AR 100/CLX	STEEL
<b>EUROP RAIL PARIS (75)</b> Wagons de lessive de soude	AR 100/MD2	STEEL
<b>GAZ DE FRANCE SAINT CLAIR SUR EPTÉ (95)</b> Cuve de méthanol	AR 100/MD5	STEEL
<b>ROQUETTE FRERES LESTREM (62)</b> Silo de saumure saturée 70°C - pH 13	AR 100/MD2	STEEL
<b>RHONE POULENC</b> Wagons d'acétate de vinyle monomère	AR 100/MD2	STEEL
<b>BIO THERM DEAUVILLE (14)</b> Ballons d'eau salée 65°C	AR 100/MD1	STEEL
<b>RENAULT CORDOBA (ARGENTINE)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>ROQUETTE FRERES VECQUEMONT (80)</b> Silos 1 et 2 - Jus de pommes de terre pH 4,5 à 5,5 et lait d'amidon pH 5,5 à 6	AR 100/MD2	STEEL
<b>BUTACHIMIE CHALAMPE (68)</b> Caniveaux à effluents acides	ST100/04+AR100/MD6	CONCRETE
<b>ALU PECHINEY NOGUERES (64)</b> Intérieurs de laveurs	LP 100/612	STEEL
<b>AIR TOTAL ORLY (94)</b> Cuve de méthanol	AR 100/MD5	STEEL
<b>TOTAL - CFR RAFFINERIE DES FLANDRES (59)</b> Réacteur 56R602 : charbon actif + essence aromatique	LP 100/612	STEEL
<b>ROQUETTE FRERES LESTREM (62)</b> Réservoir de jus sucré N° 25 - 90°C maxi - pH 3,5 à 8	AR 100/MD1	STEEL
<b>MANUSTOCK STRASBOURG (67)</b> Bac à soude caustique 40° C - 80°C maxi	LP 100/712	STEEL
<b>SOCASO PORT LA NOUVELLE (11)</b> Bac R3 : lessive de soude	AR 100/MD1	STEEL
<b>POZNANSKIE NUORGANIKO LUBON (POLOGNE)</b> Cuve d'acide fluosilicique + silice 10/15 % 25-35°C	AR 100/MD2	STEEL
<b>BRASSERIE GUINNESS IKEJA (NIGERIA)</b> Cuve d'eau chaude 90/100°C	AR 100/HT	STEEL
<b>ROQUETTE FRERES LESTREM (62)</b> Cuve mélangeuse de féculé et d'amidon pH 3 à 4	AR 100/MD2 réf.G	STEEL

## 1986 (cont'd)

<b>SERH SAINT FLORENTIN (89)</b> Plaques d'électrolyse	LP 100/612	STEEL
<b>STEP STE SUZANNE (25)</b> Sous-face de dôme d'un digesteur	LP 100/612	CONCRETE
<b>SMAE TREMERY (57)</b> Cuve d'huile de coupe	ST 100/04	CONCRETE
<b>ORGANIKA ZACHEM BYDGSZCZ - POLOGNE</b> Cuve de suspension oxydes ferreux et ferriques dans acide sulfurique pH 3-4	AR100/MD4 AR100/MD1	STEEL
<b>SOLLAC FLORANGE (57)</b> 2 stockeurs d'effluents des émulsions usées, eau déminée avec 0 à 5 % d'huile 50°C	AR 100/MD2	STEEL

## 1987

<b>CHARCUTERIE MATT GUEBWILLER (68)</b> Réservoir d'eau alimentaire 50/80°C	AR 100/MD1	STEEL
<b>BERTRAND FAURE PIERREFONT (54)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>ATOCHEM SAINT AUBAN (04)</b> Décanteur à saumure	LP 100/612	STEEL
<b>REGIE RENAULT DOUAI (59)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>CITROEN AULNAY (93)</b> Réservoir d'eau incendie	EB 100/018M	STEEL
<b>C.E.C.A. FEUCHY (62)</b> Cuve de traitement des eaux résiduaires	ST 100/02 + AR 100/MD1	STEEL
<b>ATOCHEM CHAUNY (02)</b> Bac de soude 50%	LP 100/612	STEEL
<b>RHONE POULENC USINE CHIMIQUE/ SAINT FONS (69)</b> Bât. Vanilline : fosse de rétention d'acide sulfurique 9%	ST 100/04 + AC3	CONCRETE
<b>KODAK CHALON S/SAONE (71)</b> Fosse de rétention d'acide chlorhydrique 33 %	ST100/04 + SV100/FG	CONCRETE
<b>MICHELIN CLERMONT FERRAND (63)</b> Fosse de récupération des effluents	ST 100/04	CONCRETE
<b>RHONE POULENC USINE BELLE ETOILE/ SAINT FONS (69)</b> Fosse de rétention d'acide sulfurique 92 %	ST 100/04 + AC3	CONCRETE

1987 (cont'd)

<b>KODAK CHALON S/SAONE (71)</b> Fosse de rétention de soude 50 %	ST 100/04	CONCRETE
<b>SNCFROMILLY (10)</b> Réservoir d'eau résiduaire	AR 100/MD4	STEEL
<b>NEYRTEC GRENOBLE (38)</b> Intérieur d'un taster	EB 100/018M	STEEL
<b>RHONE POULENC USINE CHIMIQUE/ SAINT FONS (69)</b> Ballons adoucisseur d'eau contenant du chlorure de sodium à 20°B - 90°C	LP 100/712	STEEL
<b>ESSO CHIMIE NOTRE DAME DE GRAVENCHON (76)</b> Sphère S1 : butane	ST100/04+LP100/612	STEEL
<b>FABENREV PARIS (75)</b> 16 silos à gypse	LP 100/612G	STEEL
<b>UNISER AMPLEPUIS (69)</b> Emulseur à incendie 80°C	AR 100/MD1	STEEL
<b>AMBASSADE D'AUSTRALIE PARIS (75)</b> Ballon d'eau chaude sanitaire 90°C	AR 100/HT	STEEL
<b>RHONE POULENC USINE CHIMIQUE/ SAINT FONS (69)</b> Fosse de rétention de soude 50 %	ST100/04+LP100/612	CONCRETE
<b>H.B.L. CARLING (57)</b> Fosse de rétention de soude 50 %, d'acide sulfurique 80% + eaux strippées	ST100/04+AC3	CONCRETE
<b>U.I.O.M. COLOMBELLES - CAEN (14)</b> Bâche à eau déminéralisée 90° C	AR 100/HT	STEEL
<b>RHONE POULENC USINE SILICONE/ SAINT FONS (69)</b> Bac de siloxane	AR 100/MD4	STEEL
<b>PEUGEOT VESOUL (70)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>TOTAL - CFR RAFFINERIE DE NORMANDIE (76)</b> 2 réservoirs d'eau déminéralisée	ST 100/04	CONCRETE
<b>SOVAB (RVI) BATILLY (54)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>SAHL GAS FACILITIES SAHL (LIBYE)</b> 4 bacs de méthyl-diéthanol amine 13 % - 50°C	AR 100/MD4	STEEL
<b>H.B.L. CARLING (57)</b> Caniveaux : eaux de lavage des filtres graviers + goudrons (chlore, phénol) 60°C	ST100/04+AR100/MD4	CONCRETE

**1987 (cont'd)**

<b>RENAULT FLINS (78)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>RHONE POULENC USINE SILICONE/ SAINT FONTS (69)</b> Fosse de rétention siloxane	ST 100/04	CONCRETE
<b>PEUGEOT MULHOUSE (68)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>DARTY BONDY (93)</b> Réservoir d'eau industrielle	LP 100/612	STEEL
<b>VEB-IFA (AIR INDUSTRIE) LUDWIGSFELDE - R.D.A.</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>NEYR PIC BRIANCON (05)</b> Bâche de sortie d'eau hydroélectrique	EB 100/018M	STEEL
<b>RENAULT DOUAI (59)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>SCHWEPPE CHATEAUNEUF DE GADAGNE (84)</b> Cuve d'eau de Javel + acide chlorhydrique	AR 100/MD4	STEEL
<b>C.E.C.A. SAINT LAURENT BLANGY (62)</b> Cuve de noranium 60/70°C	AR 100/MD4	STEEL
<b>RHONE POULENC USINE SILICONE/ SAINT FONTS (69)</b> 4 bacs de toluène	LP 100/712	STEEL
<b>PEUGEOT VESOUL (70)</b> Caniveaux et fosses des tunnels de traitement de surface (acide nitrique et phosphorique 20 %)	VP 100/01	CONCRETE
<b>ROQUETTE FRERES BEINHEIM (67)</b> 2 cuves de jus sucré pH 4 à 5 - 80° C maxi	AR 100/MD1	STEEL
<b>KOREAN GAS CORPORATION PYEONG TAEK (COREE)</b> Réservoir TK 304 : gaz naturel liquéfié - membrane pare-vapeur	EB 100/018M	CONCRETE
<b>EUROCEL DIVES S/MER (14)</b> 2 ballons + 1 ensemble stockeur épaisseur de boues	AR 100/CLX	STEEL
<b>RENAULT BOURG EN BRESSE (01)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>ROQUETTE FRERES LESTREM (62)</b> Réservoir d'eau adoucie chlorée t. ambiante	AR 100/MD4	STEEL

## 1988

<b>ATOCHEM SAINT FONS (69)</b> Fosse de rétention d'acide chlorhydrique 33 %	ST100/04+AR100/MD4	CONCRETE
<b>SOLVAY TAVAUUX (39)</b> Réservoir de soude 11 % et de chlorure de sodium 16 %	AR 100/MD2	STEEL
<b>MICHELIN CLERMONT FERRAND (63)</b> Fosse de rétention de soude 50 %	ST 100/04	CONCRETE
<b>RHONE POULENC COLLONGES AU MONT D'OR (69)</b> Bac chaufferie	LP 100/712	STEEL
<b>OXYSYNTHESE JARRIE (38)</b> Réservoir d'eau de synthèse	ST100/04+AR100/MD6	ALU
<b>ELF FRANCE RAFFINERIE DE GRANDPUITS (77)</b> Bac 51 : slops - 50°C	AR 100/MD1	STEEL
<b>ATOCHEM SAINT AUBAN (04)</b> Bac R 3204 : soude 50 % - 80°C maxi	LP 100/712	STEEL
<b>RHONE POULENC PONT DE CLAIX (38)</b> Floculateur n°2 : eau résiduaire	ST 100/04	CONCRETE
<b>KODAK CHALON S/SAONE (71)</b> Fosse de rétention d'acide sulfurique 92 %	ST 100/04+AC3	CONCRETE
<b>ESSO PARIS LA DEFENSE (92)</b> Ballon d'eau chaude 85°C	AR 100/HT	STEEL
<b>MICHELIN CLERMONT FERRAND (63)</b> Décanteur d'eaux usées à la station d'épuration	ST 100/04	CONCRETE
<b>RENAULT FLINS (78)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>COGEM NIORT (79)</b> Tunnel de traitement de surface	AR 100/MD1	STEEL
<b>RHONE POULENC USINE SILICONE/ SAINT FONS (69)</b> Réservoir de siloxane 30°C	AR 100/MD4	STEEL
<b>CEMA AMIENS (80)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>CELLULOSE DU RHONE TARASCON (13)</b> Bac d'eaux blanchies 70°C maxi	ST100/04+AR100/MD2	STEEL
<b>ROQUETTE FRERES LESTREM (62)</b> Cuve de jus sucré 60°C	AR 100/MD1	STEEL
<b>FRANCE GALVA LORRAINE MORHANGE (57)</b> Cuves d'acide chlorhydrique dilué à 50 %	AR 100/MD4	STEEL

1988 (cont'd)

<b>RHONE POULENC USINE SILICONE/ SAINT FONTS (69)</b> Silo de carbonate de calcium	LP 100/612G	STEEL
<b>ATOCEM PIERRE BENITE (69)</b> Fosse de rétention d'acide chlorhydrique 33 % et soude 40 %	ST100/04+AR100/MD4	CONCRETE
<b>NEYRTEC LE TEIL (07)</b> Intérieur d'un taster	EB 100/018M	STEEL
<b>MOBIL NOTRE DAME DE GRAVENCHON (76)</b> Bac TK 517 de cire alimentaire 90°C	LP 100/712	STEEL
<b>RHONE POULENC CHALAMPE (68)</b> Réservoir d'eau industrielle	AR 100/MD1	STEEL
<b>ROQUETTE FRERES LESTREM (62)</b> Cuve de jus sucré 80°C	AR 100/MD1	STEEL
<b>FRANCE GALVA SAINT FLORENTIN (89)</b> Cuves d'acide chlorhydrique dilué à 50 %	ST100/04+AR100/MD4	STEEL
<b>NEYRTEC GRENOBLE (38)</b> Intérieur d'un taster	EB 100/018M	STEEL
<b>ATOCEM CHAUNY (02)</b> Bac de soude 50 %	LP 100/612	STEEL
<b>KODAK CHALON S/SAONE (71)</b> Intérieur d'un puits	ST 100/04	CONCRETE
<b>ICI FRANCOLOR SAINT CLAIR DU RHONE (38)</b> 3 réservoirs d'eau pH 8,5 à 9	LP 100/612	STEEL
<b>CPK GIVORS (69)</b> Réservoir d'eau	LP 100/612	STEEL
<b>THANN ET MULHOUSE THANN (68)</b> Wagons de lessive de soude	AR 100/MD2	STEEL
<b>ATOCEM PIERRE BENITE (69)</b> Réservoir d'eau pH 8 à 9	LP 100/612	STEEL
<b>NORSOLOR CARLING (57) - ZONE ACIDE ACRYLIQUE</b> Fosses P 280 et R 270 : eaux pluviales	ST 100/02	CONCRETE
<b>SNECMA MELUN VILLAROCHE (77)</b> Fosse de rejets d'effluents de laboratoire	ST 100/04+AC3	CONCRETE
<b>WILLIAM SAURIN CHALON S/SAONE (71)</b> Caniveaux pour graisse animale	ST100/04+AL8T/AP	CONCRETE
<b>SOLVAY SALIN DE GIRAUD (13)</b> Bac à carbonate de calcium 90°C	AR 100/MD1	STEEL

## 1989

<b>ATOCHEM SAINT AUBAN (04)</b> Bac R 735 de perchloréthylène	LP 100/612	STEEL
<b>RHONE POULENC BELLE ETOILE/ SAINT FONS (69)</b> Fosse de rétention d'acide sulfurique 92 %	ST 100/04+AC3	CONCRETE
<b>SANOFI SISTERON (04)</b> Zone de dépotage acide sulfurique	ST 100/04+AC3	CONCRETE
<b>CETICHALON S/SAONE (71)</b> Caniveaux à eau borée	ST100/04+AL8T/AP	CONCRETE
<b>RENAULT SANDOUVILLE (76)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>IBM CORBEIL (91)</b> Quai de déchargement et aire de dépotage acide	ST100/04+SV100/MF	CONCRETE
<b>ATOCHEM SAINT FONS (69)</b> Gazomètre - Secteur Nord	LP 100/612	STEEL
<b>SOLVAY TAVAUUX (39)</b> Fosse de rétention au plancher du bâtiment Fabrication	ST100/04+AL8/AP	CONCRETE
<b>CIBA SAINT FONS (69)</b> Fosse de rétention 592 : sulfonitrique 50/50	ST 100/04+AC3	CONCRETE
<b>MICHELIN CLERMONT FERRAND (63)</b> Fosse de rétention de soude 50 %	ST 100/04	CONCRETE
<b>SOLVAY SALIN DE GIRAUD (13)</b> Bac de carbonate de calcium 90°C	AR 100/MD1	STEEL
<b>ATOCHEM VAUVERT (30)</b> Fosse à saumure 310 gr/l	ST 100/04	CONCRETE
<b>CIBA SAINT FONS (69)</b> Fosse de rétention S 49 : acide sulfurique 98 %	ST 100/04+AC3	CONCRETE
<b>RHONE POULENC PONT DE CLAIX (38)</b> Bac FB 27 : saumure 315 gr/l	LP 100/612	STEEL
<b>SANOFI SISTERON (04)</b> Fosse de rétention d'acide chlorhydrique 33 %	ST100/04+SV100/MF	CONCRETE
<b>MICHELIN CLERMONT FERRAND (63)</b> Fosse de rétention d'acide sulfurique	ST100/04+SV100/MF	CONCRETE
<b>RENAULT FLINS (78)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>SHELL FRANCAISE / C.R.R. RAFFINERIE DE REICHSTETT (67)</b> Cuves CPI (séparateur effluents huileux)	AR 100/MD4	STEEL

1989 (cont'd)

<b>PAPETERIE IRIDIUM MARESQUEL (62)</b> Cuve de pâte à papier	ST100/04+LP100/712	CONCRETE
<b>RENAULT LE MANS (72)</b> Fosse de rétention d'acide chlorhydrique	ST100/02+SV100/MF	CONCRETE
<b>ATOCHEM VAUVERT (30)</b> Zone pomperie : fosse de rétention saumure	ST 100/04	CONCRETE
<b>CIBA SAINT FONS (69)</b> Fosse de rétention Oléum	ST 100/04+AC3	CONCRETE
<b>RHONE POULENC PONT DE CLAIX (38)</b> Bac FB 11 : soude 50 % - 70°C	LP 100/712	STEEL
<b>SANOFI SISTERON (04)</b> Fosse de rétention de soude 50 %	ST 100/04	CONCRETE
<b>S.N.E.A.P. LACQ (64)</b> Bac T 8718 : tertio butyl mercaptan	AR 100/MD6	STEEL
<b>ASTRA CALVET ASNIERES (92)</b> Cuve à huile alimentaire 80°C	LP 100/712	STEEL
<b>SOPAD NESTLE LISIEUX (14)</b> Fosse de rétention d'acide nitrique, d'eau oxygénée et de soude	ST100/04+SV100/MF	CONCRETE
<b>ROQUETTE FRERES LESTREM (62)</b> Cuve à jus sucré pH 3,5 à 8 - 80°C maxi	AR 100/MD1	STEEL
<b>PARC ASTERIX PLAILLY (60)</b> Filtres à sable F1, F2 et F6	LP 100/612	STEEL
<b>THANN ET MULHOUSE THANN (68)</b> Wagons de lessive de soude	AR 100/MD2	STEEL
<b>ATOCHEM VAUVERT (30)</b> Caniveaux zone saumure	ST 100/04	CONCRETE
<b>CIBA SAINT FONS (69)</b> Bac de fabrication de colorants	ST100/02+SV100/MF	CONCRETE
<b>RHONE POULENC PONT DE CLAIX (38)</b> • 3 massifs secteur soude 2 et soude 3 • 4 massifs secteur soude 2 et soude 3	ST100/04+AR100/MD1 ST100/04+LP100/712	CONCRETE
<b>ATOCHEM SAINT AUBAN (04)</b> Bac R 3206 : soude 50 % - 80°C	LP 100/712	STEEL
<b>SANOFI SISTERON (04)</b> Fosse de rétention d'acide sulfurique 92 %	ST 100/04+AC3	CONCRETE
<b>CIE PARISIENNE DE CHAUFFAGE URBAIN IVRY (94)</b> 5 réservoirs d'eau industrielle 80°C	LP 100/712	STEEL



## 1989 (cont'd)

<b>ATOCEM</b> BALAN (01) Sécheur PVC	AR 100/MD6	INOX
<b>ICI FRANCOLOR</b> SAINT CLAIR DU RHONE (38) 2 réservoirs d'eau déminéralisée	LP 100/612	STEEL
<b>ATOCEM</b> GONFREVILLE (76) Ballon 12T03 : mélange éthylbenzène et styrène - 50°C	AR 100/MD6	STEEL
<b>FOULD SPRINGER</b> MAISONS ALFORT (94) Bac d'éthanol + cyclohexane + eau + sulfate de potasse + acide chlorhydrique	AR 100/CLX	STEEL
<b>CGE</b> HUNINGUE (68) Ballon - poste relevage eau usées	LP 100/612	STEEL
<b>ATOCEM</b> SAINT AUBAN (04) Bac R 752 : lessive de soude 50 % - 80°C	LP 100/712	STEEL

## 1990

<b>HBL</b> COKERIE DE CARLING (57) Fosse de rétention huile et eau	ST 100/04	CONCRETE
<b>ATOCEM</b> VAUVERT (30) Fosse à eau brute	LP 100/612	CONCRETE
<b>GAZ DE FRANCE</b> BREVAL (78) Cuve de méthanol	AR 100/MD5	STEEL
<b>MICHELIN</b> USINE DE LADOUX - CLERMONT FERRAND (63) Fosse de rétention de soude	ST 100/04	CONCRETE
<b>NAPHTACHIMIE/ATOCEM</b> LAVERA (13) Bac R 332 : saumure 310 gr/l - 55°C maxi	LP 100/612	STEEL
<b>SPONTEX</b> BEAUVAIS (60) Fosse de rétention de chlorure de magnésium 350 gr/l et pentachlorophénate de sodium - 50°C maxi	ST100/04+LP100/612	CONCRETE
<b>SHELL FRANCAISE - C.R.R.</b> RAFFINERIE DE REICHTETT (67) Bac T802 : effluents - pH 12	AR 100/MD4	STEEL
<b>SOLVAY</b> TAVAUUX (39) Réservoir W007 : soude 50 %	LP 100/612	STEEL

## 1991

<b>ATOCHEM SAINT AUBAN (04)</b> Bac R 711 : trichloréthane T111	AR 100/MD2	STEEL
<b>RHONE POULENC PONT DE CLAIX (38)</b> Réservoir R 21227B : eau déminéralisée 60°C	LP 100/712	STEEL
<b>SOLVAY TAVAUUX (39)</b> Réservoir W 008 : soude 50 %	LP 100/612	STEEL
<b>RHONE POULENC PONT DE CLAIX (38)</b> Décanteur FG5 à saumure	LP 100/612	STEEL
<b>NAPHTACHIMIE / ATOCHEM LAVERA (13)</b> • Bac R 337 : carbonate de sodium 40°C-70°C maxi • Sol à la Salle diaphragme • Sol à la Salle mercure • Bac 226 : eau 85°C	LP 100/712 ST100/04+LP100/712 ST100/04+AL8T/AP AR 100/HT	STEEL CONCRETE CONCRETE STEEL
<b>BRCQUAI D'ISSY LES MOULINEAUX (75)</b> Silo de ciment en vrac	ST 100/04	STEEL
<b>KOREAN GAS CORPORATION PYEONG TAEK (COREE)</b> Réservoir TK 205 : gaz naturel liquéfié - membrane pare-vapeur	EB 100/018M	CONCRETE
<b>NOROXO HARNES (62)</b> Cuve d'oléfines	LP 100/612	STEEL
<b>THANN ET MULHOUSE LE HAVRE (76)</b> Fosse de rétention d'acide phosphorique et sulfurique	ST100/04+SV100/MF	CONCRETE
<b>RHONE POULENC PONT DE CLAIX (38)</b> Bac FA0031 : saumure 310 gr/l	LP 100/612	STEEL
<b>ATOCHEM SAINT AUBAN (04)</b> Bac R 3207: soude 50 % - 80°C	LP 100/712	STEEL
<b>TRIFLEET DORDRECHT (HOLLANDE)</b> Iso container : chlorure d'aluminium	AR 100/MD4	STEEL
<b>CHEVRON CHEMICAL LE HAVRE (76)</b> Cuve d'oléfines 60°C	LP 100/712	STEEL
<b>CPCU IVRY (94)</b> Fosse de rétention de soude	ST100+LP100/712	CONCRETE
<b>GELATINES WEISCHARDT GRAULHET (81)</b> Laveurs de couennes	ST100/04+EP100/MF	CONCRETE
<b>SOLLAC FOS SUR MER (13)</b> Fosse de rétention du poste PCB au T.A.B.	ST 100/02	CONCRETE
<b>S.F.B.P. RAFFINERIE DE DUNKERQUE (59)</b> Fosse de rétention d'acide phosphorique	SV100/MF+ST100/04	CONCRETE

## 1992

<b>FOULD SPRINGER MAISONS ALFORT (94)</b> Bac 8 : 25 % eau, 5% Bétainex, 70% extrait potassique	LP 100/612	STEEL
<b>RENAULT FLINS (78)</b> Cuves cataphorèse	AR 100/MD4	STEEL
<b>ATOCHEM GONFREVILLE (76)</b> Bac d'oléfines 60°C	LP 100/712	STEEL
<b>RHONE POULENC COLLONGES AU MONT D'OR (69)</b> Silo 8007 : silice micropeler	LP 100/612	STEEL
<b>ATOCHEM PIERRE BENITE (69)</b> Fosse de rétention d'HCL 33 %	ST100/04+AR100/MD4	CONCRETE
<b>THANN ET MULHOUSE LE HAVRE (76)</b> Décanteur : eaux mères	LP 100/712	STEEL
<b>ATOCHEM GONFREVILLE (76)</b> Ballon 12D24 : slops 80°C	AR 100/MD6	STEEL
<b>RHONE POULENC PONT DE CLAIX (38)</b> Bac FA 3121 : sulfite sodium 10 %	LP 100/612	STEEL
<b>ICI FRANCOLOR SAINT CLAIR DU RHONE (38)</b> Réservoir : eau déminéralisée 80°C	LP 100/712	STEEL
<b>ATOCHEM PIERRE BENITE (69)</b> Fosse de rétention d'HCL 33 %	ST100/04+SV100/MF	CONCRETE
<b>RHONE POULENC USINE CHIMIQUE/ SAINT FONS (69)</b> Fosse de rétention d'acide cyanhydrique	ST 100/05	CONCRETE
<b>MICHELIN CLERMONT FERRAND (63)</b> Fosse de rétention H2SO4, HNO3, NaOH – BAT Y20	ST100/05+SV100/MF	CONCRETE
<b>RHONE POULENC PONT DE CLAIX (38)</b> Bac FB 041 : saumure	LP 100/612	STEEL
<b>ATOCHEM BALAN (01)</b> Sécheur de poudre PVC	ST100/05+AR100/MD6	STEEL
<b>KOREAN GAS CORPORATION PYEONG TAEK (COREE)</b> Réservoir TK 706 : gaz naturel liquéfié – membrane pare-vapeur	EB 100/018M	CONCRETE
<b>RHONE POULENC USINE SILICONE/ SAINT FONS (69)</b> Bac 1008 : siloxane acide avec présence d'HCL	ST100/04+AR100/MD4	STEEL
<b>ATOCHEM PIERRE BENITE (69)</b> Bac 8116 : WAC	AR 100/MD1	STEEL
<b>NAPHTACHIMIE/ ATOCHEM LAVERA (13)</b> •Décanteur nord : saumure 310 gr/l – 85°C •Sol à la Salle électrolyse	ST100/05+PVE11+LP100/712 ST100/04+LP100/712	CONCRETE CONCRETE

## 1993

<b>ATOCHEM FOS SUR MER (13)</b> Bac 1201 : saumure épurée	LP 100/612	STEEL
<b>EXXON CHEMICAL PORT JEROME (76)</b> Bac de white spirit 75°C	AR 100/MD1	STEEL
<b>NAPHTACHIMIE/ ATOCHEM LAVERA (13)</b> • Sol à la Salle diaphragme • Sol au stockage de soude	ST100/05+SV100/MF ST100/05+LP100/712	CONCRETE CONCRETE
<b>NOROXO HARNES (76)</b> Bac d'oléfines	LP 100/612	STEEL
<b>REGIE RENAULT SANDOUILLE (76)</b> Cuve cataphorèse	AR 100/MD4	STEEL
<b>ESSO ENERGIE RAFFINERIE DE PORT JEROME (76)</b> Fosse de neutralisation des eaux usées de la centrale	ST100/05+LP100/712	CONCRETE
<b>RHONE POULENC PARDIES (64)</b> Terrasse de la chaudière	ST100/04+AL8/MF	CONCRETE
<b>ATOCHEM NOTRE DAME DE GRAVENCHON (76)</b> Bassin d'oxygénation	ST100/05+AR100/MD4	CONCRETE
<b>GIAT INDUSTRIES LE MANS (72)</b> Bac d'eau de rinçage : acide sulfurique 15 % - 70°C	AR 100/MD2	STEEL
<b>LAITERIE BESNIER LAVAL (53)</b> Fosses de rétention d'acide nitrique	ST100/05+SV100/MF	CONCRETE
<b>REGIE RENAULT FLINS (78)</b> Cuve cataphorèse	ST100/05+SV100/MF	STEEL
<b>ESSO S.A.F. RAFFINERIE DE PORT JEROME (76)</b> Bassin de trempage HCl	ST100/05+SV100/MF	STEEL
<b>RHONE POULENC AGRO VILLEFRANCHE (69)</b> Bacs de colle RA501 - RA503 - RA506 - R6 - RA7	AR 100/MD2	STEEL
<b>VINYTHAI PUBLIC COMPANY BANGKOK (THAILANDE)</b> Bacs à soude 50 %	LP 100/612	STEEL
<b>RHONE POULENC PARDIES (64)</b> Citerne incendie	LP 100/612	STEEL
<b>CIPRIAL/APT-UNION APT (84)</b> 60 cuves de saumuration de fruits	ST100/05+LP100/612	CONCRETE

## 1993 (cont'd)

### **RHONE POULENC USINE CHIMIQUE/ SAINT FONS (69)**

• Atelier G.P.O. – Trémie T 26/20 : chloranyl	ST100/05+LP100/712	STEEL
• Atelier Vanilline 583 : piscine de rejets des effluents	ST100/05+LP100/612	CONCRETE
• Atelier Vanilline 1084 : fosse de rétention H <sub>2</sub> SO <sub>4</sub> 98 %	ST100/05+SV100/MF	CONCRETE
• Atelier Vanilline 583 : piscine d'eau + sulfate 4,5 % + acide organique à 0,8%. – pH 6 – 60°C	ST100/05+LP100/612	CONCRETE

### **CERESTAR HAUBOURDIN (59)**

• Presse à pulpe	ST100/05+LP100/712	STEEL
• Fosse de rétention H <sub>2</sub> S		CONCRETE

### **ATELIERS A.S. PIERRE BENITE (69)**

Bac à eau brute	LP 100/612	STEEL
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### **RHONE POULENC PONT DE CLAIX (38)**

Salle de chloration : fosse de rétention d'eau incendie	AL8T/AP STRATIFIE	CONCRETE
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### **KOREAN GAS CORPORATION PYEONG TAEK (COREE)**

Réservoir TK 707 : gaz naturel liquéfié – membrane pare-vapeur	EB 100/018M	CONCRETE
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## 1994

### **NAPHTACHIMIE LAVERA (13)**

• Chloé : caniveaux de chlorométhane	ST100/05+SV100/MF	CONCRETE
• Atochem T6 : sol de la salle électrolyse (soude)	ST100/05+AL8T/AP	CONCRETE

### **SYCTOM/ USINE TIRU IVRY S/SEINE (94)**

Fosse de rejets tampon 70°C	ST100/05+LP100/712	CONCRETE
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### **RANK XEROX SECLIN (59)**

Fosse de rétention de soude	ST100/05	CONCRETE
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### **HENKEL YAINVILLE (76)**

Bac R655 : 20lycerine 60/80°C	LP100/712	STEEL
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### **WHIRLPOOL AMIENS (80)**

Cuve cataphorèse	ST100/05+LP100/712	STEEL
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### **RHONE POULENC CHALAMPE (68)**

• Caniveaux IRN1	ST100/05	CONCRETE
• Fosses de rétention à Olone IV : eau acidulée	ST100/05	
• Fosse de rétention de fuel	ST100/05	

### **ATOCHM JARRIE (38)**

• Sous face du toit du bac R 722 : soude 50%	ST100/05	STEEL
• Charpente de fosse à saumure	LP100/712	

### **RHONE POULENC VITRY S/SEINE (94)**

Bâche à soude	ST100/05	CONCRETE
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1994 (cont'd)

<b>CERESTAR HAUBOURDIN (59)</b>		
• Méthaniseur : méthane et eaux	LP100/612	STEEL
• Fosses de rétention de soude 50%	ST100/05+AL8T/AP	CONCRETE
<b>GLACERIES SAINT ROCH AUVELAIS (BELGIQUE)</b>		
Cuve inox : eau chlorée	AR 100/MD4	STEEL
<b>BOXAL BEAUREPAIRE (38)</b>		
Fosse de rétention de perchloréthylène	ST100/05+LP100/612	CONCRETE
<b>RENAULT FLINS (78)</b>		
Cuve cataphorèse	ST100/05+AR 100/MD4	STEEL
<b>SIETAM SECLIN (59)</b>		
Suspentes de cataphorèse	AR 100/CLX	STEEL
<b>RENAULT-SOVAB BATILLY (54)</b>		
Cuve cataphorèse	ST100/05+AR 100/CLX	STEEL
<b>RHONE POULENC PONT DE CLAIX (38)</b>		
Fosse de rétention GA 513/1.2 :	ST100/05+SV100/MF	CONCRETE
99% de soude 50 % - 1% de Javel 47-50°C		
<b>C.P.A. DUNKERQUE (59)</b>		
Réservoirs N° 12 et 18 : soude 50 % - 50°C	LP100/612	STEEL
<b>GELATINES WEISCHARDT GRAULHET (81)</b>		
Bac stockant des couennes de porc	ST100/05+EP100/MF	CONCRETE
(Fermentation 3% acide sulfurique)		
<b>EXXON CHEMICAL NOTRE DAME DE GRAVENCHON (76)</b>		
• Bac TK 22142 : HCl 33% dilué à 30% dans	AR100/MD1	STEEL
de l'eau alumineuse		
• Bac TK 19193 : HCl 33% dilué à 30% dans	AR 100/MD4	
de l'eau alumineuse	LP100/712	
• Ballon D 040 : butène		
<b>RHONE POULENC ROUSSILLON (38)</b>		
Sous face du bac 1049 : siloxane	AR 100/MD4	STEEL
<b>ATOCEM SAINT AUBAN (04)</b>		
Bacs R 3201 et R 3208 : soude 50 % - 75°C	LP100/712	STEEL
<b>THANN ET MULHOUSE LE HAVRE (76)</b>		
Cuve RC 20 : eaux mères	ST100/05+LP100/712	STEEL
<b>ROQUETTE LESTREM (62)</b>		
Laveuse d'amidon	AR 100/CLX	STEEL
<b>ATOCEM GONFREVILLE (76)</b>		
Ballon 12D24 : distillat Slops – 70/80°C	AR 100/MD4	STEEL
<b>C.D.R.A. PAPETERIES SAINT GAUDENS (31)</b>		
Fosse des eaux blanches	ST100/05+LP100/612	CONCRETE

### 1994 (cont'd)

<b>SANOFIL'ISLE SUR LA SORGUE (84)</b> Fosse de rétention : HCl 33 %	ST100/05+SV100/MF	CONCRETE
<b>NOROXO HARNES (62)</b> Fond de bac N°120 : oléfines 60°C	ST100/05+LP 100/612	STEEL
<b>PAPETERIE IRIDIUM MARESQUEL (62)</b> Cuvier de pâte à papier – 60°C	ST100/05+LP100/712	STEEL
<b>CPCU BERCY (75)</b> Bâche : eau industrielle 80°C	LP100/712	STEEL
<b>LEVER HAUBOURDIN (59)</b> Fosse de rétention : soude	ST100/05+AL8T/AP	CONCRETE
<b>RHONE POULENC ROUSSILLON (38)</b> Château d'eau : eau industrielle	ST100/05	CONCRETE
<b>ZENECA SAINT CLAIR DU RHONE (38)</b> Fosse de rétention et puisard HCl 30 %	SV100/MF	CONCRETE
<b>NOORD NATIE ANVERS (BELGIQUE)</b> Réservoir n°5 : soude caustique 50 % - 40°C	LP100/712	STEEL
<b>CPCU GRENELLE (75)</b> Bâches RE3 et RF3 : eau industrielle 80°C	LP100/712	STEEL
<b>SOLLAC FOS S/MER (13)</b> Château d'eau : eau industrielle	LP100/612	STEEL
<b>RHONE POULENC USINE CHIMIQUE SAINT FONTS (69)</b> Fosse de rejet Bât.568 PMO : acide chlorhydrique, gilotherm, eau de lavage, eau + soude, chlorure d'acide, traces de Javel, hydroquinone, MIBK, toluène, perchloréthylène, trichloréthylène	ST100/05+PVE11 +SV100/MF	CONCRETE

### 1995

<b>HENKEL YAINVILLE (76)</b> Réservoir R 654 : glycérine – 60/80°C	LP100/712	STEEL
<b>SIETAM SECLIN (59)</b> Suspenes de cataphorèse	AR 100/MD4	STEEL
<b>RENAULT MAUBEUGE (59)</b> Cuve cataphorèse	ST100/05+AR 100/MD4	STEEL
<b>NAPHTACHIMIE/ATOCEM LAVERA (13)</b> Sol à la salle électrolyse	ST100/05+AL8T/AP	CONCRETE
<b>R.V.I. ANNONAY (07)</b> Cuve cataphorèse	ST100/05+AR 100/MD4	STEEL

1995 (cont'd)

<b>LEVER HAUBOURDIN (59)</b> Fosse de rétention d'acide citrique et soude	ST100/05+SV100/MF	CONCRETE
<b>ATOCHEM GONFREVILLE (76)</b> Ballon B 129 : diéthanolamine	AR 100/CLX	STEEL
<b>SEFIVIN SORGUES (84)</b> Réservoir N°8090 d'azote sec	LP100/612	STEEL
<b>RHONE POULENC USINE CHIMIQUE/ SAINT FONS (69)</b> Piscine (groupe 3) – Effluents	ST100/05+AR100/MD6	CONCRETE + TILING
<b>CERESTAR HAUBOURDIN (59)</b> • Digesteur : boues sulfureuses • Digesteur : eaux résiduaires	ST100/05+LP100/612 ST100/05+LP100/612	STEEL STEEL
<b>TOTAL GONFREVILLE L'ORCHER (76)</b> Fosse de rétention HCl des bacs 18B301 et 18B302	ST100/05+SV100/MF	CONCRETE
<b>DU PONT DE NEMOURS DUNKERQUE (59)</b> Sol de l'atelier principal : HCl 33 %	AR 100/MD4	CONCRETE
<b>FUJILAB BOIS D'ARCY (78)</b> Caniveau E6 recevant des réactifs de procédé de développement photo	ST100/05+SV100/MF	CONCRETE
<b>SOGESTROL LE HAVRE (76)</b> • Bac N°76 : soude 50 % - 35°C • Réservoir N°9 : résidus phénolés	LP100/612 ST100/05+AR 100/MD4	STEEL STEEL
<b>RHONE POULENC LES ROCHES DE CONDRIEU (38)</b> • Massif Est d'entraînement du four : soude • Bac 91700 : soude	ST100/05+AL8T/AP ST100/05+LP100/612	CONCRETE STEEL
<b>CPCU GRENELLE PARIS (75)</b> Fond de bac RF1 et RF2 : eau industrielle 80°C	ST100/05+LP100/612	STEEL
<b>ROQUETTE FRERES LESTREM (62)</b> • Murs de l'atelier TS4 : gluten • Amidonnerie : laveuse – Amidon • Silos à farine • Cuve – Amidon	RP100/01 AR100/CLX ST100/05+LP100/612 AR 100/MD4	CONCRETE STEEL STEEL STEEL
<b>DU PONT DE NEMOURS CERNAY (68)</b> Cuve de stockage N°1271 : dibasicester 20 % + xylène 63 % + méthanol 50% + éthanol 36 % + alcool dodécylrique 15 % + dibutylphtalate 30 % + di-isobutylcétone 25 %	AR100/MD5	INOX
<b>RENAULT LE MANS (72)</b> Cuve cataphorèse	ST100/05+AR 100/MD4	STEEL
<b>RHONE POULENC PONT DE CLAIX (38)</b> Chaîne 3 : fosse de rétention de soude 30%	ST100/05+LP100/712	CONCRETE



1995 (cont'd)

<b>UGINE SAVOIE</b> UGINE (73)		
Ligne de décapage :		CONCRETE +
• 3 fosses de neutralisation	ST100/05+SV100MF	TILING
• 2 fosses de rejets : effluents acides	ST100/05+SV100/MF	CONCRETE
<b>ORIL BOLBEC</b> (76)		
• 3 bassins de stockage et 1 caniveau	ST100/05+LP100/712	CONCRETE
• 1 bassin de stockage de jus cuivrique pH 2 (HCl) sulfate de cuivre 3,5g/l – acétate d'éthyle 1 %	ST100/05+SV100/MF	CONCRETE
<b>HOECHST LILLEBONNE</b> (76)		
Ballon V 402 : acétaldéhyde	AR 100/MD2	STEEL
<b>RHONE POULENC USINE SILICONES NORD/SAINT FONTS</b> (69)		
Atelier finition : fosse de rejet et de stockage d'effluents	ST100/05+LP100/712	CONCRETE
<b>THANN ET MULHOUSE</b> LE HAVRE (76)		
Réservoir RC 201 : eau déminéralisée + oxyde de titane + chlorures	ST100/05+LP100/712	STEEL
<b>SANOBI BIO-INDUSTRIES</b> L'ISLE SUR LA SORGUE (84)		
Fosse de rétention HCl 33 %	ST100/05+SV100/MF	CONCRETE
<b>C.P.A. GRAND QUEVILLY</b> (76)		
Bac N°7 : soude 49 % - 35/50°C	LP100/612	STEEL
<b>SARA</b> LE LAMENTIN (97) MARTINIQUE		
Fosse de rétention d'eaux résiduaires	ST100/05	CONCRETE
<b>ELF ATOCHEM</b> SAINT AUBAN (04)		
Bac R 3202 : soude 50 % - 75°C maxi	ST100/05+LP100/712	STEEL
<b>DORLYL</b> LE HAVRE (76)		
Silo : pulvérulents plastiques	LP100/612	STEEL
<b>EURO AUTOMOBILES HEULIEZ</b> CERISAY (79)		
Tunnel de rinçage	AR100/MD1	STEEL
<b>C.D.E. LANGRES</b> (52) <b>POUR L'AIR LIQUIDE</b>		
Réservoirs N°8164-8171-8300-8367-8450-8451 : azote sec	LP100/612	STEEL
<b>CHALLENGE INTERNATIONAL</b> SANDOUVILLE (76)		
15 Containers : siloxane	AR 100/MD4	STEEL + INOX
<b>PAPETERIE IRIDIUM</b> MARESQUEL (62)		
Cuvier : eau potable	ST100/05+LP100/612	CONCRETE
<b>ROQUETTE FRERES</b> BENHEIM (67)		
Cuve AS 626 : lait d'amidon	LP100/512	STEEL
<b>ATOACHEM</b> SAINT FONTS (69)		
Bac R 7301 : Javel 55°C + soude 4 à 8 gr/litre	ST100/05+AR 100/CLX	CONCRETE
<b>CEGECOL</b> ROUEN (76)		
Trémie : colle néoprène – 40°C	LP100/612	STEEL

## 1996

<b>ROQUETTE FRERES LESTREM (62)</b>		
• Tambour filtrant : amidon	AR100/CLX	STEEL
• Lessiveuse : gluten	AR100/CLX	STEEL
• Murs et plafond à la salle de production TS4 : gluten	ST100/05+RP100/01	CONCRETE
• Robe d'un silo à farine	LP100/612	STEEL
• Cuves : lait d'amidon	LP100/512	STEEL
<b>ERMETAINER SANDOUVILLE (76)</b>		
Container : siloxane	AR100/MD4	STEEL/INOX
<b>SAINT GOBAIN ANICHE (59)</b>		
Parois du réfrigérant atmosphérique	ST100/05+LP100/612	CONCRETE
<b>NAPHTACHIMIE LAVERA (13)</b>		
ATOCHEM T6 : poutres à la salle électrolyse	ST100/05+LP100/712	CONCRETE
<b>CARBONE SAVOIE LA LECHERE (73)</b>		
Taster T 18	ST100/05+LP100/612	STEEL
<b>NAPHTACHIMIE / ATOCHEM LAVERA (13)</b>		
Bac R 331 : saumure épurée	ST100/05+LP100/612S	STEEL
<b>RENAULT BOURG EN BRESSE (01)</b>		
Atelier peinture : fosse de neutralisation	ST100/05+SV100/MF	CONCRETE
<b>UGINE SAVOIE UGINE (73)</b>		
• Chaîne de décapage DC8 – massifs, fosse de rétention, caniveaux : effluents pH 1 à 6	SV100/MF	CONCRETE
• Rétention HF – murs, caniveaux : acide nitrique 57 % et HF 50 %	ST100/05+SV100/MF	CONCRETE
• Caniveaux DC6 : effluents pH 1 à 6	ST100/05+SV100/MF	CONCRETE
<b>ROQUETTE FRERES BENHEIM (67)</b>		
Cuve C1J 100 : lait d'amidon	ST100/05+LP100/512	STEEL
<b>LESAFFRE CERENS (50)</b>		
Cuve N°8960 : azote	LP100/612	STEEL
<b>ATOCHEM CARLING (57)</b>		
Bacs V 411 et V 412 : éthylbenzène 45 %, benzène 40 %, polyéthylbenzène 15 %	LP100/612	STEEL
<b>EIMCO WEMCO SECLIN (59)</b>		
Filtre EIMCO : H <sub>2</sub> SO <sub>4</sub> -70°C et TiO <sub>2</sub>	LP100/712	STEEL
<b>THANN ET MULHOUSE LE HAVRE (76)</b>		
Filtre EIMCO : H <sub>2</sub> SO <sub>4</sub> -70°C et TiO <sub>2</sub>	LP100/712	STEEL
DORR B et DORR NORD : eau déminéralisée et TiO <sub>2</sub> – 70°C	LP100/712	STEEL
<b>ATOCHEM SAINT FONS (69)</b>		
Bac R 7250 : NaOH 50% - t. ambiante	LP100/712	STEEL

1996 (cont'd)

<b>RHONE POULENC PONT DE CLAIX (38)</b> Atelier AG/SC : Fosse de rétention sulfonitrique 50 %	ST100/05+SV100/MF	CONCRETE
<b>PROPETROL STRASBOURG (67)</b> • Réservoir R 122 : lessive de soude • Fosse de rétention : eau, hydrocarbures	LP100/712 ST100/05+LP100/612	STEEL CONCRETE
<b>ATOCHEM SAINT AUBAN (04)</b> Bac R 3203 : NaOH 50 % - 70°C	ST100/05+LP100/712	STEEL
<b>PEUGEOT POISSY (78)</b> Cuve cataphorèse	AR100/MD4	STEEL
<b>TREDI SAINT VULBAS (01)</b> Aire de dépotage et fosse de rétention : HCl 33% - t. amb	SV100/MF	CONCRETE
<b>DU PONT DE NEMOURS DUNKERQUE (59)</b> Réservoirs : eau de chaudière 80°C – pH 11, neutralisation à l'HCl – pH 6 à 8	ST100/05+AR100/MD6	STEEL
<b>SIBILLE DALLE BOUSBECQUE (59)</b> • Cuvier : eau chargée en pâte à papier • Caniveau : eau et pâte à papier	ST100/05+LP100/712 ST100/05+LP100/712	CONCRETE CONCRETE
<b>SNECMA CORBEIL-ESSONNES (91)</b> Fosse de rétention : produits de traitement de surface	ST100/05+SV100/MF	CONCRETE
<b>PEUGEOT MULHOUSE (68)</b> Cuve cataphorèse	ST100/05+AR100/MD4	STEEL
<b>COCA COLA LES PENNES MIRABEAU (13) - STATION D'EPURATION</b> • Traitement des ciels gazeux • Fosses de relevage • Fosse de rétention : chlorure ferrique, soude • Fosse de rétention : Javel, acide sulfurique	LP100/712 LP100/712 ST100/05+LP100/612 ST100/05+SV100/MF	CONCRETE CONCRETE CONCRETE CONCRETE
<b>RENAULT FLINS (78)</b> Cuve cataphorèse	ST100/05+AR100/MD4	STEEL
<b>RHONE POULENC LES ROCHES DE CONDRIEU (38)</b> Secteur AMTPD - fosse de rétention sous centrifugeuse : effluents pH 4 à 12	ST100/05+LP100/512	CONCRETE
<b>CITROEN RENNES (35)</b> Cuve cataphorèse	ST100/05+AR100/MD4	STEEL
<b>PROTEX CHATEAURENAULT (37)</b> Cuve : formol 94 % - 50/60°C	AR100/MD2	STEEL and INOX
<b>STAUFFER/ FEGUY (BELGIQUE)</b> Cuves : pesticides	LP100/612	STEEL

1996 (cont'd)

<b>HOYER FRANCE</b> LE HAVRE (76) Bac : eau 70°C	ST100/05+LP100/712	STEEL
<b>NOVACARB</b> LANEUVEVILLE DEVANT NANCY (54) Bac à saumure	AR100/MD1	STEEL
<b>SVENSKA RAYON</b> VALVERG (SUEDE) Réservoir N° 101 : sulfure de carbone	AR100/MD2	STEEL
<b>LUBRIZOL FRANCE</b> LE HAVRE (76) Fosse d'oxydation : eau, H <sub>2</sub> S	ST100/05+AR100/MD2	CONCRETE
<b>AUSSEDAT REYMARESCQUEL</b> (62) 2 cuiviers de pâte à papier	ST100/05+LP100/712	CONCRETE
<b>GRANDE PAROISSE</b> MORMANT (77) Fosse de rétention : H <sub>2</sub> SO <sub>4</sub> 96 %	ST100/05+SV100/MF	CONCRETE
<b>RHONE POULENC USINE CHIMIQUE</b> SAINT FONTS (69) •Atelier Vanilline : fosse de rétention H <sub>2</sub> SO <sub>4</sub> 92 % •Bât 517 POD Groupe 1 : piscine de rejet d'effluents •Bât 142 Groupe 3 - sol et fosse de rétention : H <sub>2</sub> SO <sub>4</sub> 92%, acide salicylique, carbonate de soude •Bât 568 PMO Groupe 1 : fosse de rejet d'effluents	ST100/05+SV100/MF ST100/05+SV100/MF ST100/05+SV100/MF ST100/05+SV100/MF	CONCRETE CONCRETE CONCRETE CONCRETE
<b>SEVEL NORD</b> SAINT AMAND LES EAUX (59) Cuve cataphorèse	ST100/05+AR100/MD4	STEEL
<b>VINYLTHAI PUBLIC COMPANY</b> BANGKOK (THAILANDE) Bacs K 311 - K 312 : NaOH 50 %	LP100/612	STEEL
<b>ATMEL ROUSSET</b> (13) •Sol : produits chimiques •Fosse de rétention : H <sub>2</sub> SO <sub>4</sub> 98 % et HCl 33 %	AL8/S+ST100/05+SV100/MF ST100/05+SV100/MF	CONCRETE CONCRETE
<b>KOREAN GAS CORPORATION</b> PYEONG TAEK (COREE) Réservoirs TK 308 - TK 309 : gaz naturel liquéfié - membrane pare-vapeur	EB100/018M	CONCRETE
<b>D.C.A.N.</b> CHERBOURG (50) - <b>SS MARIN NUCLEAIRE « LE TRIOMPHANT »</b> Local batteries : fosse de rétention	ST100/05+AL8T/AP	INOX
<b>ORIL</b> BOLBEC (76) Fosses de rétention: H <sub>2</sub> SO <sub>4</sub> 98 %	ST100/05+SV100/MF	CONCRETE
<b>ARSENAL DE CHERBOURG</b> (50) Fosse de rétention : fûts de solvant	ST100/05+AL8T/AP	CONCRETE
<b>AMYLUM</b> ALOST (BELGIQUE) •Cuve : glucose •Cuve : mélasse	AR100/MD2 AR100/MD2	STEEL STEEL
<b>YVES ROCHER</b> LA GACILLY (56) Cuve à parfum	AR100/CLX	STEEL

## 1997

<b>NAPHTACHIMIE / ATOCHEM LAVERA (13)</b>		
• Dissolveur : saumure 85°C	ST100/05+AR100/CLX	CONCRETE
• Bac R 332 : saumure épurée	ST100/05+LP100/612S	STEEL
• Sol à la pomperie : NaOH 50 % - 60°C	ST100/05+LP100/712	CONCRETE
<b>RHONE POULENC LA ROCHELLE (17)</b>		
• Atelier CERES : sol et caniveaux caniveaux	EDO/30S+ED SOL	CONCRETE
	ED SOL	STEEL GALVA
• Atelier SAPHIR : sol et caniveaux caniveaux	EDO/30S+ED SOL	CONCRETE
	ED SOL	STEEL GALVA
• Atelier SAPHIR III : sol et caniveaux	ST100/05+AL8T/AP	CONCRETE
<b>LUBRIZOL ROUEN (76)</b>		
Réservoir : triphénylphosphate 30°C	LP100/712	STEEL
<b>ROQUETTE FRERES BENHEIM (67)</b>		
Cuve N° CH100 : lait d'amidon	ST100/05+LP100/512	STEEL
<b>ARKEMA (ex - S.N.E.A.P.) LACQ (64)</b>		
Bac T 8718 : tertio butyl mercaptan	AR100/MD6	STEEL
<b>ORIL BOLBEC (76)</b>		
• Fosse de rétention : HCl 33 %	ST100/05+SV100/MF	CONCRETE
• Fosse de rétention : H <sub>2</sub> SO <sub>4</sub> 98 %	ST100/05+SV100/MF	CONCRETE
<b>ERAMET SLN LE HAVRE (76)</b>		
Sol de l'unité Cobalt	ST100/05+AL8T/AP	STEEL
<b>ROQUETTE FRERES LESTREM (62)</b>		
• Charpentes du bâtiment pilote	CP95	STEEL
• Fosse de rétention : HCl 35%, NaOH 4%, acide paracétique 40 %, bisulfite de soude, eau oxygénée	ST100/05+SV100/MF	CONCRETE
<b>CARBONE SAVOIE LA LECHERE (73)</b>		
Fosse de rétention des fours N°1, 4, 5 et 6	ST100/05+LP100/612	STEEL/INOX
<b>ELF ATOCHEM SAINT AUBAN (04)</b>		
Bac R 712 : Trichloro-111-éthane	AR100/MD2	STEEL
<b>D.S.M. COMPIEGNE (60)</b>		
• Cuves N° 50, 51 et 52 : styrène	AR100/MD6	STEEL
• Cuve N° 53 : diéthylène glycol	AR100/MD4	STEEL
• Cuves N° 56 et 63 : acrylates 1 et 2	AR100/MD6	STEEL
• Cuves N° 57, 58 et 59 : monopropylène glycol, toluène	AR100/MD2	STEEL
• Cuve N° 62 : TDI 100%	AR100/MD2	STEEL
• Cuve N° 64 : dipropylène glycol	AR100/MD2	STEEL
<b>RHONE POULENC USINE CHIMIQUE/SAINT FONS (69)</b>		
Bât 568 PMO Groupe 1 : fosses de rétention des bacs 10464 et 10465	ST100/05+SV100/MF	CONCRETE

1997 (cont'd)

<b>A.I.E.A. MONACO</b>		
• Bât 4 : conduit d'extraction d'air de laboratoire	ST100/05+SV100/MF	CONCRETE
• Cuisine : conduit d'aération	ST100/05+LP100/612	CONCRETE
<b>E.D.I.B. DIJON (21)</b>		
• Bacs N°10, 12, 17 : eau solvantée à 5 % maxi (White spirit, naphta et essence de térébenthine)	LP100/612	STEEL
• Bacs N°11, 18 : eau et solvants halogénés (Trichloro-1,1,1 Ethane et Trichloréthylène)	LP100/612	STEEL
• Station de traitement de déchets - Stockage de fûts :		
- zones du local : acides pH 1	AL8/S	CONCRETE
- fosses de rétention : acides pH 1	ST100/05+SV100/MF	CONCRETE
<b>HIT INDUSTRIES CHANTELOUP LES VIGNES (78)</b>		
Cuves : liquide de trempage des STEELS	ST100/05+AR100/MD1	CONCRETE
<b>UGINE SAVOIE UGINE (73)</b>		
• Aire et mur du dépotage HF : acide nitrique 57 %, acide fluorhydrique 50% - t. ambiante	ST100/05+SV100/MF	CONCRETE
• Puisard filtre presse, zone laveur, fosse de rétention RF2, escalier bac DC3 : effluents pH 1 à 6	ST100/05+SV100/MF	CONCRETE
<b>HOTEL DES MONNAIES ET MEDAILLES PESSAC (33)</b>		
Fosses de rétention : H <sub>2</sub> SO <sub>4</sub> 98 %	ST100/05+SV100/MF	CONCRETE
<b>CITROEN AULNAY SOUS BOIS (93)</b>		
Cuve cataphorèse	ST100/05+AR100/MD4	STEEL
<b>RHONE POULENC PONT DE CLAIX (38)</b>		
Toiture terrasse de l'unité B.R.	AL8T/AP STRATIFIE	CONCRETE
<b>EURO AUTOMOBILES HEULIEZ CERIZAY (79)</b>		
Cuve cataphorèse	ST100/05+AR100/MD4	STEEL
<b>TREDI SAINT VULBAS (01)</b>		
• Caniveaux : pyralène, perchloréthylène, dégraissant CAMLEN	ST100/05+AL8T/AP	CONCRETE
• Caniveaux de l'unité de traitement des PCB	AL8T/AP	CONCRETE
<b>R.V.I. ANNONAY (07)</b>		
Atelier CHROME - Fosse de rétention : effluents cataphorèse	ST100/05+AR100/MD4	CONCRETE
<b>CELLULOSE DU PIN BIGANOS (33)</b>		
Cuvier C 22 : pâte à papier	ST100/05+LP100/612	CONCRETE
<b>CECA ATO FEUCHY (62)</b>		
Bassin : eau industrielle	ST100/05+LP100/612	CONCRETE
<b>SFIM INDUSTRIES PALAISEAU (91)</b>		
Capots blindés	AR100/CLX	STEEL
<b>AUSSE DAT REYMARESQUEL (62)</b>		
Cuvier : pâte à papier	ST100/05+LP100/712	CONCRETE

## 1997 (cont'd)

<b>SYCTOM</b> ISSY LES MOULINEAUX (92) Fosse de rejet d'effluents	ST100/05+LP100/712	CONCRETE
<b>ATOCHEM</b> GONFREVILLE (76) Ballon 12D24 : slops 80°C	AR100/MD6	STEEL
<b>ATO GRANDE PAROISSE</b> MAZINGARBE (62) Fosse de rétention AG5 : eau, nitrate	ST100/05+AL8T/AP	CONCRETE
<b>KOREAN GAS CORPORATION</b> PYEONG TAEK (COREE) Réservoir TK 310 : gaz naturel liquéfié - membrane pare-vapeur	EB100/018M	CONCRETE
<b>SONITHERM - U.I.O.M.</b> NICE (06) Fosse de rétention et sols : différents acides	ST100/05+SV100/MF	CONCRETE
<b>G.I.A.T.</b> TULLE (19) Fosse de rétention : effluents	LP100/712+SV100/MF	CONCRETE
<b>RHONE POULENC</b> SAINT AUBIN LES ELBEUF (76) Aero-accelerator : effluents	ST100/05+AR100/MD4	CONCRETE
<b>STEINER</b> VERNON (27) Bassins de la station d'épuration : effluents teinturerie	ST100/05+LP100/612	CONCRETE

## 1998

<b>ROQUETTE FRERES</b> BENHEIM (67) Cuve de traitement de lait d'amidon n°6A	ST100/05+SV100/MF	STEEL
<b>EURO AUTOMOBILES HEULIEZ</b> CERIZAY (79) Cuve cataphorèse	ST100/05+AR100/MD4	STEEL
<b>PEUGEOT</b> MONTBELIARD (25) Cuve cataphorèse	ST100/05+AR100/MD4	STEEL
<b>ROQUETTE FRERES</b> VECQUEMONT (80) Massif en CONCRETE (support de machine - séchage de l'amidon) CONCRETE	ST100/05+RP100/01	
<b>RHONE POULENC NUTRITION ANIMALE</b> COMMENTRY (03) Fosse de neutralisation des effluents	ST100/05+AL8T/AP	CONCRETE
<b>RHODIA</b> SAINT FONS (69) Piscine vaniline	ST100/05+LP100/612	CONCRETE
<b>ELF ATOCHEM</b> SAINT AUBAN (04) Sol de la salle électrolyse Sol du 1er étage de la salle électrolyse mercure	AL8T/AP+AL8/S AL8T/AP STRATIFIE	CONCRETE CONCRETE

1998 (cont'd)

<b>BALSAN LE POINCONNET (66)</b> Sol et caniveau : acide formique et acide acétique	AL8/S et ED/SOL	CONCRETE
<b>EUROTAINER / DAHER LE HAVRE (76)</b> Containers de transport de Noranium N2SH1	AR100/MD1	INOX
<b>NAPHTACHIMIE / ATOCHEM LAVERA (13)</b> Bac CIBA S 312 et caniveau Sol de la salle électrolyse mercure Sol du 1er étage de la salle électrolyse mercure	LP100/612 S AL8T/AP+AL8S AL8T/AP STRATIFIE	STEEL CONCRETE CONCRETE
<b>TOTAL CRD GONFREVILLE L'ORCHER (76)</b> Bassin de décarbonatation : eau déminéralisée	ST100/05+LP100/612	CONCRETE
<b>CELLULOSE DU RHONE TARASCON (13)</b> Silo : pâte à papier	AL8T/AP+AR100/MD1	STEEL
<b>RHODIA ROUSSILLON (38)</b> Fosse de rétention dans le local phosgène Filtre Philippe Fosse de rétention : H <sub>2</sub> SO <sub>4</sub> 92 %	AL8T/AP STRATIFIE AL8T/AP STRATIFIE ST100/05+SV100/MF	CONCRETE CONCRETE CONCRETE
<b>TT PLAST LENS (62)</b> 1 Cuve enterrée : alcool isopropylique 1 Cuve enterrée : acétate d'éthyle	LP100/612 LP100/612	STEEL STEEL
<b>ATOCHEM GRANDE PAROISSE GRAND COURONNE (76)</b> Fosse de rétention : acide nitrique	ST100/05+SV100/MF	CONCRETE
<b>NOROXO HARNES (62)</b> Cuves : mélange d'alcools aliphatiques C13-C15	ST100/05+AR100/MD2	STEEL
<b>EDIB DIJON (21)</b> Cuves : solvants divers	LP100/612	STEEL
<b>STOLT NIELSEN LE HAVRE (76)</b> Containers de transport de siloxane	AR100/MD4	INOX
<b>INTERNATIONAL PAPER KWIDZEN (POLOGNE)</b> Cuves : lait de chaux 80°C	AR100/MD4	STEEL
<b>HOECHST LILLEBONNE (76)</b> Méthaniseur : eaux résiduaires	LP100/612	STEEL
<b>SOBEGI MOURENX (64)</b> Bac T 701 : eaux biodégradables	AR100/MD2	STEEL
<b>NESTLE BRIQUEBEC (50)</b> Fosse de rétention : HCl	ST100/05+SV100/MF	CONCRETE
<b>EUROTUNNEL CALAIS (62)</b> Fosse de rétention : HCl	ST100/05+SV100/MF	CONCRETE
<b>RAF CHESTER (ANGLETERRE)</b> Cuves : eau + antigel Energex 20 %	LP100/612	STEEL



## 1999

<b>ORIL/DEGREMONT BOLBEC (76)</b> Fosse de rétention : HCl	ST100/05+SV100/MF	CONCRETE
<b>SHELL BERRE (13)</b> Bac T1601 : NaOH 50 %	LP100/712	STEEL
<b>EUROTAINER/DAHER LE HAVRE (76)</b> Containers de transport de Noranium M2SH-1	AR100/MD1	INOX
<b>EUROLYSINE AMIENS (80)</b> Bac T 5000A : lysine	LP100/712	STEEL
<b>ATOCHEM GONFREVILLE L'ORCHER (76)</b> Bac TK 1115B : styrène	AR100/MD6	STEEL
<b>SANOFI SISTERON (13)</b> Fosse de rétention R 40202: HCl	ST100/05+SV100/MF	CONCRETE
<b>COLAS LYON (69)</b> Bac de bitume	AR100/MD6	STEEL
<b>LUBRIZOL ROUEN (76)</b> Bac T 10189 : alcool en C <sub>3</sub> , alcool en C <sub>8</sub> acide ditiophosphorique	AR100/CLX	STEEL
<b>RENAULT FLINS (78)</b> Cuves cataphorèse	ST100/05+AR100/MD4	STEEL
<b>ATOCHEM LAVERA (13)</b> Zone Nord des Lourds à Chloé : sol de rétention	ST100/05+SV100/MF	CONCRETE
<b>ATOCHEM SAINT AUBAN (04)</b> Bac R 3206 : lessive de soude à 75°C	LP100/712	STEEL
<b>PROSERPOL/HARIBO MARSEILLE (13)</b> Cuve de neutralisation R 03 + Caniveaux (eau de lavage + 5 g/l d'acide acétique)	LP100/612 ST100/05+LP100/612	STEEL CONCRETE
<b>RENAULT SANDOUVILLE (76)</b> Cuves cataphorèse	AR100/MD4	STEEL
<b>RHODIA LES ROCHES DE CONDRIEU (38)</b> Cuve : sulfure de carbone	AR100/MD2	STEEL
<b>CELLURHONE TARASCON (13)</b> Tours : pâte à papier	ST100/05+AR100/MD1	CONCRETE
<b>MARIUS FABRE SALON DE PROVENCE (13)</b> Cuves : huiles végétales à 60°C	ST100/05+LP100/612	CONCRETE
<b>C.D.E. LANGRES (52) pour GAZ DE FRANCE</b> Cuves : méthanol pur	AR100/MD5	STEEL
<b>RHODIA COLLONGES (69)</b> Caniveaux d'une aire de dépotage H <sub>2</sub> SO <sub>4</sub> 92 %	ST100/05+SV100MF	CONCRETE

## 2000

<b>EUROTAINER / DAHER</b> LE HAVRE (76) Containers de Noranium M2SH1	AR100/MD1	INOX
<b>NORD COMPOSITES</b> LONGPRE LES CORPS SAINTS (80) Cuves : résine polyester en solution dans le styrène	AR100/MD6	STEEL
<b>PROSERPOL USINE BONNE MERE</b> LA BOUCAN - STE ROSE (97) Méthaniseur : traitement de vinasses	ST100/05+LP100/612	STEEL
<b>GACHES CHIMIE</b> ESCALQUENS (31) Bac : Alcool éthylique technique dénaturé 95 %	AR 100/CLX	STEEL
<b>CITROEN</b> CORMEILLES LE ROYAL (14) Cuves de phosphatation	AR 100/MD1	STEEL
<b>R. V.I. MONDEVILLE</b> (14) Cuve cataphorèse	ST 100/05+AR100/MD4	STEEL
<b>TOTAL NORMANDIE</b> HARFLEUR (76) Fosse de neutralisation d'acides	ST100/05+LP100/712	CONCRETE
<b>RHODIA</b> LES ROCHES DE CONDRIEU (38) Pont à bascule ISSAR : égouttures H <sub>2</sub> SO <sub>4</sub> 98 %	ST100/05+SV100/MF	CONCRETE
<b>PAPETERIE DE MAUDUIT</b> QUIMPERLE (29) Rétention : NaOH	ST 100/05+LP100/612	CONCRETE
<b>BP/ELF</b> DUNKERQUE (59) Bac E 17 : cire 80 à 80°C avec pointes à 120°C	ST100/05+AR100/MD1	STEEL
<b>RHODIA CHIMIE</b> ST FONTS (69) Bâtiment R 614 : Fosse de rétention acide sulfurique 92 %	ST100/05+SV100/MF	CONCRETE
<b>ROQUETTE FRERES</b> BENHEIM (67) Cuve de traitement de lait d'amidon n°1 I 100	ST100/05+SV100/MF	STEEL

## 2001

**RHODIA ROUSSILLON (38)**

Atelier herbicide – fosses de rétention :

- Poste pompes HCl : eau + HCl 32 %
- Poste 4711 : HCl 32 % + Diazo (chlorures)  
+ eau + chlorure de méthylène
- Poste 1022 : eau + jus stanniques (HCl 13 à 16 %  
+ Sn1 10 à 12 % + Sn2 1 à 2 %) + NaOH 150 g/l
- Poste 1074 : HCl 10% + goudrons à 45°C maxi

ST100/05+SV100/MF CONCRETE

**EXXON PORT JEROME (76)**

Bacs TK 19 179 – TK 19 193 – TK 19 178: boues

ST100/05+AR100/MD4 STEEL

**NOROXO HARNES (62)**

Cuves : mélange d'alcools aliphatiques C13-C15

ST100/05+AR100/MD2 STEEL

**TEMBECTARASCON (13)**

Tour de blanchiment

ST100/05+AR100/MD1 STEEL

**SOLLAC BASSE INDRE (44)**

Cuve d'eaux de rejet et rinçage

LP 100/712 STEEL

**NOVACARB LANEUVEVILLE DEVANT NANCY (54)**

Décarbonateur

ST100/05+AR100/MD1 STEEL

**SEVEL NORD SAINT AMAND LES EAUX (59)**

8 cuves de traitement des effluents

ST100/05+LP100/712 STEEL

**RHONE POULENC SAINT AUBIN LES ELBOEUF (76)**

Fosse de récupération des eaux résiduaires

ST100/05+SV100/MF CONCRETE

**ATOFINA SAINT AUBAN (04)**

Bac R 3205 : NaOH 50%

LP100/712 STEEL

**EXXON MOBIL NOTRE DAME DE GRAVENCHON (76)**

Bac 83 : extrait aromatique de furfuraldéhyde ou furfural,  
avec traces d'aldéhyde furfurylique (200 à 300 ppm)

AR100/MD1 STEEL

## 2002

<b>C.P.C.U. LA VILLETTE PARIS (75)</b> Bâche à eau de condensats 80°C	LP 100/712	STEEL
<b>PAPETERIE DE CASCADEX SCAER (29)</b> Cuvier de pâte à papier	ST100/05+LP100/612	CONCRETE
<b>ROQUETTE FRERES BENHEIM (67)</b> Cuve de traitement de lait d'amidon n° C1 H 100 Cuve de traitement de lait d'amidon n° C1 J 100	ST100/05+SV100/MF ST100/05+SV100/MF	STEEL STEEL
<b>PAPETERIE DE SMURFIT FACTURE (33)</b> Cuvier de pâte à papier	ST100/05+LP100/612	CONCRETE
<b>P.S.A. SOCHAUX (25)</b> Cuve cataphorèse	ST 100/05+AR100/MD4	STEEL
<b>ATOFINA JARRIE (38)</b> Salle électrolyse chlore/soude	AL8T/AP+AL8M	CONCRETE
<b>SANOFI SISTERON (04)</b> Fosses de rétention soude 25% et 50%	AL8T/AP+AL8T/AP	CONCRETE
<b>INTERNATIONAL PAPER MARESQUEL (62)</b> Cuvier de pâte à papier	ST100/05+LP100/712	CONCRETE
<b>BURGO ARDENNES VIRTON (BELGIQUE)</b> Cuve de stockage de liqueur verte	ST100/05+AR100/MD1	STEEL
<b>TEMBECTARASCON (13)</b> Cuvier de pâte à papier	ST100/05+AR100/MD1	CONCRETE
<b>MICHELIN CATAROUX (63)</b> Bassin de décantation d'acide phosphorique 5 %	ST100/05+LP100/612	CONCRETE
<b>NOVACARB LANEUVEVILLE DEVANT NANCY (54)</b> Réservoir de bouillie BC sous agitation pH 8,3 – t. 52°C	ST100/05+AR100/MD1	STEEL
<b>ATOFINA CARLING (57)</b> Réservoir de naphta	ST100/05+LP100/612	STEEL
<b>RENAULT SANDOUVILLE (76)</b> Bac de NaOH	LP100/612	STEEL
<b>EXXON MOBIL NOTRE DAME DE GRAVENCHON (76)</b> Bac TK 19194 : eau alumineuse	ST100/05+AR100/MD4	STEEL

## 2003

<b>CEREXAGRI MOURENX (64)</b> Cuve 1441/ agrinol, slurry de Famoxate, slurry de Folpel	LP100/612	STEEL
<b>ATOFINA SAINT AUBAN (04)</b> Réservoir 212A : solvant chloré	ST100/05+AR100/MD2	STEEL
<b>NOROXO HARNES (59)</b> Bac TK 108 : oléfine	AR100/MD2	STEEL
<b>GIREX QUIMPER (29)</b> Fosses de rétention sous bâches T002, T003, T004, T005, T006, T007, T008, T009, T010, T011 : solvants	ST100/05+SV100/MF	CONCRETE
<b>RHODIA SILICONES SAINT FONTS (38)</b> Fosse de rétention acide chlorhydrique 32 %	ST100/05+SV100/MF	CONCRETE
<b>AIR LIQUIDE SALAISE (38)</b> - Aire de dépotage et stockage extérieur : H <sub>2</sub> SO <sub>4</sub> 96 % - Fosse extérieure n°2 : H <sub>2</sub> SO <sub>4</sub> 96 % - Salle 1/3 et sol de la salle 5/1 : acide sulfurique 96 % - Fosse de rétention "tampon" extérieure : H <sub>2</sub> SO <sub>4</sub> , NaOH	ST100/03+SV100/MF SV100/MF	CONCRETE CONCRETE
<b>GE PLASTICS (60)</b> Aire de dépotage : eau oxygénée	ST100/03+SV100/MF	CONCRETE
<b>REXIMHAM (80)</b> Réservoir T 405 : acides glutamique, aspartique, serine, thréonine + sulfates 3 % maxi	LP100/612	STEEL
<b>AJINOMOTO EUROLYSINE AMIENS (80)</b> Réservoir T 5000D : effluents aqueux	LP100/512	STEEL
<b>EUROCAT LA VOULTE (07)</b> Fosse de rétention NaOH 50 %	AL8T/AP	CONCRETE
<b>C.P.C.U. ST OUEN (93)</b> Fosse de neutralisation	ST100/03+SV100/MF	CONCRETE
<b>LUBRIZOL ROUEN (76)</b> Réservoir T10162 : alcool en C <sub>3</sub> 96 %, alcool en C <sub>2</sub> 2 %, acide ditiophosphorique 2 %	AR100/CLX	STEEL
<b>ATOFINA CARLING (57)</b> Réservoir R 2205 : eaux chargées en benzène, styrène, éthylbenzène, coke, huiles - pH 2 à 10	AR100/MD6	STEEL
<b>EXXON SOCABU N.D. DE GRAVENCHON (76)</b> Aire de dépotage à ciel ouvert : H <sub>2</sub> SO <sub>4</sub> 98 %	ST100/05+SV100/MF	CONCRETE
<b>PARC DES EXPOSITIONS PARIS (75)</b> Cunette de collecteur d'eaux pluviales	LP100/512	CONCRETE
<b>ASCOMETAL DUNKERQUE (59)</b> Décanteurs eau + boue neutralisée	ST100/03+LP100/512	STEEL/CONCRETE

## 2004

### TOTAL LACQ (64)

Fosses de rétention 3T1516 – 4T1516 – T1516A		
6T1516 – 1T1516: NaOH 48 %	ST100/03	CONCRETE
6T1523 – 1T1523 – 4T1523: HCl 33 %	ST100/03+SV100/MF	CONCRETE

### SOFCAR ABIDOS (64)

- Fosse de rétention TEF3 : H <sub>2</sub> SO <sub>4</sub> 2.5 %	ST100/03+SV100/MF	CONCRETE
- Fosse de rétention – bât. déminéralisation : H <sub>2</sub> SO <sub>4</sub> 2 %	ST100/03+SV100/MF	CONCRETE
- Bassin traitement des eaux : H <sub>2</sub> O + 1% H <sub>2</sub> SO <sub>4</sub> – H <sub>2</sub> O + 1 % NaOH	ST100/03	CONCRETE

### RHODIA ROUSSILLON (38)

Fosse de rétention : H <sub>2</sub> SO <sub>4</sub> 92 %	ST100/03+SV100/MF	CONCRETE
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### CEREXAGRI MOURENX ( 64 )

- Réchauffeur de la Cuve 1541 de stockage d'Agrinol, Famoxadone, slurry de Folpel, Agirec (4 % argile) à 45°C	LP100/712	STEEL
- Fosse de rétention de la zone de dépotage H <sub>2</sub> SO <sub>4</sub> 98 % dilué + Surfaron	ST100/03+SV100/MF	CONCRETE

### ETS GUERBET LANESTER (56)

Fosses de rétention UNTEL et zone de dépotage	ST100/03+SV100/MF	CONCRETE
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### RHODIA SILICONES SAINT FONTS (69)

Silo de silice Aérosil sous azote	LP100/612	STEEL
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### FONDERIE USSEL (19)

Fosse de stockage d'eau entre 25 et 65°C pour le refroidissement de pièces métalliques	ST100/03+LP100/712	CONCRETE
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### CRITT / MDT CHARLEVILLE MEZIERES (08)

Fosses de rétention huiles / solvants / acides / bases	ST100/03+SV100/MF	CONCRETE
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### CASSE AUTO ROUSSILLON (38)

Fosse de stockage et fosse de rétention : H <sub>2</sub> SO <sub>4</sub> 37 % – électrolyte	ST100/03+SV100/MF	CONCRETE
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### BP LAVERA (13)

Unité Oxydes 3 – Tours de refroidissement D306 A et B Cellules froides et chaudes	ST100/05+LP100/712	CONCRETE
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### NOVACARB LANEUVILLE DEVANT NANCY (54)

Cuve EMB : Chlorures 170 g/l, NH <sub>3</sub> sous forme libre et liée 90 g/l, NaHCO <sub>3</sub> en suspension 260 g/l, CO <sub>2</sub> 45 g/l, Sulfures < 0.1 g/l	ST100/03+LP100/512	STEEL
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## 2005

<b>BOSCH REXROTH</b> VENISSIEUX (69) Fosse de rétention : huile hydraulique	AL8T/AP+AL8T/AP	CONCRETE
<b>UIOM</b> RENNES VILLEJEAN (35) - Fosse de récupération d'eaux usées et caniveaux pH 5 à 12 – t. 40°C avec pointes à 90°C - Fosse de rétention ammoniacque	ST100/03+SV100/MF ST100/03+SV100/MF	CONCRETE CONCRETE
<b>TOTAL</b> LACQ (64) Capacités procédés : stockage de condensat de gaz + eaux de gisement – présence H <sub>2</sub> S – 60°C	SV100/MF	STEEL
<b>SHELL</b> CHIMIE (13) Fosse de rétention : anhydride maléique	ST100/03+SV100/MF	CONCRETE
<b>AIR LIQUIDE</b> LAVERA (13) Projet H2 – Bassin aéroréfrigérant	TECHNOPERL	CONCRETE
<b>TOTAL NORMANDIE – SOFRESID</b> (76) Bâche à eau déminéralisée	TECHNOPERL	CONCRETE
<b>VERMILLON</b> LUGOS (40) Séparateur eau salée 95 % / pétrole 5 %	LP100/712	CONCRETE
<b>NORD CHROME</b> GRANDE SYNTHE (59) Fosse de rétention acide chromique 230 g/l	TECHNOPERL+SV100/MF	CONCRETE
<b>ARKEMA</b> SAINT AUBAN (04) Réservoir R 212 B : solvant chloré	ST100/03+AR100/MD2	STEEL
<b>NOVACARB</b> LANEUVEVILLE DEVANT NANCY (54) Cuve de stockage de NH <sub>3</sub> 90 g/l, NaCl 270 g/l, CO <sub>2</sub> 40 g/l	TECHNOPERL+LP100/612	CONCRETE
<b>HEULIEZ</b> CERIZAY (79) Zone cataphorèse : caniveaux et regards	ST100/03+SV100/MF	CONCRETE
<b>INCINERATEUR ARIANE</b> (06) Fosse de rétention ammoniacque 32 % et HCl 38 %	TECHNOPERL+SV100/MF	CONCRETE
<b>CIBA</b> SAINT FONS (69) Rétention NaOH 10 et 30 %	TECHNOPERL	CONCRETE
<b>ASCOMETAL</b> DUNKERQUE (59) Décanteur eau + boue neutralisée	ST100/03+LP100/512	STEEL/CONCRETE
<b>FBFC – CERCA</b> ROMANS (26) Zone de rétention d'HF 50 à 70 % : fosse et puisards	ST100/03+SV100/MF	CONCRETE
<b>EXXON SOCABU</b> N.D. DE GRAVENCHON (76) Bac 4 TK 13 : mélange soude, acide stéarique/stéarate de zinc avec traces de stéarate de calcium – pH 7 à 10 t. d'arrivée 85 à 90°C – t. de service 60°C	TECHNOPERL+LP100/712	STEEL

## 2005 (cont'd)

### LEZUS ANGERS (49)

Fosse de rétention : eau de refroidissement et solution avec :  
71% eau + 20% HNO<sub>3</sub> 58% + 9% HF 59%

ST100/03+SV100/MF CONCRETE

### VIVENDI WATER - MILLENNIUM - Usine du Hode (76)

Station de traitement des eaux :  
Ouvrages de clarification : effluent neutralisé – pH 7,5 à 9,5 :  
suspension de gypse – concentration maxi 250 g/litre  
t. de service 47°C (accidentelle 58°C)

ST100/03+LP100/512 CONCRETE

### IFREMER BREST (29)

2 bassins de carène : eau de mer

BIOPERL CONCRETE

### YARA AMBES (33)

Sol et trou d'évacuation : nitrate d'ammonium dilué

TECHNOPERL+SV100/MF CONCRETE

## 2006

### TECHNIGAZ – PROJET ZEEBRUGGE (BELGIQUE)

2 bassins de stockage d'eau industrielle – pH 6 à 8 – t 15°C

TECHNOPERL CONCRETE

### FORGES DE LA LOIRE (42)

Zone de rétention sous bacs de trempes : soude + HCl dilués

TECHNOPERL CONCRETE

### ETS LAGARDE CUSSET (03)

Réservoir d'eau incendie

TECHNOPERL STEEL

### ACTION PIN CASTETS (40)

Caniveaux d'eaux de lavage

TECHNOPERL+SV100/MF CONCRETE

### KERIMA CHIMIE LAUTERBOURG (67)

- Fosses de rétention :

. HCl 31 % – polychlorure d'aluminium 38 % pH 1 – chlorure ferrique 41 %

. sulfate ferrique 44 % – polychlorure d'aluminium pH 2,5

chlorure ferreux 20 % – H<sub>2</sub>SO<sub>4</sub> 75 %

- Sols :

. mélange HCl 30-33 % + hydroxyde d'aluminium – pH < 1

. sulfate ferrique 44 % – polychlorure d'aluminium 38 % – eau + carbonate

- Aire de dépotage : HCl 30-33 %

- Bâche à eau incendie

TECHNOPERL+SV100/MF CONCRETE

TECHNOPERL+SV100/MF CONCRETE

TECHNOPERL CONCRETE

### LAFFORT CENOLOGIE FLOIRAC (33)

Fosse de rétention SO<sub>2</sub> - 6 à 21 %

TECHNOPERL+SV100/MF CONCRETE

### RENAULT FLINS (78)

Tuyau Bonna + fosse de stockage d'eau brute

TECHNOPERL CONCRETE

### ONDEO – STEP ALSTHROM LAUTERBOURG (67)

Fosse de rétention d'H<sub>2</sub>SO<sub>4</sub> 96 %

TECHNOPERL+SV100/MF CONCRETE



2006 (cont'd)

<b>LYONDELL BASEL BERRE L'ETANG (13)</b> Caniveau de zone de dépotage : eau + NaOH 20 à 50 % – H <sub>2</sub> SO <sub>4</sub> 94 à 98 % – tétrachlorure de carbone C <sub>2</sub> Cl <sub>4</sub>	CHEMPERL	CONCRETE
<b>MICHELIN CATAROUX (63)</b> Réservoir d'eau 96 % + Rénacite 4 % – pH 8	TECHNOPERL	STEEL
<b>BURGO ARDENNES VIRTON (BELGIQUE)</b> Bac n° 911 : liqueur blanche t. 85°C	TECHNOPERL+AR100/MD1	STEEL

2007

<b>SOBEGILACQ (64)</b> Cuve d'eaux biodégradables	LP100/512	STEEL
<b>CENTRE BEAUBOURG PARIS (75)</b> Aéroréfrigérants	TECHNOPERL+LP100/512	STEEL
<b>SERETRAM LABATUT (40)</b> Bâche de stockage et caniveau de jus de maïs	TECHNOPERL+LP100/512	CONCRETE
<b>PAPETERIES DE GASCOGNE MIMIZAN (40)</b> Cuves d'eaux collées pH 4 à 5. – t. 60 °C max.	TECHNOPERL+ SV 100/MF	CONCRETE
<b>CPCU VITRY (94)</b> Bâche à eau déminée 012 BA	LP100/512	STEEL
<b>EXXON NOTRE DAME DE GRAVENCHON (76)</b> Bac TK 1235 : ETBE Ballons D118 et D119 : boues	LP100/512 AR100/MD4	STEEL STEEL
<b>SBS LACQ (64)</b> Bac TA 1103 d'eaux biodégradables	LP100/612	STEEL
<b>TECHNIGAZ – Projet ZEEBRUGGE (Belgique)</b> 3 bassins de stockage d'eau industrielle – pH 6 à 8 t. 55°C	TECHNOPERL	CONCRETE
<b>LAFARGE MAROC – Usine Tétouan III</b> Silo de stockage de ciment	LP100/512G	STEEL
<b>EXXON NOTRE DAME DE GRAVENCHON (76)</b> Bac TK 22-102 : slops chlorés à 40°C Bac TK 1610 : Oléfine C24 Bac TK 193 : eau alumineuse – pH 1	TECHNOPERL+AR100/MD2 TECHNOPERL+LP100/612 TECHNOPERL+AR100/MD4	STEEL STEEL STEEL
<b>ORIL BOLBEC (76)</b> Fosse de rétention RT63 : HNO <sub>3</sub> 70 %	TECHNOPERL+SV101	CONCRETE
<b>AJINOMOTO FOOD EUROPE AMIENS (80)</b> Fosse de rétention H <sub>2</sub> SO <sub>4</sub> 96 %	TECHNOPERL+SV100/MF	CONCRETE
<b>DCN CHERBOURG (50)</b> Bacs R 1/2/3/4 : Gamlen OD4000, Inipol IP80, Dispolène 36S	LP100/512	STEEL

## 2008

<b>ARKEMA ST MENET (13)</b> <i>Cuve n°010-08-c : acide undécylénique</i>	LP100/712	STEEL
<b>TEMPECTARASCON (30)</b> <i>Silo de pâte à papier</i>	LP100/712	STEEL
<b>AXENS SALINDRE (30)</b> <i>Bâche tampon d'eaux industrielles pH 2,5 – t. 60°C maxi</i>	SV100/MF	CONCRETE
<b>COMMUNAUTE D'AGGLOMERATION DE MONTPELLIER (34)</b> <i>Usine de méthanisation : Bassin de réception des jus de presse bio déchets OMR</i>	BIOPERL	CONCRETE
<b>LTCST CLOUD (92)</b> <i>Sol des locaux de traitement des réactifs</i>	TECHNOPERL+SV100/MF	CONCRETE
<b>CENTRE BEAUBOURG PARIS (75)</b> <i>Aéroréfrigérants</i>	LP100/512	POLYESTER
<b>BJSP – ALGER (ALGERIE)</b> <i>Citernes d'acides</i>	LP100/612	STEEL
<b>BIOWANZE – WANZE (BELGIQUE)</b> <i>Fermenteur n°2</i>	LP100/712	STEEL

## 2009

<b>PERSTORP – PONT DE CLAIX (38)</b> <i>Robe et fond du bac FB 11 – soude 50%, t.70°C</i>	LP100/712	STEEL
<b>LAFON (79)</b> <i>Cuves d'éthanol</i>	CARBOPERL	STEEL
<b>MARIE FRAIS VIRIAT (01)</b> <i>Silo à farine alimentaire</i>	LP100/512 G	STEEL
<b>INEOS (ex BP) LAVERA (13)</b> <i>Station d'épuration industrielle – bassin FCC Bâche : eaux souillées / hydrocarbures</i>	BIOPERL BIOPERL	CONCRETE CONCRETE
<b>CPCU VITRY SUR SEINE (94)</b> <i>Bâche à eau – t.50°C</i>	LP100/512	CONCRETE
<b>TOTAL Raffinerie de GRANDPUITS NANGIS (77)</b> <i>Sécheur à sel</i>	TECHNOPERL	STEEL

## 2010

<b>INEOS (ex BP) LAVERA (13)</b> Bâche F 970 eau + hexane + solvant	TECHNOPERL+SV100/MF	CONCRETE
<b>PERSTORP PONT DE CLAIX (38)</b> Bac FB 0041 – saumure Robe et fond du bac FA 21.1 – saumure Fond du bac FB 021 – saumure Robe et fond du bac FB 21 – carbonate de calcium Robe et fond du bac FB 27 – saumure	LP100/512	STEEL
<b>GOODYEAR AMIENS (80)</b> Bassin de tour aéroréfrigérante	TECHNOPERL+LP100/512	CONCRETE
<b>COLGATE PALMOLIVE COMPIEGNE (60)</b> Rétention de la zone sous mélangeurs	TECHNOPERL+LP100/512	CONCRETE
<b>PCAS LIMAY (78)</b> Intérieur de 2 tours aéroréfrigérantes	LP100/512	METAL
<b>TRIGANO CORMEON (41)</b> Rétention sous tunnel de traitement de surface	TECHNOPERL+LP100/612	CONCRETE
<b>ADPROISSY (95)</b> Cuve de stockage d'eau glycolée	LP100/512	METAL
<b>BRENNTAG GRETZ (77)</b> Zone de rétention CMA	TECHNOPERL+SV100/MF	CONCRETE
<b>ISOCHEM PITHIVIERS (45)</b> Rétentions W3 – RT 202 et RT 204	TECHNOPERL+SV100/MF	CONCRETE
<b>AMCOR Flexibles DIJON (21)</b> Fond du bac n°2 : acétate d'éthyle	LP100/812	STEEL
<b>AUBERT &amp; DUVAL CLERMONT-FERRAND (63)</b> Fosse de récupération d'huile Débourbeur de l'aire de lavage	TECHNOPERL BIOPERL	CONCRETE CONCRETE
<b>ALPES EMULSIONS BONNEVILLE (74)</b> Cuve de stockage d'émulsions bitumineuses	LP100/712	STEEL
<b>D.R.T. DERIVES RESINIQUES ET TERPENIQUES CASTETS (40)</b> Rétention H <sub>2</sub> S au local centrifuge	TECHNOPERL	CONCRETE
<b>TOTAL Raffinerie de NORMANDIE GONFREVILLE L'ORCHER (76)</b> Bacs E 322 & E 323: eau saumâtre – t. 70°C	TECHNOPERL+LP100/712	STEEL

## 2011

<b>FIBRE EXCELLENCE</b> ST GAUDENS (31) Cuve contenant de l'anhydride sulfureux 20g/l	TECHNOPERL+CHEMPERL	CONCRETE
<b>CECA</b> PARENTIS (40) Cuve charbon actif	LP100/512	STEEL
<b>FORESA</b> AMBARES (33) Bac n°3	LP100/512	STEEL
<b>NOVASEP</b> MOURENX (64) Rétention solvants neufs	TECHNOPERL+CHEMPERL	CONCRETE
<b>SNECMA</b> CORBEILLE-ESSONNES (91) Filtre à eau industrielle	TECHNOPERL	CONCRETE
<b>CPCU</b> ST OUEN (93) Cuve de stockage RE2 – eau décarbonatée 60°C	LP100/512	STEEL
<b>BRENNTAG</b> TOURNAN-EN-BRIE (77) Zone de dépotage produits chimiques CMA + zone CMB	TECHNOPERL+CHEMPERL	CONCRETE
<b>COLGATE PALMOLIVE</b> COMPIEGNE (60) Rétention sous mélangeur de produits chimiques	TECHNOPERL+CHEMPERL	CONCRETE
<b>ARKEMA</b> CHAUNY (02) Rétentions cyclohexane	TECHNOPERL+CHEMPERL	CONCRETE
<b>STPE</b> SAINT OUEN L'AUMONE (95) Réservoir de formiate de potassium	LP100/512	STEEL
<b>SOCOMAR</b> VANNES (56) Réservoir d'eaux industrielles	LP100/512	STEEL

## 2012

<b>PAPETERIE TEMBEC</b> TARTAS (40) Rétention dioxyde de chlore Rétention peroxyde d'hydrogène	TECHNOPERL+CHEMPERL	CONCRETE
<b>PAPETERIE DE GASCOGNE</b> MIMIZAN (40) Rétentions sous bacs MP5 et MP6 – eaux chargées en pâte à papier, soude, acide sulfurique	TECHNOPERL+CHEMPERL	CONCRETE
<b>FORESA</b> AMBARES (33) Rétention acide formique Rétention eau de javel Rétention chlore	TECHNOPERL+CHEMPERL	CONCRETE
<b>NOVASEP</b> MOURENX (64) Rétention TA910 – résidus de solvant dont toluène	TECHNOPERL+CHEMPERL	CONCRETE
<b>VENCOREX</b> LE-PONT-DE-CLAIX (38) Rétention amont – Toluène Di-Isocyanate Isophorone Toluène Di Isocyanate Aliphatique	TECHNOPERL+CHEMPERL	CONCRETE
<b>RHODIA – GEPEIF</b> ST FONS (69) Epaississeur AO8 – HQPC, hydroquinone, phénols, Pyrocathéchine, eaux de lavage	TECHNOPERL+ LP100/512	CONCRETE
<b>TERLIS</b> ROUSSILLON (38) Bac 475 – Ammoniac, soufre, acide chlorhydrique, huile, hydroquinone	TECHNOPERL+CHEMPERL	STEEL
<b>SPEICHIM</b> MOURENX (64) Rétentions TA 01/02/04/05 d'acide méthane sulfonique	TECHNOPERL+CHEMPERL	CONCRETE
<b>CMIE GDF</b> HAUTERIVES (26) 4 ballons de stockage de tri éthylène glycol	LP100/512	STEEL
<b>PRAXY</b> ISSOIRE (63) Local Cisailles – sol	TECHNOPERL	CONCRETE
<b>CONT'DER</b> ROANNE (42) Réservoir S 762 – liquide lave-glace	AR100/CLX	STEEL
<b>UNITE DE METHANISATION</b> MONTPELLIER (34) Stockage d'eau ammoniacuée	BIOPERL	CONCRETE
<b>INEOS</b> LAVERA (13) Bac F990 : eau, hexane et solvant	TECHNOPERL+ CHEMPERL	STEEL
<b>ATELIERS D'OCCITANIE</b> NARBONNE (11) 20 wagons de transport de dichloréthane 1,2	PRT 1,2,3	STEEL
<b>DALKIA</b> MONTPELLIER (34) Piscine de tour aérofrigorante	TECHNOPERL+LP100/512	CONCRETE

## 2013

<b>NOVASEP MOURENX (64)</b> <i>Rétention de boues acides pH5 et toluène</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>DCNS TOULON (83)</b> <i>Sol décontaminable de la galerie souterraine de l'ANL</i>	ELECTROPERL	CONCRETE
<b>SIRA CHASSE SUR RHONE (69)</b> <i>Fosse et rétention d'effluents liquides de déchetterie</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>VALEO ISSOIRE (63)</b> <i>Sol du centre de dépotage – acide chlorhydrique, lessive de soude, acide nitrique</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>SPEICHIM MOURENX (64)</b> <i>Rétentions TA 01/2/4/5 d'acide méthane sulfonique</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>NAUSICAA BOULOGNE sur MER (62)</b> <i>Bassin des lions de mer</i>	TECHNOPERL+LP100/512	CONCRETE
<b>IFREMER BREST (29)</b> <i>Canal de courantométrie</i>	TECHNOPERL	CONCRETE
<b>L'OREAL ORMES (45)</b> <i>Cuve d'huile végétale</i>	TECHNOPERL+SV101	CONCRETE
<b>CAPELLE LA GRANDE (59)</b> <i>Tour aéroréfrigérante – immeuble Galliéni</i>	TECHNOPERL	STEEL
<b>AUZOU Citernes SAINT SAENS (76)</b> <i>Cuve d'eau de pluie</i>	LP100/512	STEEL
<b>USINE CHRISTOFLE ROUEN (76)</b> <i>Rétention de la cuve liquides cyanurés</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>LYON CONFLUENCE LYON (69)</b> <i>Réservoir d'huile de colza</i>	LP100/512	STEEL
<b>PSA CHARLEVILLE MEZIERES (08)</b> <i>Tour aéroréfrigérante</i>	TECHNOPERL+LP100/512	STEEL
<b>BGL BANK LUXEMBOURG VILLE</b> <i>Bassins de tours de refroidissement</i>	TECHNOPERL	STEEL
<b>IPDIA CAEN (14)</b> <i>Tour aéroréfrigérante et bassin de refroidissement</i>	TECHNOPERL	STEEL
<b>GEOGAZ LAVERA (13)</b> <i>Rétention de méthanol</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>RHODIA SALINDRES (30)</b> <i>Rétention d'acide sulfurique 98%</i>	TECHNOPERL+CHEMPERL	CONCRETE

2013 (cont'd)

<b>O.I. MANUFACTURING WINGLES (62)</b> <i>Tour de refroidissement</i>	TECHNOPERL	STEEL
<b>VENCOREX LE-PONT-DE-CLAIX (38)</b> <i>Bac FA 0031 – soude</i>	LP100/512	STEEL
<i>Bac FA 806.1 – saumure</i>	LP100/512	STEEL
<b>ARKEMA JARRIE (38)</b> <i>Fosse à saumure R109.B</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>CHLORALP HAUTERIVES (26)</b> <i>Bac RS3 1 – saumure</i>	LP100/512	STEEL
<b>OCV OWENS CHAMBERY (73)</b> <i>Filtre à sable</i>	LP100/512	STEEL
<b>CRISTAL UNION CORBEILLES EN GATINAIS (45)</b> <i>Rétention d'HCL 33%</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>CONSTELLIUM ISSOIRE (63)</b> <i>Fosse du banc de traction</i>	TECHNOPERL T	CONCRETE
<b>PSA POISSY (78)</b> <i>Tour aéroréfrigérante</i>	TECHNOPERL+LP100/512	STEEL
<b>MBF ALUMINIUM SAINT-CLAUDE (39)</b> <i>Fosse évaporateur</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>SOLVAY – ANVERS (BELGIQUE)</b> <i>2 cuves Solvic – soude caustique</i>	LP100/512	STEEL
<b>ARKEMA – BILBAO (ESPAGNE)</b> <i>Cuves d'effluents chimiques fluorés</i>	LP100/512	STEEL
<b>DALKIA METZ (57)</b> <i>Trémies à charbon</i>	LP100/512	STEEL
<b>HOPITAL Jean Verdier BONDY (93)</b> <i>Tour aéroréfrigérante</i>	TECHNOPERL	STEEL
<b>GRUPO ANTOLIN RUPT-SUR-MOSELLE (88)</b> <i>Bassin de la tour de refroidissement</i>	TECHNOPERL	CONCRETE
<b>GEORGIA Pacific HONDOUVILLE (27)</b> <i>Bâche chaufferie</i>	TECHNOPERL+LP100/512	STEEL
<b>GENERAL ELECTRIC - EADS BUC (78)</b> <i>Tours aéroréfrigérantes</i>	TECHNOPERL+LP100/512	STEEL
<b>RIBOULEAU MONOSEM LARGEASSE (79)</b> <i>Cuve cataphorèse</i>	AR100/MD4	STEEL

## 2014

<b>DOMAINE ROBINEAU</b> – SANCERRE (18) <i>Stockage eau et effluents vinicoles</i>	LP100/512	STEEL
<b>MUNKSJO</b> – STENAY (55) <i>Rétention acide sulfurique</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>ACDN CTI</b> – AGNEAUX (50) <i>Réserves d'eau incendie</i>	LP100/512	STEEL
<b>ALVA REZE</b> – NANTES (44) <i>Cuve graisses végétales</i>	LP100/512	STEEL
<b>RUBIS TERMINAL</b> – ROUEN (76) <i>Fond des bacs 78 + 15 + 16 – engrais ammoniaqués</i> <i>Bacs 7C + 8C - engrais ammoniaqués</i> <i>Bacs 39 et 40 – AD Blue</i>	LP100/512 LP100/512 LP100/512	STEEL STEEL STEEL
<b>RENAULT</b> – SANDOUVILLE (76) <i>Rétention Gardacid</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>CHU DE GRENOBLE</b> – LA TRONCHE (38) <i>Tour aéroréfrigérante</i>	TECHNOPERL	STEEL
<b>SPEICHIM</b> – MOURENX (64) <i>Rétention Toluène TA11/14/19/20</i> <i>Rétention toluène acide méthane sulfonique – Tr 2014</i>	TECHNOPERL+CHEMPERL TECHNOPERL+CHEMPERL	CONCRETE CONCRETE
<b>CUSHMAN &amp; WAKEFIELD</b> – ISSY-LES-MOULINEAUX (92) <i>Tour aéroréfrigérante</i>	TECHNOPERL	STEEL
<b>MADIC</b> – (82) <i>3 Cuves AD-Blue</i>	LP100/512	STEEL
<b>AXER</b> – (93) <i>Cuve AD-Blue</i>	LP100/512	STEEL
<b>PACOPA</b> – SAUMUR (49) <i>Cuve AD-Blue</i>	LP100/512	STEEL
<b>TEREOS NDG</b> – LILLEBONNE (76) <i>Rétention chlorure ferrique</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>LAFON</b> – Perpignan (66) – Maubeuge (59) – St Ouen l'Aumône (95) <i>Cuves AD-Blue</i>	LP100/512	STEEL
<b>MICHELIN</b> – CLERMONT FERRAND (63) <i>Rétention silane - zone 35</i>	TECHNOPERL	CONCRETE



2014 (cont'd)

<b>VENCOREX</b> Réservoir saumure RS1 + dégazeur	LP100/512	STEEL
<b>ARKEMA – MOURENX (64)</b> Rétention ammoniacque	TECHNOPERL+CHEMPERL	CONCRETE
<b>AUBERT ET DUVAL – GENNEVILLIERS (92)</b> Rétention acide nitrique 43% + soude 10%	TECHNOPERL+CHEMPERL	CONCRETE
<b>EXXON MOBIL – Notre Dame de Gravenchon (76)</b> Bac TK 906 au bloc 217 – effluents aqueux à base de soude et BF3-xH2O Colonne T401 – eaux sures et soude usées Bac TK 179 – hydrocarbures de sludge	LP100/512 CHEMPERL TECHNOPERL+AR100/MD4	STEEL STEEL STEEL
<b>TOURS MERCURIALES – BAGNOLET (93)</b> Bassins des centrales de traitements d'air	TECHNOPERL+LP100/512	STEEL
<b>PISCINE LE NAUTILUS – AMIENS (80)</b> Rétention H2SO4 51%	TECHNOPERL+SV101	CONCRETE
<b>RATP – PARIS 18ème</b> Rétention transformateur	TECHNOPERL	CONCRETE
<b>RATP – ST OUEN (93)</b> Fosse CONCRETE eaux usées	TECHNOPERL	CONCRETE
<b>STEP ISOLA 2000 – NICE (06)</b> Rétention des réactifs	BIOPERL + CHEMPERL	CONCRETE
<b>LAFON :</b>		
<b>OIL LIBYA – POINTE GALET (REUNION)</b> Cuve AD BLUE	LP100/512	STEEL
<b>HEPPNER – BRECE (35)</b> Cuve AD BLUE	LP100/512	STEEL
<b>TOTAL – GUIDEL (56)</b> Cuve AD BLUE	LP100/512	STEEL
<b>ISP LEFEBVRE – CHARRITTE-DE-BAS (64)</b> Cuve AD BLUE	LP100/512	STEEL
<b>MP ETP – SAINT PAUL (REUNION)</b> Cuve AD BLUE	LP100/512	STEEL
<b>EIFFAGE – SAINT ANDIOL (13)</b> Cuve Antigel	LP100/512	STEEL
<b>S2D – VILLERS SAINT PAUL (60)</b> Cuve de liquide de refroidissement	LP100/512	STEEL
<b>TRANSPORT BERTHIN – LE RHEU (35)</b> Cuve AD BLUE	LP100/512	STEEL

2014 (cont'd)

**LAFON:**

**TOTAL AS 24 – SAINT QUENTIN (02)**

Cuve AD BLUE LP100/512 STEEL

**TOTAL AS 24 – LOUDEAC (22)**

Cuve AD BLUE LP100/512 STEEL

**TOTAL AS 24 – DREUX (28)**

Cuve AD BLUE LP100/512 STEEL

**TOTAL AS 24 – MONTARGIS (45)**

Cuve AD BLUE LP100/512 STEEL

**TOTAL AS 24 – ANGERS (49)**

Cuve AD BLUE LP100/512 STEEL

**TOTAL AS 24 – FLEURY (91)**

Cuve AD BLUE LP100/512 STEEL

**TOTAL AS24 – BRIVE (19)**

Cuve AD BLUE LP100/512 STEEL

**TPF – VILLENEUVE LE ROI (94)**

Cuve AD BLUE LP100/512 STEEL

**MADIC – MARINGUES (63)**

Cuve AD BLUE LP100/512 STEEL

**MADIC – NIMES (30)**

Cuve AD BLUE LP100/512 STEEL

**S2D – LE-POIRÉ-VIE (85)**

Cuve AD BLUE LP100/512 STEEL

**ISP – PAU (64)**

Cuve AD BLUE LP100/512 STEEL

**ARECMA – MUNDOLSHEIM (67)**

Cuve AD BLUE LP100/512 STEEL

**ATCOME – BOUSIES (59)**

Cuve AD BLUE LP100/512 STEEL

**KEOLIS ARMOR – RENNES (35)**

Cuve AD BLUE LP100/512 STEEL

**TOTAL AS 24 – LIBOURNE (33)**

Cuve AD BLUE LP100/512 STEEL

**BIO SPRINGER – MAISONS ALFORT (94)**

Cuve Butanol LP100/512 STEEL

2014 (cont'd)

<b>PSA – VELIZY (78)</b> <i>Tour aéroréfrigérante</i>	<i>TECHNOPERL+LP100/512</i>	<i>STEEL</i>
<b>SOLVAY – COLLONGES AU MON T D'OR (69)</b> <i>Aire de dépotage H2SO4 92% et NaOH 50%</i>	<i>CHEMPERL+TECHNOPERL</i>	<i>CONCRETE</i>
<b>ARCELOR DIFFERDANGE – LUXEMBOURG</b> <i>Cuve à eau brute</i>	<i>TECHNOPERL</i>	<i>STEEL</i>
<b>NOVASEP – MOURENX (64)</b> <i>Rétention méthanol, acétate de méthyle, isopropanol, éthanol, acétate d'éthyle</i>	<i>TECHNOPERL+CHEMPERL</i>	<i>CONCRETE</i>
<b>FIBRE EXCELLENCE – TARASCON (13)</b> <i>Tour pâtes au bisulfite et dioxyde de chlore.</i>	<i>TECHNOPERL+LP100/812</i>	<i>STEEL</i>
<b>SFDM – LE FOUR A CHAUX (91)</b> <i>Cuve d'Uniserol PFP 3/3</i>	<i>LP100/512</i>	<i>STEEL</i>
<b>BASF AGRI (STATION D'EPURATION) – GRAVELINES (59)</b> <i>Rétention HCl 30% + FeCl3</i>	<i>TECHNOPERL+CHEMPERL</i>	<i>CONCRETE</i>
<b>VEOLIA – TOULOUSE (31)</b> <i>Rétention des cuves glycol UEP Pech David</i>	<i>TECHNOPERL+TECHNOPERL</i>	<i>CONCRETE</i>
<b>LESAFFRE – MARCQ EN BAROEUL (59)</b> <i>Sécheur à levure</i>	<i>OENOPERL</i>	<i>STEEL</i>
<b>AXENS – SALINDRES (30)</b> <i>Rétention CONCRETE H3PO4 10%</i>	<i>TECHNOPERL + CHEMPERL</i>	<i>CONCRETE</i>
<b>GSK WAVRE – Belgique</b> <i>Bassins de tours aéroréfrigérantes</i>	<i>TECHNOPERL+TECHNOPERL</i>	<i>STEEL</i>
<b>EUROTAINER – LE HAVRE (76)</b> <i>Isotanks de bromure d'isobutyle</i>	<i>LP100/512</i>	<i>STEEL</i>

## 2015

<b>YARA – MONTOIR DE BRETAGNE (44)</b> <i>Cuve 24B1910 d'effluents industriels</i>	<i>BIOPERL + LP100/812</i>	<i>STEEL</i>
<b>NAUSICAA – BOULOGNE SUR MER (62)</b> <i>Bassin eau de mer</i>	<i>TECHNOPERL + LP100/512</i>	<i>CONCRETE</i>
<b>IBM – MONTPELLIER (34)</b> <i>Tour de refroidissement</i>	<i>TECHNOPERL+TECHNOPERL</i>	<i>STEEL</i>
<b>BNF TOLBIAC – PARIS 13ème</b> <i>Tours aéroréfrigérantes</i>	<i>LP100/512</i>	<i>STEEL</i>
<b>ARCELOR MITTAL – DUNKERQUE (59)</b> <i>Cuves eau de process T12-T14</i>	<i>LP100/512</i>	<i>STEEL</i>
<b>VALEO – CERGY (95)</b> <i>Tour aéroréfrigérante</i>	<i>TECHNOPERL+LP100/512</i>	<i>STEEL</i>
<b>CEA VALDUC – IS-SUR-TILLE (21)</b> <i>Fosse récupération effluents</i>	<i>ELECTROPERL+ELECTROPERL</i>	<i>CONCRETE</i>
<b>HOTEL DU DEPARTEMENT – NANTERRE (92)</b> <i>Tour aéroréfrigérante</i>	<i>TECHNOPERL</i>	<i>STEEL</i>
<b>GSK WAVRE, RIXENSART – BELGIQUE</b> <i>Caissons MAL/PAL</i> <i>Plancher technique</i> <i>Tour aéroréfrigérante WN15</i> <i>Tour aéroréfrigérante TX50</i>	<i>TECHNOPERL+CHEMPERL</i> <i>TECHNOPERL+ELECTROPERL</i> <i>TECHNOPERL+TECHNOPERL</i> <i>TECHNOPERL+TECHNOPERL</i>	<i>STEEL</i> <i>CONCRETE</i> <i>STEEL</i> <i>STEEL</i>
<b>CHANTIER NOVAPEX – LYON (69)</b> <i>Tour aéroréfrigérante</i>	<i>TECHNOPERL+LP100/512</i>	<i>STEEL</i>
<b>ATELIER HOLLIDAY PIGMENTS – COMINES (59)</b> <i>Turbines</i>	<i>GELCOAT SV101</i>	<i>STEEL</i>
<b>DALKIA FIAT – TRAPPES (78)</b> <i>Tour aéroréfrigérante</i>	<i>TECHNOPERL</i>	<i>STEEL</i>
<b>AJINOMOTO – AMIENS (80)</b> <i>Bac non calorifugé : Lysine pH10</i>	<i>OENOPERL + OENOPERL</i>	<i>STEEL</i>
<b>CHAROT – SENS (89)</b> <i>Cuves stockage engrais liquide</i>	<i>LP100/512</i>	<i>STEEL</i>
<b>CENTRE COMMERCIAL – ARCUEIL (94)</b> <i>Tour aéroréfrigérante</i>	<i>LP100/512</i>	<i>STEEL</i>
<b>SHELL – NANTERRE (92)</b> <i>Bac T2616 – additifs lubrifiants auto</i>	<i>LP100/512</i>	<i>STEEL</i>

2015 (cont'd)

<b>SPEICHIM – MOURENX (64)</b> 6 Cuvettes : acide méthane sulfonique pH5	TECHNOPERL+CHEMPERL	CONCRETE
<b>CPCU – VITRY SUR SEINE (94)</b> Fosse de neutralisation effluents acide et basique	TECHNOPERL+CHEMPERL	CONCRETE
<b>SAINT GOBAIN GLASS – ANCHE (59)</b> Bassin de la tour aéroréfrigérante	TECHNOPERL+TECHNOPERL	CONCRETE
<b>BOSCH – SAINT OUEN (93)</b> Fosse eau de refroidissement process	TECHNOPERL+TECHNOPERL	CONCRETE
<b>L'OREAL – GAUCHY (02)</b> Aire de dépotage – alcools	TECHNOPERL+CHEMPERL	CONCRETE
<b>RATP PHT DENFERT-ROCHEREAU 14ème – PARIS</b> Fosse transformateur d'huile	TECHNOPERL	STEEL
<b>KEM ONE – LAVERA (13)</b> Epurateur S 312 D : saumure	LP100/812S	STEEL
<b>LAUAK – HASPARREN (64)</b> Rétention + caniveau (eau de lavage – divers solvants)	TECHNOPERL+CHEMPERL	CONCRETE
<b>PSA SEVELNORD – St Amand (59)</b> Traitement de gaines et ventilateurs	TECHNOPERL+CHEMPERL	STEEL
<b>PSA – POISSY (78)</b> Traitement de gaines et ventilateurs	TECHNOPERL+CHEMPERL	STEEL
<b>PAPETERIE ALHSTROM DALLE – BOUSBECQUE (62)</b> Sol bout de ligne de rétention : Acide Sulfurique	TECHNOPERL+SV101	CONCRETE
<b>DGA – AIRBUS – Usine SECOIA – MAILLY LE CAMP (10)</b> Ouvrages de rétention et zones de stockage des munitions	ELECTROPERL+ELECTROPERL	CONCRETE
<b>GASCOGNE PAPER – MIMIZAN (44)</b> Bacs à filtrat	TECHNOPERL+CHEMPERL	CONCRETE
<b>LABORATOIRE PIERRE FABRE – TOULOUSE (31)</b> Bassins sous tour aéroréfrigérante	TECHNOPERL+TECHNOPERL	CONCRETE
<b>NAPHTACHIMIE – LAVERA (13)</b> Bac R331 – Saumure déiodurée	TECHNOPERL+LP100/812S	STEEL
<b>SOBEGI – MOURENX (64)</b> Fosse BA942 – Rétention de divers solvants	TECHNOPERL+SV101	CONCRETE
<b>RATP – LA VILLETTE PARIS 19ème</b> Fosse de lavage des wagons	BIOPERL+CHEMPERL	CONCRETE

**2015 (cont'd)**

<b>SOCIETE NIGUET – FEURS (42)</b> Rétention H3PO4 85%	TECHNOPERL+CHEMPERL	CONCRETE
<b>BOREALIS – MORMANT (77)</b> Bac T1604 - stockage NaOH 50 %	LP100/512	STEEL
<b>LESAFFRE – MARQ EN BAROEUL (59)</b> Tambours sécheurs - Levure	OENOPERL	STEEL
<b>CENTRE COMMERCIAL LE MILLÉNAIRE – AUBERVILLERS (93)</b> Rétention eau de pluie	TECHNOPERL+TECHNOPERL	CONCRETE
<b>TOURS MERCURIALES – BAGNOLET (93)</b> Bassins des centrales de traitement d'air	LP100/512	STEEL
<b>BASE MILITAIRE DE NEVOY (45)</b> Cuve liquide de refroidissement	LP100/512	STEEL
<b>VEOLIA - MOULIN LES METZ (57)</b> Rétentions bisulfite de soude / soude / sulfate d'aluminium	TECHNOPERL+TECHNOPERL	CONCRETE
<b>HARDI EVRARD – BEAURAINVILLE (62)</b> Tour aéroréfrigérante	TECHNOPERL+TECHNOPERL	STEEL
<b>CECA – PARENTIS EN BORN (40)</b> Cuve charbon actif	LP100/512	STEEL
<b>CECA – SAINT LAURENT BLANGY (62)</b> Cuve R5107 Noranium	TECHNOPERL+LP100/812	STEEL
<b>LAFON :</b>		
<b>TOTAL AS 24 – SAINT HERBLAIN (44)</b> Cuve AD Blue	LP100/512	STEEL
<b>KEOLIS – AIX EN PROVENCE (13)</b> Cuve AD Blue	LP100/512	STEEL
<b>SIPMA – LOUVERNE (53)</b> Cuve AD Blue	LP100/512	STEEL
<b>TOTAL – VEMARS (95)</b> Cuve AD Blue	LP100/512	STEEL
<b>TOTAL – VINEUIL (41)</b> Cuve AD Blue	LP100/512	STEEL

## 2016

<b>GSK - BELGIQUE</b> <i>Tour aéroréfrigérante - RIX MAC QUAY 2B</i>	TECHNOPERL	STEEL
<b>GSK - BELGIQUE</b> <i>Tour aéroréfrigérante - RIX MAC QUAY 3</i>	TECHNOPERL	STEEL
<b>ROQUETTE – VECQUEMONT (80)</b> <i>Cuve : ciel gazeux chlorure de (3-chloro-2-hydroxypropyl) Triméthylammonium</i>	OENOPERL	STEEL
<b>MARCHANI – NANTES (44)</b> <i>Cuves pour huile de transformateur</i>	LP100/512	STEEL
<b>MARCHANI – ROUEN (76)</b> <i>Cuves pour huile de transformateur</i>	LP100/512	STEEL
<b>VENCOREX – PONT DE CLAIX (38)</b> <i>Reprises BAC FG2</i>	LP100/512	STEEL
<b>ROQUETTE – LESTREM (62)</b> <i>Rétention Chlorure Ferrique Fond du bac 16 – lait d'amidon</i>	TECHNOPERL+CHEMPERL TECHNOPERL+LP100/812	CONCRETE STEEL
<b>LAFON SAS – FAYE-L'ABBESSE (79)</b> <i>Cuves de stockage AD Blue Cuve de stockage acétate d'éthyle</i>	LP100/512 AR100/CLX	STEEL STEEL
<b>SNV – LA CHAPELLE D'ANDAINE (61)</b> <i>Tour aéroréfrigérante, bassin de refroidissement</i>	TECHNOPERL+TECHNOPERL	STEEL
<b>CENTRE COMMERCIAL BELLE ÉPINE – THIAIS (94)</b> <i>Tour aéroréfrigérante</i>	TECHNOPERL+TECHNOPERL	STEEL
<b>USINE MICHELIN – BASSENS (33)</b> <i>3 Ballons</i>	AQUAPERL	STEEL
<b>STATION LECLERC – FROUARD (54)</b> <i>Cuve de stockage AD Blue</i>	LP100/512	STEEL
<b>NAUSICAA – BOULOGNE SUR MER (62)</b> <i>Retouches dans grand bassin eau de mer</i>	TECHNOPERL+OENOPERL	CONCRETE
<b>PETROLNEOS – MARTIGUES (13)</b> <i>Bac soude n° D5</i>	TECHNOPERL+TECHNOPERL	STEEL
<b>KEM ONE – LAVERA (13)</b> <i>Bac R332 – saumure épurée Bac R585 Soude &amp; Bac R780 Eaux usées</i>	TECHNOPERL+AR100/MD4 TECHNOPERL+AR100/MD4	STEEL STEEL
<b>STATION D'ÉCHANGE GÉOTHERMIE – IVRY SUR SEINE (94)</b> <i>Cuve 30 m<sup>3</sup></i>	LP100/812	STEEL
<b>HARDI EVRARD – BEURAINVILLE (62)</b> <i>Bassin sous tour aeroréfrigérante</i>	TECHNOPERL+TECHNOPERL	CONCRETE

2016 (cont'd)

<b>USINE ELECTRIQUE DE METZ (57)</b> Rétention eau de régénération	TECHNOPERL+CHEMPERL	CONCRETE
<b>EMULBITUME – BREAL SOUS MONTFORT (35)</b> Stockage eau chaude de process pour émulsion bitume	LP100/812	STEEL
<b>INTERFORGE – ISSOIRE (63)</b> Aire de dépotage – NaOH, HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub>	TECHNOPERL+CHEMPERL	CONCRETE
<b>SNECMA – EVRY (91)</b> Bac de stockage eau douce – BAT. F Mezzanine K4	LP100/512	STEEL
<b>LAUAK – HASPARREN (64)</b> Rétention de divers effluents : précé 16.05.005	TECHNOPERL+CHEMPERL	CONCRETE
<b>CHU (CENTRE HOSPITALIER UNIVERSITAIRE) DE PAU (64)</b> 2 Ballons d'eau chaude	AQUAPERL	STEEL
<b>RATP STATION AUBER – PARIS</b> Dôme et couloir	TECHNOPERL	CONCRETE
<b>AXIMUM – ROUEN (76)</b> Cuve xylène, acétate de propyle, acétate d'éthyle	LP100/812	STEEL
<b>TREDIT GROUPE SECHE ENVIRONNEMENT – SITE DE BEAUFORT (39)</b> Rétention n°3 – divers solvants : précé 16.05.044	TECHNOPERL+GELCOAT SV101	CONCRETE
<b>STATION D'EPURATION DE SANARY SUR MER (83)</b> Aire de dépotage – rétention de sécurité : eau de javel, soude, chlorure ferrique, peroxyde d'hydrogène	TECHNOPERL+CHEMPERL	CONCRETE
<b>SITE DE CANON – COURBEVOIE (92)</b> Réfection tour aéroréfrigérante	TECHNOPERL	STEEL
<b>VEOLIA – SEDE ARTOIS COMPOST – GRAINCOURT (62)</b> - Bac hydrolyse - Fosses réception produits	TECHNOPERL+CHEMPERL TECHNOPERL+CHEMPERL	CONCRETE CONCRETE
<b>USINE TEREOS – NESLE (80)</b> Rétentions – divers effluents : zone cuve 2C509-10 zone évaporateurs amont : précé 16.10.006mod3	TECHNOPERL+CHEMPERL TECHNOPERL+CHEMPERL	CONCRETE CONCRETE
<b>IBM – MONTPELLIER (34)</b> Tour de refroidissement	TECHNOPERL+TECHNOPERL	STEEL
<b>NAPHTACHIMIE – LAVERA (13)</b> Bac R331 (devenu bac R680) – Saumure déiodurée	TECHNOPERL+LP100/812S	STEEL



## 2017

<b>BOUYGUES E&amp;S - TAC ALBIOMA – Saint PIERRE (LA REUNION)</b> Cuves de stockage	CARBOPERL	STEEL
<b>MAISON DE L'ÉLEVEUR – VOUZIERS (08)</b> Cuve de stockage	LP100/512	STEEL
<b>IBM – MONTPELLIER (34)</b> Tour de refroidissement	TECHNOPERL+TECHNOPERL	STEEL
<b>VILLE DE BAROVILLE (10)</b> Stockage eaux usées sanitaire	LP100/512	STEEL
<b>DGA – AIRBUS – Usine SECOIA – MAILLY LE CAMP (10)</b> Reprise du sol – Hall déchargement	ELECTROPERL+ELECTROPERL	CONCRETE
<b>GSK WAVRE – Belgique</b> TAR QC21	TECHNOPERL+ELECTROPERL	STEEL
<b>ENGIE – CPCU DE BERCY (75)</b> Cuve eaux osmosées	TECHNOPERL+LP100/812	STEEL
<b>RATP ILE DE France – ST OUEN</b> Rétentions de divers effluents (huiles, ...) - Bâtiment industriel	TECHNOPERL+TECHNOPERL	CONCRETE
<b>IPEDIA - NORMANDIE</b> Tour aéroréfrigérante	TECHNOPERL+TECHNOPERL	STEEL
<b>RATP ILE DE France – ST OUEN</b> Zone atelier et remisage - Locaux PR-PEF (liquide diélectrique - MIDEL)	TECHNOPERL+GELCOAT SV101	CONCRETE
<b>PSA - TREMERY (57)</b> Bac calorifugé - stockage eau chaude	TECHNOPERL + LP100/812	STEEL
<b>CEA - SACLAY (91)</b> Tour aéroréfrigérante	TECHNOPERL+TECHNOPERL	STEEL
<b>RENAULT - BATILLY (54)</b> Rétention huiles DA, BV, antigel, gasoil, éthanol	TECHNOPERL+CHEMPERL	CONCRETE

**2017 (cont'd)**

<b>PSA - SEVELNORD (59)</b> <i>Traitement de gaines et ventilateurs</i>	TECHNOPERL + CHEMPERL	STEEL
<b>AUBERT &amp; DUVAL - ISSOIRE (63)</b> <i>Fosse de décapage de la forge - HNO3 60% et NaOH 30%</i>	TECHNOPERL+CHEMPERL	CONCRETE
<b>SCEA LE BEAU BOIS - BONNEUIL (60)</b> <i>Cuve stockage - engrais liquide</i>	LP 100/512	STEEL
<b>SANOFI – NEUVILLE SUR SAONE (69)</b> <i>Rétention H2SO4</i>	TECHNOPERL+GELCOAT SV01	CONCRETE
<b>LES SIROPS FRUITES – LA ROCHE SUR FORON(74)</b> <i>Cuve stockage – NaOH 5%</i>	TECHNOPERL+TECHNOPERL	CONCRETE
<b>AREVA – Jarric (38)</b> <i>Fosse à effluents</i>	ELECTROPERL+GELCOAT SV101	CONCRETE
<b>GSK WAVRE – Belgique</b> <i>TAR WN 18</i>	TECHNOPERL+ELECTROPERL	STEEL
<b>PSA – Trémery (57)</b> <i>TAR</i>	TECHNOPERL+TECHNOPERL	STEEL
<b>EARL LA HOUSOYE (80)</b> <i>Cuve stockage Engrais liquide</i>	LP 100/512	STEEL
<b>INEOS</b> <i>Réservoir R535 eau décarbonatée</i>	AQUAPERL+AQUAPERL	STEEL
<b>GSK RIXENSART – Belgique</b> <i>TAR RX35 – MAC QUAY 6</i>	TECHNOPERL+ELECTROPERL	STEEL

## 2018

<b>PSA - TREMERY (57)</b> <i>Bac eau chaude</i>	TECHNOPERL+LP 100/812	STEEL
<b>RATP ILE DE France – ST OUEN</b> <i>Locaux sociaux : rétention huile, eau chaude</i> <i>Locaux sociaux : rétention acide</i>	TECHNOPERL+TECHNOPERL TECHNOPERL+GELCOAT SV101	CONCRETE CONCRETE
<b>PSA - SEVELNORD (59)</b> <i>Traitement de gaines et ventilateurs</i>	TECHNOPERL + CHEMPERL	STEEL
<b>SOLVAY(69)</b> <i>Rétentions</i>	TECHNOPERL+GELCOAT SV101	CONCRETE
<b>CERTAS</b> <i>Cuve stockage AD Blue</i>	LP 100/512	STEEL
<b>LA MAISON DE L'ÉLEVEUR – Vouziers (08)</b> <i>Cuve stockage engrais liquide</i>	LP 100/512	STEEL
<b>ENGIE</b> <i>Rétention</i>	TECHNOPERL+TECHNOPERL	CONCRETE
<b>CONSTELLIUM – ISSOIRE (63)</b> <i>Bac de contrôle Ultrason U101</i>	BIOPERL T	CONCRETE
<b>EFR – CMI</b> <i>Bac de refroidissement</i>	LP 100/512	STEEL
<b>RATP – Station Aubert</b> <i>Rétention</i>	TECHNOPERL + TILING	CONCRETE
<b>QUARON – Formerie (60)</b> <i>Rétention</i>	TECHNOPERL + CHEMPERL HRC	CONCRETE
<b>GSK RIXENSART – Belgique</b> <i>TAR – Mac quay 2A</i> <i>TAR – Mac quay 2B</i>	TECHNOPERL + ELECTROPERL	STEEL
<b>GSK WAVRE – Belgique</b> <i>TAR – WN31</i>	TECHNOPERL + ELECTROPERL	STEEL
<b>INITIAL – St Sulpice et Carmeyrac (33)</b> <i>Fosse de neutralization</i>	BIOPERL + CHEMPERL	CONCRETE

## 2018 (cont'd)

<b>KEM ONE – NAPHTACHIMIE – Laverà (13)</b> Epurateur saumure Vauvert S312C	TECHNOPERL + LP100/812 S	STEEL
<b>CNRS – Marseille (13)</b> Bassin à vague	TECHNOPERL + ELECTROPERL	CONCRETE
<b>ARKEMA – St Menet (13)</b> Rétention NaClO	TECHNOPERL + CHEMPERL VE-T	CONCRETE
<b>13ème BSMAT – Clermont Ferrand (63)</b> Cuve stockage effluents	TECHNOPERL + CHEMPERL VE/HRC	CONCRETE

## 2019

<b>PSA – Sevelnord (59)</b> Traitement de gaines et ventilateurs	TECHNOPERL + CHEMPERL VE-T TECHNOPERL + GELCOAT SV101	STEEL STEEL
<b>LYONDELL BASSELL – Berre l'étang (13)</b> Rétention 30m <sup>2</sup>	TECHNOPERL + CHEMPERL VE/HRC	CONCRETE
<b>RATP Île de France</b> Bâtiment industriel (1700m <sup>2</sup> )	TECHNOPERL + TECHNOPERL	CONCRETE
<b>GRT GAZ</b> Cuve CDE	LP 100/512	STEEL
<b>BRABANT</b> Rétention H <sub>2</sub> SO <sub>4</sub>	TECHNOPERL + GELCOAT SV101	CONCRETE
<b>ST BAUSSANT – AUTREVILLE SUR LA REINE (54)</b> Réservoirs eaux hydrocarburées -t° amb	LP 100/512	STEEL

**2019 (cont'd)**

<b>GROUPE CEDRES INDUSTRIES – Lens (62)</b> Cuve stockage Noranium 2MBHT	TECHNOPERL + LP 100/812	STEEL
<b>CITERNES ENTERREES (120m3)</b> Huile végétale et ester d’Huile Végétale t° amb	LP 100/512	STEEL
<b>ATRS – (49)</b> Bassin de TAR 20m3	TECHNOPERL + CHEMPERL VE-T	CONCRETE
<b>13<sup>ème</sup> BSMAT – Clermont Ferrand (63)</b> Cuve 40m3 - effluents industriels	TECHNOPERL + CHEMPERL VE/HRC	CONCRETE
<b>SANOFI – Aramon (30)</b> TAR STEEL	TECHNOPERL + ELECTROPERL	STEEL
<b>SUEZ – Crolles (38)</b> Fosse semi-enterrée - effluents industriels	BIOPERL + CHEMPERL VE-T	CONCRETE
<b>RATP LES LILAS LOT 1</b> TECHNOPERL + CHEMPERL VE-T	CONCRETE	
<b>AUBERT et DUVAL – (63)</b> Rétention aire de lavage	Screenperl + GELCOAT SV101	CONCRETE
<b>LA TRONCHE</b> Bassin à poissons	TECHNOPERL + TECHNOPERL	CONCRETE
<b>STEP des 3 RIVIERES – Clermont-Ferrand (63)</b> Rétention	TECHNOPERL + GELCOAT SV101	CONCRETE
<b>STEP DE PERPIGNAN – (66)</b> Rétention	BIOPERL + CHEMPERL VE-T	CONCRETE
<b>ARKEMA SAINT MENET – (13)</b> Rétention – HCl Xylène	TECHNOPERL + CHEMPERL VE-T	CONCRETE
<b>ARKEMA FEUCHY – (62)</b> Cuves 5106 § 5107B – Noranium M2SHS / 2M2HT	TECHNOPERL + LP100/812	STEEL
<b>SNCF – TECHNICENTRE de CHAMBERY – (73)</b> Cuve stockage huile Shell Rimula R4X 15W-40	NAPHTOPERL + PETROPERL	STEEL

## 2020

<b>CHATEAU HAUT-BAILLY – (33)</b> REGARDS	TECHNOPERL + CHEMPERL	CONCRETE
<b>STEP Chantier ETANDEX – (38)</b> BASSIN de STOCKAGE effluents industriels	TECHNOPERL + TECHNOPERL	CONCRETE
<b>TOTAL &amp; GSK BELGIQUE</b>	TECHNOPERL + ELECTROPERL	CONCRETE
<b>PSA TREMERY (57)</b>	TECHNOPERL + TECHNOPERL	STEEL
<b>TECHNICAL INDUSTRIE – (13)</b>	TECHNOPERL + GELCOAT SV101	CONCRETE
<b>ES ENVIRONNEMENT – (67)</b>	TECHNOPERL + GELCOAT SV101	CONCRETE
<b>HEF GROUPE SITE de SAINT-ETIENNE – (42)</b> Rétention	TECHNOPERL + GELCOAT SV101	CONCRETE
<b>CEMOI – CHAMBERY – (73)</b> Bassin de prétraitement	TECHNOPERL + GELCOAT SV101	CONCRETE
<b>JOHN DEERE – ORLEANS – (45)</b>	TECHNOPERL	STEEL
<b>PSA SEVELNORD - (59)</b>	TECHNOPERL + TECHNOPERL	STEEL
<b>CONT'DER ROANNE – (42)</b> Rétention	TECHNOPERL + GELCOAT SV101	CONCRETE
<b>SPEICHIM – (64)</b> Zone pompes	TECHNOPERL + CHEMPERL	CONCRETE
<b>ALL'CHEM – (03)</b>	TECHNOPERL + TECHNOPERL	CONCRETE
<b>EP MECA – CHANTIER ANDRE LAURENT – (42)</b> Rétention	TECHNOPERL + GELCOAT SV101	CONCRETE
<b>NORD CHROME – FLORANGE – (57)</b> Rétention acide chromique	TECHNOPERL + CHEMPERL	CONCRETE

## 2021

<b>QUARON Formerie (60)</b> <i>Rétention H<sub>2</sub>SO<sub>4</sub> 96% et HNO<sub>3</sub> 60%</i>	TECHNOPERL + CHEMPERL VE-HRC	CONCRETE
<b>Usine INDUSTRIEEL</b> <i>Piscine sous tour aéroréfrigérante</i>	TECHNOPERL + TECHNOPERL	CONCRETE
<b>PSA SEVELNORD</b>	TECHNOPERL + CHEMPERL VE-T	CONCRETE
<b>AXENS Salindres (30)</b> <i>Rétention CH<sub>3</sub>CCOH</i>	TECHNOPERL + CHEMPERL VE-HRC	CONCRETE
<b>ROQUETTE Lestrem (62)</b> <i>Aire de dépotage et rétention</i>	TECHNOPERL + GELCOAT SV101	CONCRETE
<b>STMicoelectronics (38)</b> <i>Rétention</i>	CHEMPERL VE-HRC	CONCRETE
<b>Société ALMA – La Ferrière Brochard (61)</b> <i>Caniveau</i>	TECHNOPERL + CHEMPERL VE-T	CONCRETE
<b>RUBIS TERMINAL Dunkerque (59)</b> <i>Bac n°11</i>	TECHNOPERL	STEEL