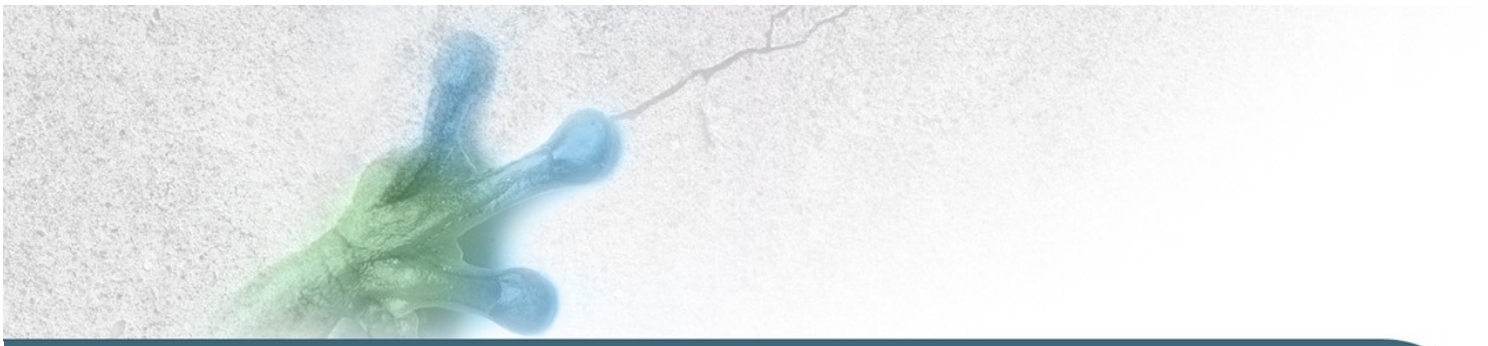


bio-based

sustainable

eco-friendly

Solutions for the pharmaceutical industry

KEMICA COATINGS

Reinventing coatings

KEMICA COATINGS
Reinventing coatings

An expert in the field of polyurethanes (PU) and polyurethanes (Hybrids) for more than thirty years, KEMICA COATINGS, based in France, designs, manufactures and distributes high-performance resins.

These resins are bio-based, solvent-free and odourless. They can be applied to concrete, steel or wood to overcome waterproofing, protection of structures, flooring and anti-corrosion problems in Industry, Building and Civil Engineering.

Bio-based products

At the heart of the design of **SOUPLETHANE** resins lies a strong commitment to the preservation of the environment. Unlike traditional synthetic resins that are based on petrochemical compounds, the composition of the **SOUPLETHANE** range gives pride of place to renewable natural materials. Sustainably sourced plant extracts are used as the main basis for high-quality polymers. This approach drastically reduces the environmental impact and limits the dependence on non-renewable resources.

Negative carbon footprint

By opting for **SOUPLETHANE** resins, companies can position themselves as players committed to sustainable development. In this way, they contribute to the reduction of their carbon footprint and contribute to the preservation of natural ecosystems. In addition, these natural resins offer an ecological and safe alternative, meeting the strictest environmental standards.

Electric Comb Leak Test

SOUPLETHANE resins are waterproof. Applied by professionals, they pass the electric comb test without difficulty. This is a commonly used method for evaluating the quality and effectiveness of sealant resins. This process involves applying the resin to a flat surface connected to the ground and then running an electric comb over it. The comb detects any porosity or air bubbles that could compromise the seal.
This fast and accurate test ensures the reliability of the sealants, ensuring optimal protection against water or other harmful substances.

Fire resistance

The fire resistance of resins is essential to ensure the safety of goods and people in buildings. To do this**, KEMICA COATINGS formulates** resins that achieve performances rarely achieved in the profession:

- **SOUPLETHANE** is classified Bfl-S1 (european standards)
- For high-rise buildings or establishments open to the public, **SOUPLETHANE** is available in a NON-FLAMMABLE version with a Eurofeu classification B–S2–D0 (**SOUPLETHANE 5 COR FRB**).

KEMICA COATINGS
Reinventing coatings

Summary

REQUIREMENTS IN PHARMACEUTICAL LABORATORIES

The pharmaceutical industry, given its many activities, is polluting for the environment (subsoil, water, air) and requires the installation of coatings guaranteeing the preservation of the quality of the subsoil, water and air. The risk of fire is also a major issue, and the installation of non-flammable coatings or insulation is sought.
The performance criteria of the coatings sought are as follows:

- **HYGIENE**
  - **HYGIENE** : absence of porosities
  - **ANTI-DUST:** no fixation of dust which is a source of contamination of the substrate.
  - **CONTINUOUS AND SEAMLESS CLADDING:** (floors, walls and ceilings) no attachment of contaminants in the joints.
  - **NON-TOXICITY OF THE COATING:** requirements of animal facilities and laboratories
  - **EASY CLEANING, MAINTENANCE AND REPAIR**

- **PERFORMANCE**
  - **RESISTANCE TO CHEMICAL AGENTS:** the products likely to come into contact with the coating are chemically very aggressive and in a pH range of 1 to 14.
  - **RESISTANCE TO THERMAL SHOCKS:** accidental leakage of hot LIQUIDS, steam etc.
  - **AIR AND GAS TIGHTNESS:** (oxygen, CO2, H2O, N2, etc.): case of controlled atmosphere rooms
  - **WATERPROOFING:** to guarantee the containment of the room in the event of cracking (prevents the diffusion of contaminants in the support or outside in the event of a cracked support)
  - **RESISTANCE to UV rays that degrade coatings.**
  - **EASY DECONTAMINATION OF POLLUTED MEDIA**
  - **NON-FLAMMABILITY of coatings and insulation**

- **RELIABILITY OF IMPLEMENTATION AND USE**
  - **NO EMISSION OF ORGANIC VAPOURS AND SOLVENTS DURING PROCESSING**
  - **WEAR RESISTANCE**: requirement for floors subject to the circulation of forklifts or machinery.
  - **ANTI-SLIP POWER:** requirement for workshop floors subject to water leaks and pedestrian traffic
  - **FIRE RESISTANCE:** does not spread flame or contribute to combustion.

THE ANSWERS OF THE FLEXIBLE COATING

- **HYGIENE :**

The SOUPLETHANE film is continuous, without porosities or microporosities. It prevents bacterial growth, not allowing bacteria in contact with the coating to find the nutrients necessary for their survival and proliferation. A test carried out by the Institute of Microbiological Research (IRM) shows that a strain of bacteria (SALMONELLA) in contact with the coating reduces by 97% after just 15 minutes, 99.83% after 24 hours and 99.9999% after 7 days. This property is of great interest for applications for cladding ceilings, false ceilings, ventilation ducts, etc. difficult to access and not subject to daily maintenance.

The absence of porosities, unlike hydraulic binders or stainless-steel binders for example, prevents the proliferation of bacteria or yeasts that nestle in the pores, which can be a cause of contamination.

- **ANTI-DUST :**

SOUPLETHANE does not become charged with static electricity after friction, thus not attracting contaminating dust from the atmosphere.

Its dust-repellent properties are due to two combined effects:

- Low natural susceptibility to becoming covered in dust (test carried out by the **CEA**, low susceptibility of around 3%).
- On the dust that has nevertheless settled on the substrate, the decontamination after conventional cleaning is almost total (99%). It is not necessary to use aggressive decontamination cleaning agents, a simple wash with deionized water is sufficient (**CEA test**).

- **CONTINUOUS AND SEAMLESS COATING :**

SOUPLETHANE film can be applied WITHOUT drips in a thick film on a horizontal, vertical or ceiling surface. The coating thus achieved is continuous and seamless.

- **NON-TOXICITY OF THE COATING:**

SOUPLETHANE is bio-sourced, BPA-free, PHTHALATE-free, SOLVENT-free, FORMALDEHYDE-free.

- **EASE OF CLEANING, MAINTENANCE AND REPAIR,**

SOUPLETHANE is easy to clean: its closed surface makes it difficult for dirt to incrustate. It is also very resistant to the aggressions of cleaning products.
Its repairability is easy by re-applying a new layer of resin on the old one - CSTB test N°CLC-ETA-13-26042113-1

- **RESISTANCE TO CHEMICAL AGENTS :**

SOUPLETHANE is resistant to a wide range of chemicals: bases, acids, solvents. It is commonly used for protective coatings of retention tanks, antacid floors and tanks storing chemicals.

- **RESISTANCE TO THERMAL SHOCKS :**

SOUPLETHANE is resistant :
- Hot liquids (e.g. hot water at 90°C): tested by the LCPC with thermal shocks of 140°C. - No change in the characteristics of **the SOUPLETHANE** after return to room temperature.
- Superheated steam: 160°C (test carried out by CEMETE in Aix-en-Provence) - no blisters or cracks, etc. - good resistance of the coating which can withstand such thermal shocks.

- **AIR AND GAS TIGHTNESS :**

SOUPLETHANE is a vapour barrier, and the diffusion of gases is very slow through the film.

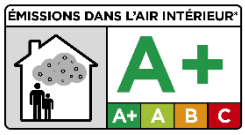
Example for the 1 mm film of **SOUPLETHANE**:
- Water vapour permeance 9 x 10^{-3} g/m2.24h.mm hg,
- Oxygen permeability 6 cm3/m^2. 24h.bar.

- **SEALING :**

In the event of cracking in the concrete substrate, **SOUPLETHANE** bridges cracks with an opening of 3 mm without damage thanks to its elasticity.
This is of major interest for two reasons:
- Cracks in a floor are the primary cause of soil degradation. This quality thus guarantees the longevity of a floor covering,
- Cracks are a source of contamination and are difficult to clean. Ref.: LCPC test (ability of **SOUPLETHANE** to bridge cracks with an opening of more than 3 mm).

- **NO EMISSION OF ORGANIC VAPOURS AND SOLVENTS DURING PROCESSING:**

SOUPLETHANE is solvent-free.
It does not emit any components that pose a health hazard:
. No smell
. No BISPHENOL A, F or S
. No formaldehydes
. No phthalates
. No VOCs



The SOUPLETHANE 5 coating meets the most stringent requirements of HQE or BREEAM certified buildings.
SOUPLETHANE is certified: HQE A+ (+)

- **WEAR RESISTANCE :**

SOUPLETHANE has been tested by the CSTB according to European standards. It obtained a classification equivalent to the UPEC U4P4.

- **ELECTRICAL CONDUCTIVITY**: floors are charge dissipators - 10^9 0hm.cm

- **ANTI-SLIP POWER :**

SOUPLETHANE is used in flooring by sprinkling quartz, corundum or silica aggregates on the surface layer to meet this requirement**.**

- **FIRE RESISTANCE :**

SOUPLETHANE 5 COR FRB is non-flammable classified EUROFEU : B – S2 – d0

100%

waterproofing
anticorrosion
non flammable
antifouling
antibacterial

0%

solvent
toxicity
VOC
BPA

THE PRODUCTS USED

SOUPLETHANE 5

Solvent-free, two-component polyurea-urethane resin that provides a liquid membrane for waterproofing, corrosion protection or continuous flooring, without microporosities.

Can be applied manually (brush, roller) or by spraying with an airless machine.

CSTB Technical Assesment
N° AT: 12/15-1704
DTA from CSTB

SOUPLETHANE 5 COR

Solvent-free, two-component polyurea-urethane resin for waterproofing, corrosion protection of chemical retentions, gutters, tanks and internal linings of pipes carrying corrosive effluents.

SOUPLETHANE 5 COR FRB

Solvent-free, two-component polyurea-urethane resin that produces a liquid membrane for waterproofing, corrosion protection or continuous flooring, without microporosities for the protection of floors and walls or chemical retentions.

NON-FLAMMABLE resin rating: B – S2- d0

Can be applied manually (brush, roller) or by spraying with an HP twin-component airless machine

SOUPLETHANE 5N

Solvent-free, two-component polyurea-urethane resin that produces a decontaminable, radiation-resistant liquid waterproofing, corrosion protection or flooring membrane for nuclear medicine facilities.

Can be applied manually (brush, roller) or sprayed with with HP airless machine.

Decontaminable
(CEA class 1-4) and resistant to nuclear radiation

PU AQUEUX R

Solvent-free, fast-setting, single-component primer that can be applied manually (brush, roller) or by spraying with HP single-component airless machine.

Solvent-free PU primer

KEMIPOX

Two-component, all-purpose primer that can be applied manually on wet concrete (brush, roller).

Solvent-free epoxy primer

ALPIC

Two-component, solvent-free, UV-resistant ALIPHATIC polyurethane resin that provides a protective topcoat on liquid waterproofing membranes.

UV-stable color topcoat

POUDREC

Low-density anti-slip filler that can be applied to fresh resin. Grit size 300 to 600µ

Anti-slip

KEMTEX

Reinforcement fabric for the treatment of singular points and cracks.

Reinforcement cloth

TECHNICAL PERFORMANCE CERTIFICATIONS & REPORTS			
Tests	**Test Conditions**	**Results**	**Organism**
Adhesion	Dry concrete Dry concrete Dry concrete Wet concrete	4.0 MPa 5.5 MPa 3.5 MPa 2.6 MPa	CSTB Metal Institute King Fahd Institute CSTB
Cracks caused	T= 20°C T= - 5°C T= -10°C T= - 30°C	4.9 mm 2.7 mm 1.5 mm 0.8 mm	VERITAS VERITAS LCPC VTT (Finlande)
Substrate Movements	1 mm crack 500 cycles Amplitude +/-1 mm Temperature : -10°C	Waterproof under 100 mm of water	CSTB
Tensile Strength	Speed : 1mm/min	18 MPa @23C 32 MPa @-10°C	LCPC
Compressive Strength	ASTM C 109	113 MPa	FUGRO SUHAIMI
SOUPLETHANE Repairability Test		Adhesion >4 MPa	CSTB
Static puncture shear resistance	ETAG TR007	L3 @23°C L3 @60°C	CSTB
Dynamic Punch Shear Resistance	ETAG TR006	I3 @23°C I3 @60°C	CSTB
Abrasion resistance	EN ISO 5470-1 Meule Taber22 Load 1,000 g	630mg/1 000 rotations	CSTB
Water Absorption	NFT3080 ETAG TR003 DIN 1048	0 .0 Waterproof 0 .0	LCPC (Morocco) CSTB King Fahd Institute
Hardness Shore A		**>95**	

Tests	Test Conditions	Results	Organism
Resistance to Artificial Aging Cycles	NF P 84-402	75 cycles of 12 hours No blisters, no cracks, no peeling	VERITAS
Resistance to oxidizing agents	Resistance to 15% perchlorate @100°C	No effect	King Fahd Institute
Diffusion of chloride ions	ASTM 1202 Diffusion coefficient measurement	<5 coulombs (10 000 coulombs for concrete) Not Measurable (< 10-14)	King Fahd Institute LERM
Application on dripping concrete		Adhesion : 3.15 MPa	Internal Testing
Chemical Resistance	pH 1 to 13	No saponification reaction at high pH	Suez/Veolia/ AREVA CSTB
Immersion Adhesion After Aging	Immersion in demineralized water at 75°C for 45 days	Adhesion: Class 1	Metal Institute de SHENYANG
Pressure Reservoir		1 MPa 1.5 MPa	CEBTP LCPC (Morocco)
Shock and impact resistance	NF EN 13813	IR20	CSTB
Puncture Shear Resistance	NF EN 433	Residual 0.05mm	CSTB
Resistance to movement of a 1 mm joint after ageing	ETAG TR 008	No cracks, No delamination Waterproof under 100 mm of water	CSTB
Resistance to cracking	NF EN 1062-7 Method A Annex C.2	Initial: >3mm After ageing cycle at 70°C: >3mm	CERIB

AREAS OF EMPLOYMENT AND PRECONISATIONS TECHNIQUES

. Industrial floors

. Gutters

. Chemical retention

. Unloading areas

. Aggressive liquid storage tanks

. Roofs – terraces

. Walls and ceilings

. Non-flammable thermal insulation of tanks and pipes

. Pipes

. Gutters - Ditches


INDUSTRIAL FLOORS

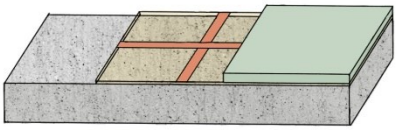
Industrial floors

Flooring

Benefits:
- WATERPROOF Industrial Floor (laying of concrete cracks with an opening of more than 3 mm)
- Non Inflammable – B - S2 – d0
- Chemically resistant over a pH RANGE of 1 to 14
- Easily repairable

STEP 1: Preparation of the support **(see page 36)**

STEP 2: Treatment of singular points **(see page 37)**



STEP 3: Application of the PU Aqueux R Primer
- Laying of the primer
  - Roller application
  - Consumption : approx. 150 g/m²
  - Drying in 1 hour

Characteristics of the primer			
Chemical nature	Moisture-curing, prepolymer one-component	**Density @25°C according to ISO2811**	1.16 g/ml
Aspect	Transparent Amber Liquid	**Flash Point**	>110°C
Dry extract	100%	**Solvent-free**	Yes

- Crossed installation on the primer of conductive copper braids connected to earth (spacing between braids approx. 5 m)

STEP 4: Application of SOUPLETHANE 5 COR FRB resin
- With a roller or notched comb, 2 mm of SOUPLETHANE 5 COR FRB

Characteristics of Polyurea-Urethane Resin			
Chemical nature	2-component polyurea-urethane (aromatic) resin	**Mix Ratio**	Comp A / Comp B : 3/1 en volume
Composition	Component A – polyol : opaque coloured liquid Component B – isocyanate : transparent amber liquid	**Density @20°C of mixture A+B according to ISO2811**	1.4 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	35%	**Sealing**	3 mm crack laying

Gutters

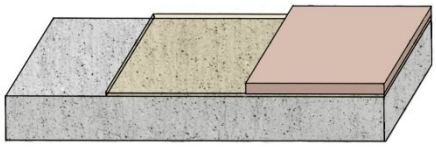
Bottom and Walls

Benefits:
- Ensures tightness in case of gutter cracking.
- Chemical resistance

STEP 1: Preparation of the support (see page 36)

STEP 2: Treatment of singular points (see page 37)

STEP 3: Application of the PU Aqueux R Primer



- Laying of the primer
  - Roller application
  - Consumption : approx. 150 g/m²
  - Drying in 1 hour

Characteristics of the primer			
Chemical nature	Moisture-curing, prepolymer one-component	**Density @25°C according to ISO2811**	1.16 g/ml
Aspect	Transparent Amber Liquid	**Flash Point**	>110°C
Dry extract	100%	**Solvent-free**	Yes

STEP 4: Application of the SOUPLETHANE 5 COR FRB resin

- Base: using a roller or notched comb, apply 3 mm of SOUPLETHANE 5 COR FRB
- Walls: with a roller, installation of 2 mm of SOUPLETHANE 5 COR FRB

Characteristics of Polyurea-Urethane Resin			
Chemical nature	2-component polyurea-urethane (aromatic) resin	**Mix Ratio**	Comp A / Comp B : 3/1 en volume
Composition	Component A – polyol : opaque coloured liquid Component B – isocyanate : transparent amber liquid	**Density @20°C of mixture A+B according to ISO2811**	1.4 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	35%	**Sealing**	3 mm crack laying

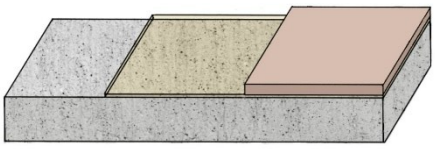
KEMICA COATINGS
Reinventing coatings

Chemical retention

Benefits:
- Chemical resistance (pH from 1 to 14)
- Provides waterproofing in the event of cracking in concrete (up to 3 mm crack opening)
- Non inflammable : B-S2-d0

STEP 1: Preparation of the support (see page 36)

STEP 2: Treatment of singular points (see page 37)



STEP 3: Application of the PU Aqueux R Primer
- Laying of the primer
  - Roller application
  - Consumption: approx. 150 g/m²
  - Drying in 1 hour

Characteristics of the primer			
Chemical nature	Moisture-curing, prepolymer one-component	**Density @25°C according to ISO2811**	1.16 g/ml
Aspect	Transparent Amber Liquid	**Flash Point**	>110°C
Dry extract	100%	**Solvent-free**	Yes

STEP 4: Application of the SOUPLETHANE 5 COR FRB resin
- Base: with a roller or notched comb, 2 mm of SOUPLETHANE 5 COR FRB
- 3 mm crack bridging

Characteristics of Polyurea-Urethane Resin			
Chemical nature	2-component polyurea-urethane (aromatic) resin	**Mix Ratio**	Comp A / Comp B : 3/1 en volume
Composition	Component A – polyol : opaque coloured liquid Component B – isocyanate : transparent amber liquid	**Density @20°C of mixture A+B according to ISO2811**	1.4 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	35%	**Sealing**	3 mm crack bridging

KEMICA COATINGS
Reinventing coatings

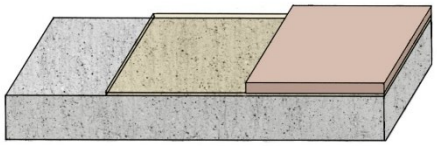
Unloading areas

Benefits :
- Fire rate : B-S2-D0) NON-FLAMMABLE
- UV resistance
- Chemically resistant and WATERPROOF (3 mm crack laying of concrete)
- Bio-based resin: carbon negative

STEP 1: Preparation of the support **(see page 36)**

STEP 2: Treatment of singular points **(see page 37)**

STEP 3: Application of the PU Aqueux R Primer



- Laying of the primer
  - Roller application
  - Consumption: approx. 150 g/m²
  - Drying in 1 hour

Characteristics of the primer			
Chemical nature	Moisture-curing, prepolymer one-component	**Density @25°C according to ISO2811**	1.16 g/ml
Aspect	Transparent Amber Liquid	**Flash Point**	>110°C
Dry extract	100%	**Solvent-free**	Yes

STEP 4: Application of the SOUPLETHANE 5 COR FRB resin
- B-S2-D0

Characteristics of Polyurea-Urethane Resin			
Chemical nature	2-component polyurea-urethane (aromatic) resin	**Mix Ratio**	Comp A / Comp B : 3/1 in volume
Composition	Component A – polyol : opaque coloured liquid Component B – isocyanate : transparent amber liquid	**Density @20°C of mixture A+B according to ISO2811**	1.4 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	35%	**Fire Rating :**	B-S2-D0

KEMICA COATINGS
Reinventing coatings

Corrosive Liquid Storage Tanks

Benefits:

- Highly chemically resistant coating
- Can be applied by HR<95% and -10°C < T°C < 50°C
- Provides waterproofing in the event of cracking in concrete (up to 3 mm crack opening)

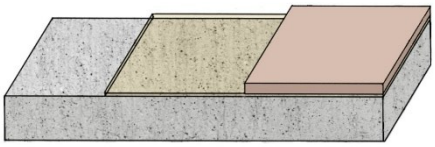
STEP 1: Preparation of the support (see page 36)

STEP 2: Treatment of singular points (see page 37)

STEP 3: Application of the PU Aqueux R Primer

Laying of the primer

- Roller application
- Consumption: approx. 150 g/m²
- Drying in 1 hour



Characteristics of the primer			
Chemical nature	Moisture-curing, prepolymer one-component	**Density @25°C according to ISO2811**	1.16 g/ml
Aspect	Transparent Amber Liquid	**Flash Point**	>110°C
Dry extract	100%	**Solvent-free**	Yes

STEP 4: Application of the SOUPLETHANE 5 COR resin

- - Using a roller or notched comb, apply 2 mm of SOUPLETHANE 5 COR

Characteristics of Polyurea-Urethane Resin			
Chemical nature	2-component polyurea-urethane (aromatic) resin	**Mix Ratio**	Comp A / Comp B : 2/1 in volume
Composition	Component A – polyol : opaque coloured liquid Component B – isocyanate : transparent amber liquid	**Density @20°C of mixture A+B according to ISO2811**	1.1 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	150%	**Fire Rating :**	Bfl-S1

KEMICA COATINGS
Reinventing coatings

CHEMICAL AGENT RESISTANCE TABLE

SOUPLETHANE 5 COR

Chemical Retention Floors
Contact : 72 h

Storage Tanks Concrete/Steel
Permanent contact

Chemicals		**Temperature** < 80°C	**Temperature** < 40°C	**Temperature** < 70°C
ACIDS	**Concentration**	**Thickness**	**Thickness**	**Thickness**
Hydrochloric	33%	3 mm	3 mm	5 mm
Nitric	60%	2 mm	3 mm	5 mm
Sulfuric	40%	3 mm	3 mm	5 mm
Phosphoric	100%	2 mm	3 mm	5 mm
Acetic	70%	3 mm	3 mm	5 mm
Lactic	30%	2 mm	3 mm	5 mm
Any acid Ph > 1		2 mm	3 mm	5 mm
Any acid Ph <1		Contact test 72 h	Immersion 3 weeks	

BASIS	**Concentration**	**Thickness**	**Thickness**	**Thickness**
Welded	50%	3 mm	5 mm	5 mm
Potash	50%	2 mm	5 mm	5 mm
Any basis Ph < 13		2 mm	2 mm	5 mm
Any basis Ph > 13		Contact test 72 h	Immersion 3 weeks	

Hydrocarbons	**Concentration**	**Thickness**	**Thickness**	**Thickness**
Crude oil	100%	2 mm	3 mm	5 mm
Diesel fuel	100%	2 mm	5 mm	5 mm
Aliphatic gasoline	100%	2 mm	2 mm	5 mm
Kerosene	100%	2 mm	2 mm	----------
Aromatics Benzene, xylene	100%	2 mm	----------	----------

CHLORIDES	**Concentration**	**Epaisseur**	**Epaisseur**	**Epaisseur**
Sodium salt	100%	2 mm	3 mm	5 mm

KEMICA COATINGS
Reinventing coatings

Flat roofs

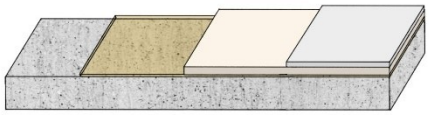
Benefits:

Highly chemically resistant coating (to discharges, corrosive vapours, solvents)
Can be applied by HR<95% and -10°C < T°C < 50°C
Provides waterproofing in the event of cracking in concrete (up to 3 mm crack opening)
EUROFEU Ranking : B fl-S1

STEP 1: Preparation of the support **(see page 36)**

STEP 2: Treatment of singular points **(see page 37)**

STEP 3: Application of the PU Aqueux R Primer



- Laying of the primer
  - Roller application
  - Consumption: approx. 150 g/m²
  - Drying in 1 hour

Characteristics of the primer			
Chemical nature	Moisture-curing, prepolymer one-component	**Density @25°C according to ISO2811**	1.16 g/ml
Aspect	Transparent Amber Liquid	**Flash Point**	>110°C
Dry extract	100%	**Solvent-free**	Yes

STEP 4: Application of the SOUPLETHANE 5 resin

- - Using a roller or notched comb, apply 2 mm of SOUPLETHANE 5

Characteristics of Polyurea-Urethane Resin			
Chemical nature	2-component polyurea-urethane (aromatic) resin	**Mix Ratio**	Comp A / Comp B : 2/1 in volume
Composition	Component A – polyol : opaque coloured liquid Component B – isocyanate : transparent amber liquid	**Density @20°C of mixture A+B according to ISO2811**	1.3 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	150%	**Fire Rating :**	Bfl-S1

STEP 5 : Finishes

- Optional: Non-slip by spraying the resin of the POUDREC 400 or 600 µ then a thin layer of ALPIC closure
- Application of a layer of ALPIC (250 g/m²) for a UV-stable finish
- COOL ROOF effect depending on the shade used

KEMICA COATINGS
Reinventing coatings

Walls and Ceilings

Wall and Ceiling Covering

Benefits:

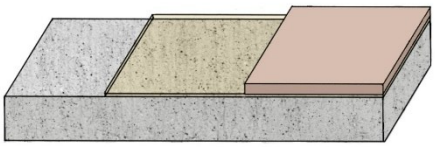
- Fire classification: B-S2-D0 with SOUPLETHANE 5 COR FRB
- Ensures waterproofing of walls and ceilings in case of cracking of concrete (3 mm opening cracks)
- Chemically resistant (replaces waterproofing + tiles)

STEP 1: Preparation of the support **(see page 36)**

STEP 2: Treatment of singular points **(see page 37)**

STEP 3: Application of the PU Aqueux R Primer

- La ying of the primer
  - Roller application
  - Consumption: approx. 150 g/m²
  - Drying in 1 hour



Characteristics of the primer			
Chemical nature	Moisture-curing, prepolymer one-component	**Density @25°C according to ISO2811**	1.16 g/ml
Aspect	Transparent Amber Liquid	**Flash Point**	>110°C
Dry extract	100%	**Solvent-free**	Yes

STEP 4: Application of the SOUPLETHANE 5 COR FRB resin

- - Using a roller or notched comb, apply 2 mm of SOUPLETHANE 5

Characteristics of Polyurea-Urethane Resin			
Chemical nature	2-component polyurea-urethane (aromatic) resin	**Mix Ratio**	Comp A / Comp B : 3/1 in volume
Composition	Component A – polyol : opaque coloured liquid Component B – isocyanate : transparent amber liquid	**Density @20°C of mixture A+B according to ISO2811**	1.4 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	35%	**Fire Rating :**	B – S2 – d0


PIPES
GUTTERS

Pipes

Benefits:
- Fire rate : B- S2- d0 with SOUPLETHANE 5 COR FRB for outdoor use
- And Bfl-S1 with SOUPLETHANE UR5 for Pipe Interiors
- Bio-based resin: carbon negative

OUTER COATING

STEP 1 : Sandblasting SA 2.5

STEP 2: Application of the SOUPLETHANE 5 COR FRB resin

- By projection with two-component HP pump, application of 2 mm of SOUPLETHANE 5COR FRB

Characteristics of Polyurea-Urethane Resin			
Chemical nature	2-component polyurea-urethane (aromatic) resin	**Mix Ratio**	Comp A / Comp B : 3/1 in volume
Composition	Component A – polyol : opaque coloured liquid Component B – isocyanate : transparent amber liquid	**Density @20°C of mixture A+B according to ISO2811**	1.4 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	35%	**Fire Rating**	B-S2-d0

-

INNER COATING

Stage 1 : Sandblasting SA 2.5

STEP 2: Application of the SOUPLETHANE UR 5 resin

- By projection with a two-component pump with rotating bowl, application of 2 to 5 mm of SOUPLETHANE UR 5

Characteristics of Polyurea-Urethane Resin			
Chemical nature	2-component polyurea-urethane (aromatic) resin	**Mix Ratio**	Comp A / Comp B : 3/1 in volume
Composition	Component A – polyol : opaque coloured liquid Component B – isocyanate : transparent amber liquid	**Density @20°C of mixture A+B according to ISO2811**	1.4 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	35%	**Fire Rating**	B-S2-d0

Gutters - Valleys

Benefits:

- Fire classification: B-fl-S1 with SOUPLETHANE UR5
- Highly adherent to metal (steel or galvanized) 20 MPa without primer
- Chemically resistant
- Bio-based resin: carbon negative

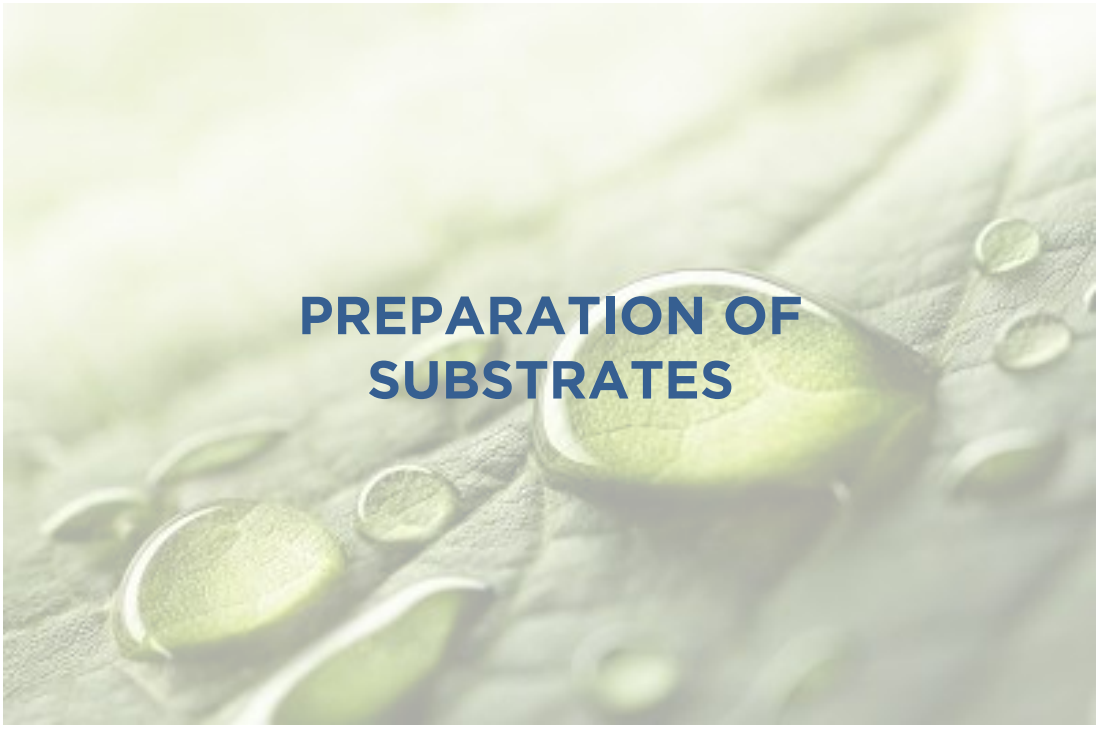
STEP 1: Sandblasting SA 2.5 or sanding

STEP 2: Application of the SOUPLETHANE UR5 resin

- - Using a roller or notched comb, apply 2 mm of SOUPLETHANE 5

Characteristics of Polyurea-Urethane Resin			
Chemical nature	2-component polyurea-urethane (aromatic) resin	**Mix Ratio**	Comp A / Comp B : 3/1 in volume
Composition	Component A – polyol : opaque coloured liquid Component B – isocyanate : transparent amber liquid	**Density @20°C of mixture A+B according to ISO2811**	1.4 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	35%	**Fire Rating**	B_{fl}-S1

PREPARATION OF SUBSTRATES AND TREATMENT OF SINGULAR POINTS



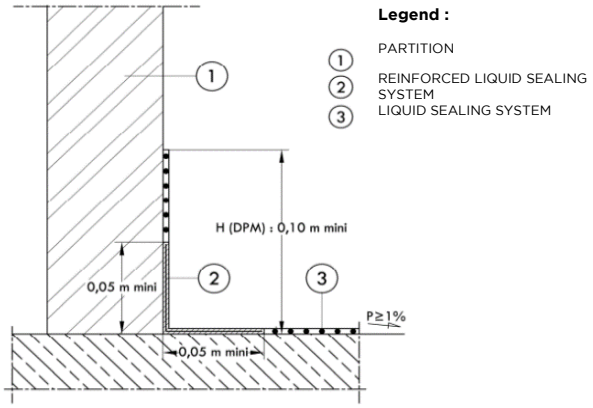
- On new concrete even, smooth, without roughness, poured since 28 days in accordance with DTU21 (France)
    - Shot blasting or grinding, dedusting or acid etching followed by rinsing and drying.

- On old concrete
    - Remove old coatings, crumbly parts.
    - Trim if necessary to obtain a flat, smooth surface without roughness.

- In the event of an uneven concrete surface: apply a rendering made by a KEMIPOX mortar (1 volume of KEMIPOX for 2 volumes of sand 0.4/0.8 mm) with a sand finishing of quartz with 0.4/0.8 mm granular size.


TREATMENT OF
SINGULAR POINTS

Upstands

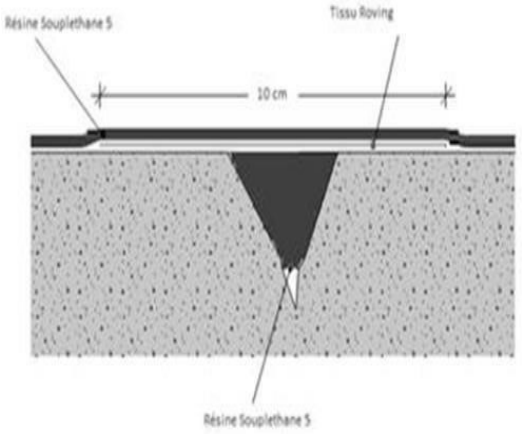


Careful sanding of concrete and dusting with a vacuum cleaner

Note: The minimum height of the stand is 100 mm

- Application of a strip of **KEMTEX** roving fabric (280 gr/m^2), impregnated and glued with SOUPLETHANE 5. The resin is overlapping the singular points in accordance with the CSTB Technical Assessment
- Unbubble the **KEMTEX** cloth with a roll of wool before applying the outer layer of **SOUPLETHANE**

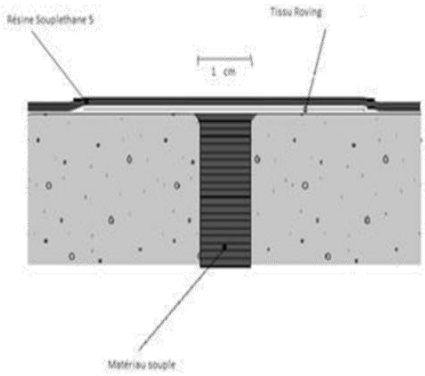
Existing cracks (no difference in level)



Careful grinding of concrete and dusting with a vacuum cleaner

- In case of microcracks smaller than 0.3 mm, no specific treatment is required due to the bridging capacity of the **SOUPLETHANE 5** resin
- In case of cracks between 0.3 and 0.8 mm, open the crack and carefully remove the dust with a vacuum cleaner and then fill the crack with SOUPLETHANE 5 **resin**. Cover the crack with a 10 cm wide Kemtex glass roving saturated with SOUPLETHANE 5 resin **- In case of cracks greater than 0.8 mm**, fill crack with a flexible PU joint. Cover the crack with a **10 cm wide KEMTEX glass roving** saturated with SOUPLETHANE 5 **resin.**

Splitting joint (no difference in level)



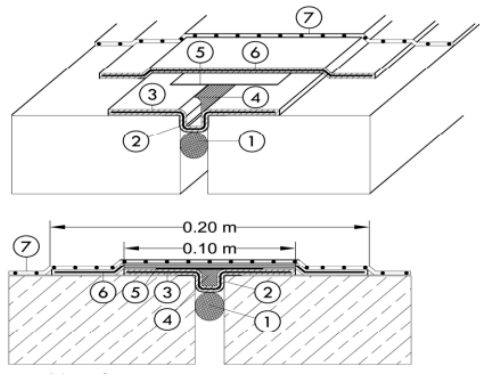
Concrete sanding and careful dusting with a vacuum cleaner

Note: Splitting joints have an opening between 2 and 10 mm

Fill the joint with **SOUPLETHANE PUTTY** (shore A hardness less than 70)

Cover the crack with the **10 cm wide** KEMTEX roving fabric glued with **SOUPLETHANE 5**

Expansion joint (no difference in level)



Légende :

1. BOUDIN DE MOUSSE EXPANSÉE
2. BANDE ADHÉSIVE SERVANT DE COFFRAGE
3. SYSTÈME D'ÉTANCHÉITÉ LIQUIDE RENFORCÉ
4. MATÉRIAU DE REMPLISSAGE SOUPLE
5. BANDE DE DÉSOLIDARISATION EVENTUELLE
6. SYSTÈME D'ÉTANCHÉITÉ LIQUIDE RENFORCÉ
7. SYSTÈME D'ÉTANCHÉITÉ LIQUIDE

Careful sanding or grinding of concrete and dusting with a vacuum cleaner

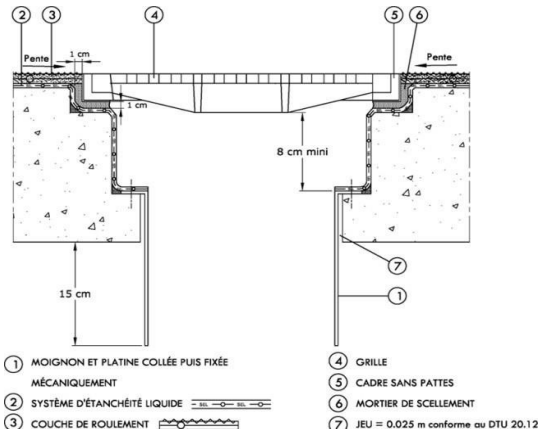
Install the expanded foam joint in the joint, then glue a 150 mm wide PVC tape (600% elongation type) on both sides with epoxy glue. Put a layer of epoxy on top of the PVC tape and sprinkle with silica sand of a controlled size (0.4-0.8). Remove excess once cured.

Fill the cavity with **SOUPLETHANE 5 COR PUTTY**.

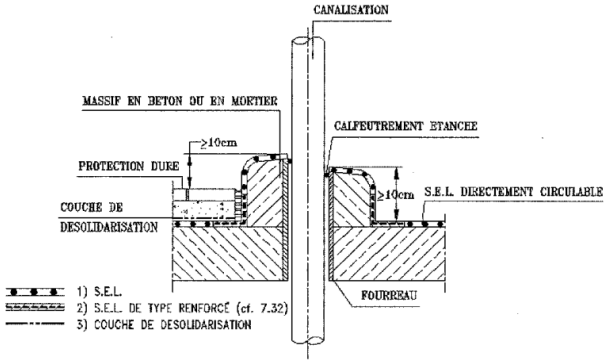
Cover the edges of the PVC tape with the **15 cm wide** KEMTEX ROVING glued with **SOUPLETHANE 5.**

KEMICA COATINGS
Reinventing coatings

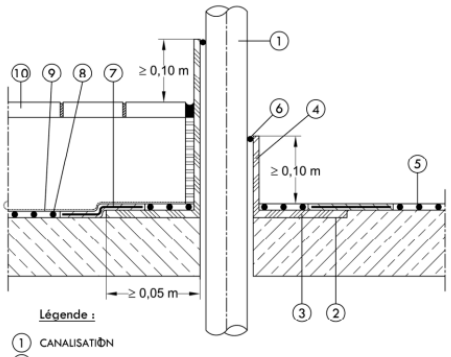
Traps



Pipe passages
(on solid with sheath)



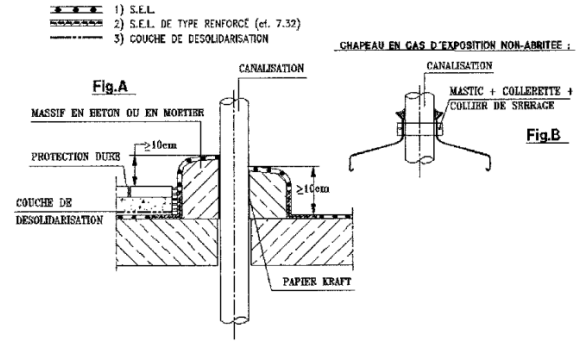
Hose Penetrations
(with Plate and Metal Sleeve)



Légende :

1. CANALISATION
2. ENCUVEMENT
3. FIXATION AU SOL PAR COLLAGE ET PAR FIXATION MÉCANIQUE
4. PLATINE ET MANCHON MÉTALLIQUE SOUDES
5. SYSTÈME D'ÉTANCHÉITÉ LIQUIDE DIRECTEMENT CIRCULABLE
6. CALFEUTREMENT ÉTANCHE
7. SYSTÈME D'ÉTANCHÉITÉ LIQUIDE RENFORCÉ
8. SYSTÈME D'ÉTANCHÉITÉ LIQUIDE
9. NAPPE DRAINANTE
10. CARRELAGE SCELLÉ

Hose passages
(on solid without sheath)



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