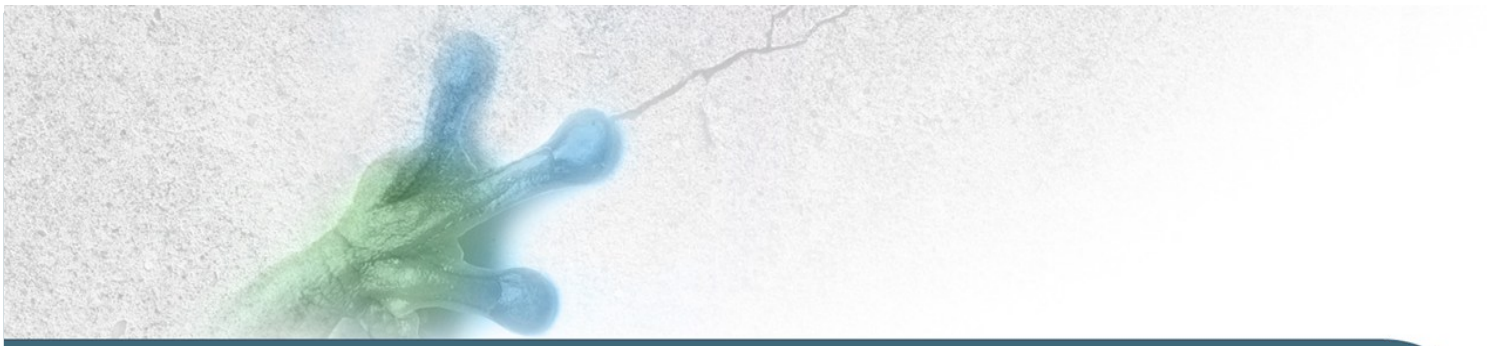


Solutions for the Food and Beverage Industry

bio-based

sustainable

eco-friendly

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**).

Summary

REQUIREMENTS IN THE FOOD INDUSTRY

The agri-food industry is the set of industrial activities that transform food production from agriculture or fishing into industrial food intended mainly for human consumption. INSEE distinguishes ten sectors of activity in the agri-food industry in France:

- Processing and preservation of meat and the preparation of meat products.
- Processing and preservation of fish, crustaceans and molluscs;
- The processing and preservation of fruits and vegetables.
- The manufacture of vegetable and animal oils and fats.
- Dairy manufacturing;
- The work of the grains; the manufacture of starch products.
- Manufacture of bakery products and pasta.
- Manufacture of other food products.
- Feed manufacturing;
- Beverage manufacturing

Due to their nature, premises and equipment must not be a source of contamination for foodstuffs or encourage the multiplication of germs. For example, the floors, doors, walls and ceilings of the kitchen and pantry areas or areas for the preparation of foodstuffs are made of waterproof, non-absorbable and non-toxic materials.
They must also be easy to clean and disinfect (e.g. tiles, paint, panels, stainless steel, etc.). They must therefore meet the following requirements:

- **HYGIENE**
  - **HYGIENE**: absence of porosities that are nests of bacteria or contamination
  - **ANTI-DUST:** no fixation of dust which is a source of contamination of the substrate.
  - **CONTINUOUS AND SEAMLESS COATING:** (floors, walls and ceilings) no attachment of contaminants in the joints,
  - **NON-TOXICITY OF THE COATING (FOOD SAFETY)**
  - **EASY CLEANING, MAINTENANCE AND REPAIR**
- **PERFORMANCE**
  - **RESISTANCE TO CHEMICAL AGENTS:** products that may come into contact with the coating may be chemically aggressive (formalin, iodine, various acids, bases, detergents, bleach, etc.)
  - **RESISTANCE TO THERMAL** SHOCKS: hot water, steam (in case of sterilization of the support), 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)

- **RELIABILITY OF IMPLEMENTATION AND USE**

  - **NO EMISSION OF ORGANIC VAPOURS AND SOLVENTS DURING PROCESSING :** during restoration work
  - **WEAR RESISTANCE**: Requirement of Trolley Aisle Floors
  - **ANTI-SLIP POWER:** requirement for walkway floors and pedestrian traffic
  - **FIRE RESISTANCE:** does not spread flame or contribute to combustion.

THE ANSWERS OF SOUPLETHANE 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 for Microbiological Research (IRM) shows that a strain of bacteria (SALMONELLA) in contact with the coating is reduced by 97% after only 15 minutes of contact time, by 99.83% after 24 hours and 99.9999% after 7 days. This property is of great interest for applications of flooring, walls, ceilings, false ceilings, ventilation ducts, silos etc. difficult to access and not subject to daily maintenance.

The absence of porosities, unlike hydraulic or stainless-steel binders for example, prevents the proliferation of bacteria that nestle in the pores, which can be a cause of contamination of food liquids. Examples are known of non-compliance of the quality of drinking water, due to the development of bacteria on the concrete support of drinking water tanks (the case of the city of LUGANO).

- **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 has been tested by the laboratory of the water service of the City of Paris for contact with drinking water and by the IANESCO laboratory in POITIERS for its inertia in contact with food products (oils, alcohols, fruit juices). SOUPLETHANE is free of Bisphenol A.

- **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-

- **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 9×10^{-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 2 to 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 2 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.

- **ANTI-SLIP POWER :**

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

- **FIRE RESISTANCE :**

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

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 WP

Two-component, solvent-free polyurea-urethane resin for waterproofing, corrosion protection (concrete and metal) and internal coatings of pipes, water towers and structures that are intended to contain drinking water

Certificate of Health Compliance issued on 15/10/2021N° 21 MAT NY 104

SOUPLETHANE 5 COR

Solvent-free two-component polyurea-urethane resin that creates a liquid membrane for waterproofing, corrosion protection of gutters or chemical retention.

Can be applied manually (brush, roller) or by casting with a BP single-component airless machine

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

All-purpose primer that can be applied manually (brush, roller) or by spraying with an airless machine. Applicable on wet concrete.

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 aggregate 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 (Finland)
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

. FLOORING
- Manufacturing or bottling workshops
- Clean rooms
- Cold rooms
- Gutters

. RETENTIONS

. CONCRETE TANKS STORING EFFLUENTS

. METAL TANKS STORING LIQUID FOOD

. SILOS

. LOADING DOCKS


FLOORING

Manufacturing or bottling workshops

Flooring

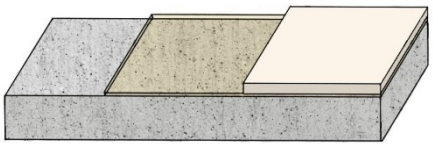
Benefits:
- Prevents bacterial growth (salmonella, listeria)
- Ensures waterproofing (laying cracks larger than 3 mm in opening)
- Resistant to thermal shock – hot water at 90°C in rooms with a temperature of 5°C

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 3 mm thickness of SOUPLETHANE 5

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 liquidComponent 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%	**Electrical conductivity**	$<10^6\Omega$

STEP 5: optional non-slip finish with POUDREC 600 µ and sealing with SOUPLETHANE 5

Clean Rooms

Flooring and walls

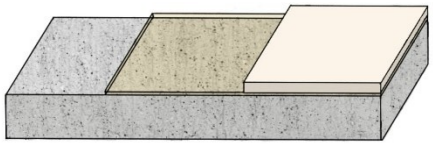
Benefits:
- Decontaminable, dustproof, waterproof floor
- Resistant to chemical and demineralized water attacks
- Bio-based resin: carbon negative

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 resin

- Using a roller or notched comb, install 2 mm of SOUPLETHANE 5 on the floor and 1.5 mm on the walls.

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 A+B mix**	1.3 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	150%	**Fire Rating**	Bfl-S1

Variant with SOUPLETHANE 5 COR FRB with fire classification: B-S2-D0

Cold rooms

Flooring and walls

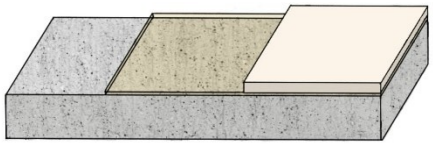
Benefits:
- Floors and walls, dustproof, waterproof, crack-free at low temperatures (including freezers at -30°C)
- Resistant to chemical and demineralized water attacks
- Bio-based resin: carbon negative

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 resin

- Using a roller or notched comb, install 2 mm of SOUPLETHANE 5 on the floor and 1.5 mm on the walls.

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 A+B mix**	1.3 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	150%	**Fire Rating**	Bfl-S1

Gutters

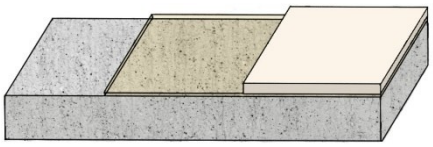
Bottom and Walls

Benefits:
- No development of bacterial contamination and mould
- Chemical resistance (lactic acid, fruit juices, alcohols, acetic acid, etc.)

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
- Base: using a roller or notched comb, apply 3 mm of SOUPLETHANE 5 COR
- Walls: with a roller, installation of 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 A+B mix**	1.1 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	150%		


RETENTIONS

Retentions

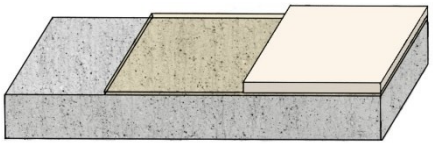
Bottom and Walls

Benefits:
- Chemical resistance (lactic acid, fruit juices, alcohols, acetic acid, etc.)
- 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
- Base: using a roller or notched comb, apply 3 mm of SOUPLETHANE 5 COR
- Walls: with a roller, installation of 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 A+B mix**	1.1 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	150%		

Retentions

Concrete tanks storing effluents

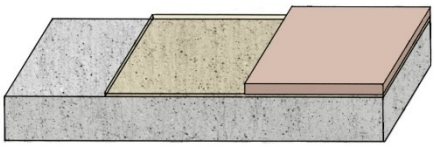
Benefits:
- Highly chemically resistant coating
- Can be applied by HR<95% and -10°C < T°C < 50°C.
- Provides waterproofing in the event of cracking in concrete (up to 3 mm crack opening)

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 A+B mix**	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

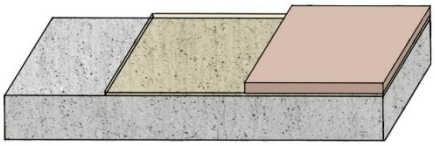
Tanks storing liquid food

Benefits:
- Chemically resistant coating neutralizes bacterial contamination or mold
- Any substrate: concrete, steel, stainless steel
- All liquids: milk, fruit juices, vinegar, alcohols, fermented drinks, beer
- 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 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 WP 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 A+B mix**	1.35 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	150%	**Fire rating**	Bfl-S1

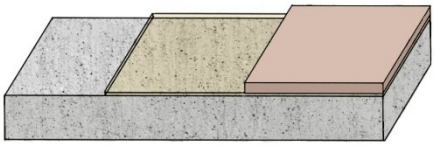
Silos storing food products

Benefits:
- Chemically resistant coating neutralizes bacterial contamination or mold
- Any substrate: concrete, steel, stainless steel
- All foods: flour, wheat, apples, fruits etc...
- 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 WP 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 A+B mix**	1.35 g/ml
Dry extract	100%	**Colour**	On request
Compressive Strength	110 MPa	**Tensile Strength**	18 MPa
Elongation	150%	**Fire rating**	Bfl-S1

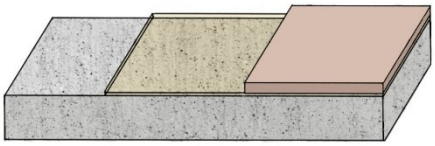
Loading docks

Benefits:
- Mechanically 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)
- 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



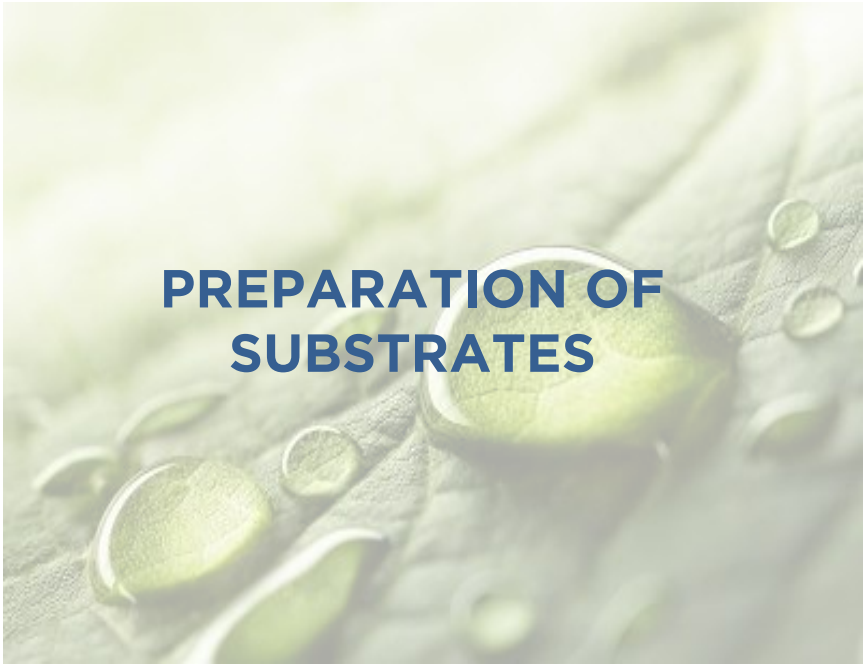
- Laying of the primer
  - Roller application
  - Consumption : approx. 150 g/m²
  - Drying in 1 hour

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

STEP 4: Application of the SOUPLETHANE 5 resin
- With a roller or notched comb, 3 mm of SOUPLETHANE 5
- Anti-slip finish: 0.8/1.2 mm silica and grain sealing with SOUPLETHANE 5
- Total thickness of the system: 5 mm

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 liquidComponent B – isocyanate: transparent amber liquid	**Density @20°C of the A+B mixture according to ISO2811**	1.3 g/ml
Dry extract	100%	**Colour**	On request
Compressive strength	110 MPa	**Tensile strength**	18 MPa
Elongation	150%	**Electrical conductivity**	<106Ω

PREPARATION OF SUPPORTS AND TREATMENT OF SINGULAR POINTS



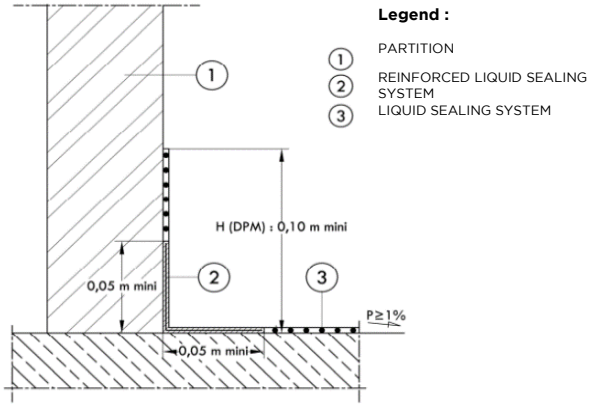
- On new concrete even, smooth, without roughness, poured since 28 days in accordance with DTU21 (France)
    - Shot blasting or grinding, dedusting or acid etching followed by rinsing and drying.

- 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

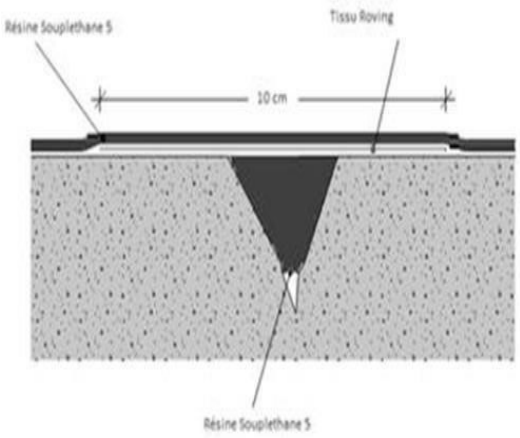


Careful sanding of concrete and dusting with a vacuum cleaner

Note: The minimum height of the stand is 100 mm

- Application of a strip of **KEMTEX** roving fabric (280 gr/m²), 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**

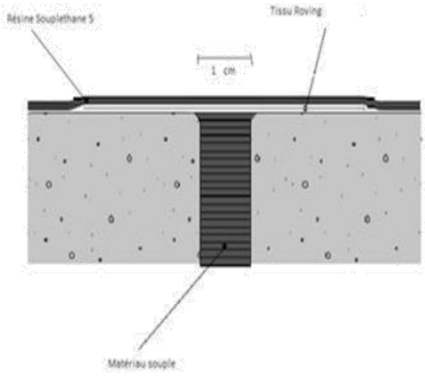
Existing cracks (no difference in level)



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)



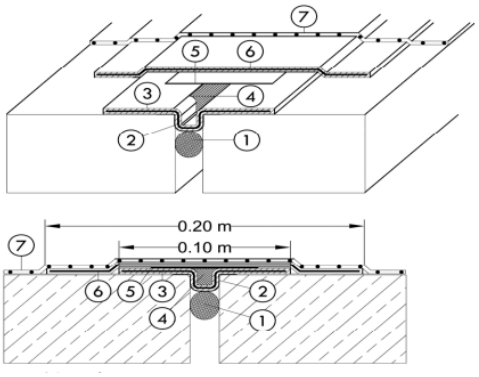
Concrete sanding and careful dusting with a vacuum cleaner

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)



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**.

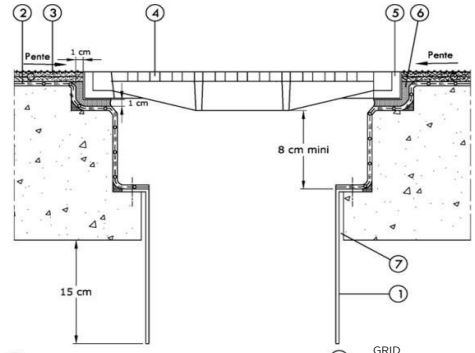
Cover the edges of the PVC tape with the **15 cm wide** KEMTEX ROVING glued with **SOUPLETHANE 5.**

Legend:

1. EXPANDED FOAM ROD
2. ADHESIVE TAPE USED AS FORMWORK
3. REINFORCED LIQUID SEALING SYSTEM
4. SOFT FILLING MATERIAL
5. POSSIBLE DESOLUDARISATION STRIP
6. REINFORCED LIQUID SEALING SYSTEM
7. LIQUID SEALING SYSTEM

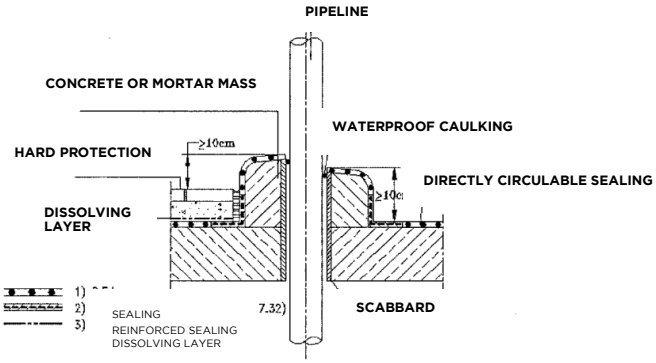
KEMICA COATINGS
Reinventing coatings

Traps

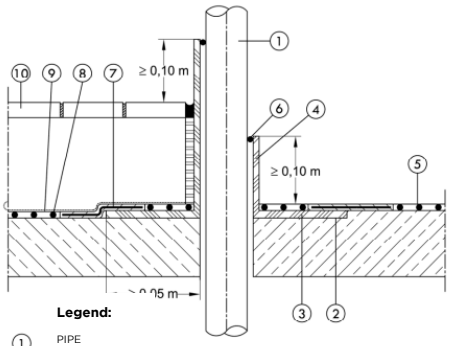


① STUM AND PLATE GLUED THEN MECHANICALLY
② LIQUID SEALING SYSTEM
③ WEARING COAT
④ GRID
⑤ LEGLESS FRAME
⑥ SEALING MORTAR
⑦ CLEARANCE = 0.025 M IN ACCORDANCE WITH DTU 20.12

Pipe passages
(on solid with sheath)



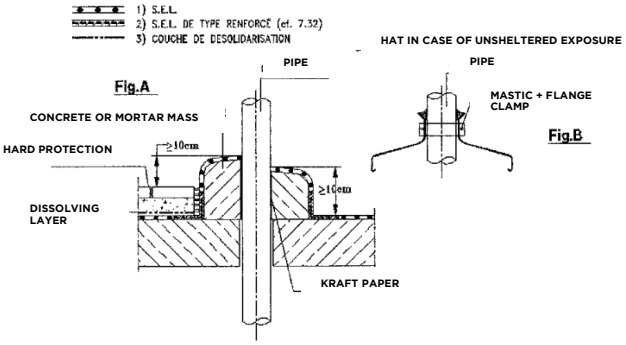
Hose Penetrations
(with Plate and Metal Sleeve)



Legend:

① PIPE
② ENCLOSURE
③ FIXING TO THE GROUND BY GLUING AND MECHANICAL FIXING
④ SOLID PLATE AND METAL SLEEVE
⑤ DIRECTLY CIRCULABLE LIQUID SEALING SYSTEM
⑥ WATERPROOF CAULKING
⑦ REINFORCED LIQUID SEALING SYSTEM
⑧ LIQUID SEALING SYSTEM
⑨ DRAINING
⑩ SEALED TILES

Hose passages
(on solid without sheath)



KEMICA COATINGS

Reinventing coatings

Discover the entire range of SOUPLETHANE solvent-free resins as well as:

- Our innovations and news
- Our qualifications and performance
- Our recommendations and solutions
- Our implementations and application techniques

On our website: www.kemica-coatings.com

Z.A. du Bois Gueslin F-28630 Mignières - France Tel.: +33 (0)2 37 26 33 56
e-mail : info@kemica-coatings.com