



# Solutions for the construction of wooden houses



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 and the new RE 2020 regulations.

## 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**).

## SOUPLETHANE 5 LIQUID SEALING SYSTEM

### 1 liter of oil has a negative CO<sup>2</sup> balance of 14.1 kg

SOUPLETHANE resin is bio-sourced, made from vegetable oils

|                        |                                                         |                                 |
|------------------------|---------------------------------------------------------|---------------------------------|
| Calculation            | 1 liter of oil produces                                 |                                 |
| of CO <sup>2</sup> e : | 3,2 kg of CO <sup>2</sup> e                             |                                 |
|                        | 1 liter of oil sequester in the                         | (34,6 tons/ha for 2 tons of oil |
|                        | ground 17,3 kg de CO <sup>2</sup> e                     | produced)                       |
|                        | 1 liter of oil has a negative CO <sup>2</sup> e balance |                                 |
| Results :              | of 14,1 kg                                              |                                 |

Composition of SOUPLETHANE 5 resin:

Dosage: 3:1 (3 base volumes – polyol to 1 volume hardener – isocyanate)

For 4 liters of resin, the carbon footprint is as follows:

- 1 liter of isocyanate creates 5kg x 1.22 = 7.44kg of CO<sup>2</sup>e
- 1.6 liters of oil sequester 1.6 x 14.1 kg = - 22.84 kg CO<sup>2</sup>e

The carbon footprint is as follows:

4 liters of SOUPLETHANE 5 have a negative carbon footprint of -15.4 kg of CO<sup>2</sup>e, i.e. **-3.8 KG per liter of SOUPLETHANE 5 resin.**

### SOUPLETHANE 5 COR FRB NON FLAMMABLE RESIN

The non-flammable SOUPLETHANE 5 COR FRB RESIN can be used in a wooden house for the following applications, increasing the safety of the inhabitants in the face of a fire:

-Detached house:

- Bulkhead cladding
- Flooring
- Cladding

-Wooden building:

- Bulkhead cladding
- Flooring
- Cladding
- Intermediate floor covering

For roof waterproofing, the SOUPLETHANE 5 resin, under DTA, is classified according to European standards: B ROOF T1 - CSTB report: N° RA 19-004

## **HYGIENE**

SOUPLETHANE 5 resin does not spread bacterial contamination, which disappears quickly WITHOUT the need for cleaning.

The bacteria do not find the nutrients necessary for their development in contact with the coating and disappear.

Tests carried out by the IRM Institute (Institute for Research in Microbiology) have shown that massive contamination of salmonella after only 15 minutes of contact had a significant mortality rate, reducing the initial contamination by 97.13%, which is no longer found.

Further contamination tests with bacteria and mould were carried out by ITECH (strains of contamination found in swimming pools) and the contaminations disappeared naturally WITHOUT the need for cleaning.

These results are not attributable to the toxicity of our resins (such as bactericidal paints), which are also food-grade certified.

## **TERMITE PROTECTION**

The access of termites in a wooden house can be prevented by the TERMIROC process, which is an ecological physical barrier (non-toxic - no termiticide) and whose effectiveness is ensured during the longevity of the house (termiticide lose their effectiveness after 10 to 15 years and protection is then no longer ensured).

The TERMIROC system consists of a TERMIVERRE glass cloth covered with SOUPLETHANE 5 resin.

In the event that the house rests on a concrete slab, the waterproofing of the slab will be carried out by the SOUPLETHANE 5 resin in which the TERMIVERRE fabric is incorporated. It protects against the aggression of termites by the soil.

Flashing readings around the house are also treated with the TERMIROC system to prevent access into the house.

## **SLIP SAFETY**

The risk of slipping is significant in damp rooms and is the main cause of domestic accidents.

2 techniques are proposed to reduce the risk of slipperiness in damp rooms:

- Anti-slip treatment with the POUDREC aggregate sprayed as a finish on the still fresh resin and covering the next day with the SOUPLETHANE 5 resin to seal the grains and facilitate cleaning.
- Electrostatic projection by flocking textile fibers onto the still fresh resin made conductive of electrostatic charges.

This is the SOFTCARPET process, which gives slipperiness with an angle of more than 30° (24° is the maximum angle of the most non-slip tiles used in swimming pools)

Contact with bare feet is soft and comfortable, and soapy water does not affect the slipperiness properties of the SOFTCARPET flooring.

CSTB slip ratio: R2EM – GLI – 12 – 26040386

The SOFTCARPET finish can be applied directly to the SOUPLETHANE 5 flooring resin or the shower tray (which can be made of ceramic).

## Summary

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## REQUIREMENTS IN THE CONSTRUCTION ENVIRONMENT

WOODEN CONSTRUCTION works (buildings, shopping centres, sports centres, high-rise buildings, individual houses) must meet requirements in terms of durability, hygiene and safety while being economical.

The coating techniques chosen must therefore meet these requirements.

The performance criteria of the coatings sought are as follows:

- **DURABILITY:** the ten-year warranty is required, but a lifespan of 30 or 40 years is sought
- **WATERPROOFING:** the structures are subject to the risk of cracking of the wooden supports, and waterproofing must be guaranteed whatever the climatic conditions (winter: negative temperature - 20°C, summer: temperature +50°C)
- **CONTINUOUS AND SEAMLESS COATING** (floors, walls and ceilings)
- **RESISTANCE to UV rays that degrade coatings**
- **COLOR STABILITY**
- **MECHANICAL RESISTANCE to wear, abrasion, shocks etc.**
- **NON-FLAMMABILITY of coatings and insulation for high-rise buildings or single-family homes**
- **CERTIFICATION: HQE A+ (+) (or BREEAM)**
- **NEGATIVE CARBON FOOTPRINT**
- **RELIABILITY OF IMPLEMENTATION AND USE**
  - **NO EMISSION OF ORGANIC VAPOURS AND SOLVENTS DURING PROCESSING**
  - **NON-TOXICITY OF THE COATING**
  - **RESISTANCE TO WEAR**
  - **ANTI-SLIP**
  - **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 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.

It is easy to repair by re-applying a new layer of resin on top of the old one –  
Test CSTB N° CLC -AT-13 – 2604 2113 -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.

- **SEALING :**

In the event of cracking of the WOOD substrate, the **SOUPLETHANE** bridges cracks with an opening of 3 mm without damage thanks to its elasticity.

This is of major interest for several 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).
- Waterproofing a wooden roof

- **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 BISPHEENOL 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+ (+)

- **NON-DEGRADABLE BY UV RAYS:**

**SOUPLETHANE** does not flour under the effect of UV rays and thus retains its mechanical properties for many years. (Epoxy resins lose an average of 0.1 mm/year of thickness in France, and nearly 1 mm/year in countries highly exposed to UV rays)

- **UV COLOR STABILITY :**

The ALPIC finish, a solvent-free aliphatic polyurethane resin, ensures the UV stability of the shade.

- **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 flooring by sprinkling POUDREC powder, 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**

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**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 Assessment**  
**N° AT: 12/15-1704**  
**DTA from CSTB**

### 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.

### 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**

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

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

## **AREAS OF EMPLOYMENT AND TECHNICAL RECOMMENDATIONS**

### **WOODEN BUILDING**

- . TERRACE ROOFS**
- . WATERPROOFING UNDER GARDEN TERRACE**
- . WATERPROOFING OF INTERMEDIATE FLOORS**
- . FLOORING**
- . BULKHEAD COATING**
- . CLADDING COATING**
- . WATERPROOFING OF DAMP ROOMS**
- . WATERPROOFING UNDER THE HOUSE ABOVE THE CRAWL SPACE**



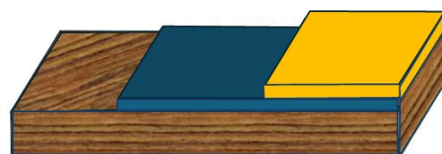
## TERRACE ROOFS

### Benefits:

- Fire rating: Bfl-S1
- Seal-free liquid sealing
- Bio-based resin: carbon negative
- Protects wood from dry rot

**Substrate preparation: direct application to wood without primer**

**Treatment of singular points (cf. page 23)**



### Application of SOUPLETHANE 5 resin

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

| Characteristics of Polyurea-Urethane Resin |                                                                                                      |                                                          |                                 |
|--------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------|
| <b>Chemical nature</b>                     | 2-component polyurea-urethane (aromatic) resin                                                       | <b>Mix Ratio</b>                                         | Comp A / Comp B : 3/1 en volume |
| <b>Composition</b>                         | Component A – polyol : opaque coloured liquid<br>Component B – isocyanate : transparent amber liquid | <b>Density @20°C of mixture A+B according to ISO2811</b> | 1.3 g/ml                        |
| <b>Dry extract</b>                         | 100%                                                                                                 | <b>Colour</b>                                            | On request                      |
| <b>Compressive Strength</b>                | 110 MPa                                                                                              | <b>Tensile Strength</b>                                  | 18 MPa                          |
| <b>Elongation</b>                          | 150%                                                                                                 | <b>Fire Rating :</b>                                     | Bfl-S1                          |

### Finishes

- Optional: Anti-slip by spraying 400 µ or 600 µ POUDREC resin on the resin then a thin layer of ALPIC closure (250 g/m<sup>2</sup>) for UV-stable finish colour - COOL ROOF effect depending on the colour used

## WATERPROOFING UNDER GARDEN TERRACE

### Benefits:

- Chemically resistant over a pH range **of 1 to 13**
- Resistant to roots without protective felt.
- Protects wood from chemical attack from fertilizers.

**Substrate preparation: direct application to wood without primer**

**Treatment of singular points (cf. page 23)**



### Application of SOUPLETHANE 5 resin

- Cracks of more than 3 mm opening

| Characteristics of Polyurea-Urethane Resin |                                                                                                      |                                                          |                                                     |
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| <b>Chemical nature</b>                     | 2-component polyurea-urethane (aromatic) resin                                                       | <b>Mix Ratio</b>                                         | Comp A / Comp B : 3/1 en volume                     |
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| <b>Dry extract</b>                         | 100%                                                                                                 | <b>Colour</b>                                            | On request                                          |
| <b>Compressive Strength</b>                | 110 MPa                                                                                              | <b>Tensile Strength</b>                                  | 18 MPa                                              |
| <b>Elongation</b>                          | 150%                                                                                                 | <b>Waterproofing</b>                                     | Cracks of more than 3 mm opening<br>Root resistance |

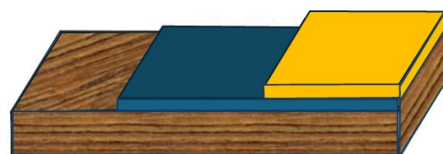
## WATERPROOFING OF INTERMEDIATE FLOORS

### Benefits:

- Directly accessible
- Provides waterproofing in the event of cracking of the wood (up to 3 mm crack opening)
- Easily repairable
- Protects wood from dry rot

**Preparation of the substrate: direct application to the wood (cf. page 23)**

### Singular Point Treatment



### Application of SOUPLETHANE 5 resin

- FLOOR: with a roller or notched comb, 2 mm of SOUPLETHANE 5  
3 mm crack spanning and sealing with a layer of SOUPLETHANE 5 resin.

| Characteristics of Polyurea-Urethane Resin |                                                                                                      |                                                          |                                 |
|--------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------|
| <b>Chemical nature</b>                     | 2-component polyurea-urethane (aromatic) resin                                                       | <b>Mix Ratio</b>                                         | Comp A / Comp B : 3/1 en volume |
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| <b>Dry extract</b>                         | 100%                                                                                                 | <b>Colour</b>                                            | On request                      |
| <b>Compressive Strength</b>                | 110 MPa                                                                                              | <b>Tensile Strength</b>                                  | 18 MPa                          |
| <b>Elongation</b>                          | 150%                                                                                                 | <b>Waterproofing</b>                                     | Bridging 3 mm cracks            |

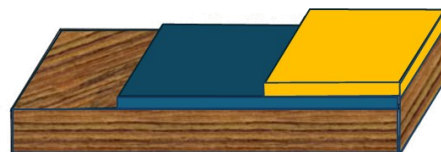
## FLOORING

### Benefits:

- Strong adhesion to WOOD
- Provides waterproofing in the event of cracking of the wood (up to 3 mm crack opening)
- Odorless
- Protects wood from dry rot

**Preparation of the substrate: direct application to the wood (cf. page 23)**

### Singular Point Treatment



### Application of SOUPLETHANE 5 resin

- FLOOR: with a roller or notched comb, 2 mm of SOUPLETHANE 5  
Optional anti-slip finish – Projection on liquid film from POUDREC – 600 µ and sealing with a layer of SOUPLETHANE 5 resin.

Aesthetic finish: ALPIC resin – thickness 350g/m<sup>2</sup>

Quartz color finish with ASPIC CLEAR transparent sealing coat

| Characteristics of Polyurea-Urethane Resin |                                                                                                      |                                                          |                                 |
|--------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------|
| <b>Chemical nature</b>                     | 2-component polyurea-urethane (aromatic) resin                                                       | <b>Mix Ratio</b>                                         | Comp A / Comp B : 3/1 en volume |
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| <b>Dry extract</b>                         | 100%                                                                                                 | <b>Colour</b>                                            | On request                      |
| <b>Compressive Strength</b>                | 110 MPa                                                                                              | <b>Tensile Strength</b>                                  | 18 MPa                          |
| <b>Elongation</b>                          | 150%                                                                                                 | <b>Waterproofing</b>                                     | Bridging 3 mm cracks            |

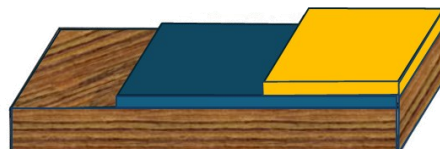
## PARTITION COVERING

### Benefits:

- Aesthetic coating
- Easily washable non-porous coating

**Preparation of the substrate : direct application to the wood (cf. page 23)**

### Singular Point Treatment



### Application of SOUPLETHANE 5 resin

- Partition: with a roller or notched comb, 2 mm of SOUPLETHANE 5
- Possible aesthetic finishes:

- . Projection of decorative glitter and covering with ASPIC CLEAR transparent film
- . Quartz color spraying, clipping and coating with ASPIC CLEAR transparent film

Bfl-S1

- . Electrostatic projection of textile fibers (SOFTCARPET process) – velvet appearance

| Characteristics of Polyurea-Urethane Resin |                                                                                                      |                                                          |                                 |
|--------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------|
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| <b>Compressive Strength</b>                | 110 MPa                                                                                              | <b>Tensile Strength</b>                                  | 18 MPa                          |
| <b>Elongation</b>                          | 150%                                                                                                 | <b>Fire Rating :</b>                                     | Bfl-S1                          |

## CLADDING

### Benefits:

- Aesthetic coating
- Non-porous coating that is insensitive to moisture
- UV stable color
- Protects wood from dry rot

**Preparation of the substrate: direct application to the wood (cf. page 23)**

### Application of SOUPLETHANE 5 resin

- Epaisseur 800  $\mu$  (1 kg/m<sup>2</sup>)



### Application of ALPIC resin

- Aesthetic finish: 350 g/m<sup>2</sup> - UV-stable solvent-free two-component resin

| Characteristics of Polyurea-Urethane Resin |                                                                                                      |                                                          |                                 |
|--------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------|
| <b>Chemical nature</b>                     | 2-component polyurea-urethane (aromatic) resin                                                       | <b>Mix Ratio</b>                                         | Comp A / Comp B : 3/1 en volume |
| <b>Composition</b>                         | Component A – polyol : opaque coloured liquid<br>Component B – isocyanate : transparent amber liquid | <b>Density @20°C of mixture A+B according to ISO2811</b> | 1.3 g/ml                        |
| <b>Dry extract</b>                         | 100%                                                                                                 | <b>Colour</b>                                            | On request                      |
| <b>Compressive Strength</b>                | 110 MPa                                                                                              | <b>Tensile Strength</b>                                  | 18 MPa                          |
| <b>Elongation</b>                          | 150%                                                                                                 | <b>Fire Rating :</b>                                     | Bfl-S1                          |

## WATERPROOFING OF DAMP ROOMS

### Benefits:

- Hot liquid and hydrolysis resistant coating
- Possible application by  $RH < 95\%$  and  $-10^{\circ}\text{C} < T^{\circ}\text{C} < 50^{\circ}\text{C}$
- Ensures waterproofing in case of cracking of the SUPPORT (up to 3 mm crack opening)
- Protects wood from dry rot

### Preparation of the substrate: direct application to wood or Fermacel

#### Singular Point Treatment

#### Application of SOUPLETHANE 5 resin



- WALLS: application of SOUPLETHANE 5 resin in a thickness of 1.5 mm

#### Options:

Quartz color finish - Quartz projection, clipping, application of a transparent film ASPIC CLEAR

ALPIC finish - UV-stable colour

- FLOOR: with a roller or notched comb, 2 mm of SOUPLETHANE 5  
Optional non-slip finish:
  - Projection on liquid film of POUDREC - 600  $\mu$  and sealing with a layer of SOUPLETHANE 5 resin
  - Projection by flocking of 1 mm or 2 mm textile fibers

### 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<br>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                          |

## VAPOUR BARRIER WATERPROOFING ON THE UNDERSIDE OF THE HOUSE

### Benefits:

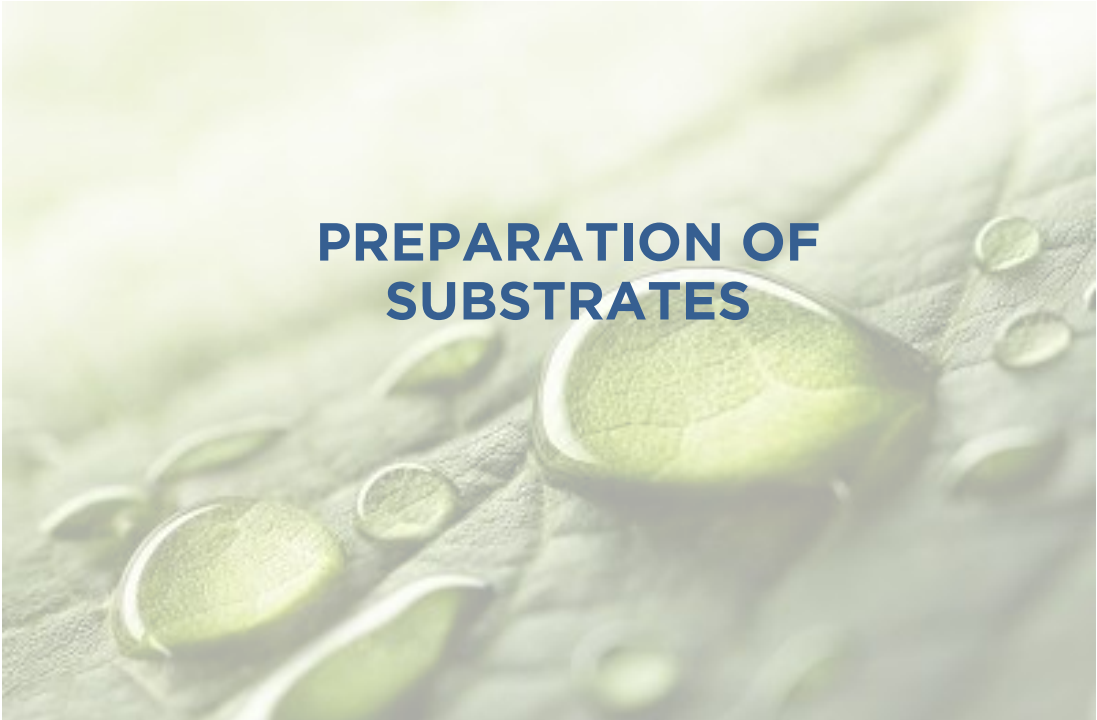
- Waterproof and vapour-proof coating
- Wood protection above crawl space
- Prevents the development of mold and fungi.
- Protects wood from dry rot

**Preparation of the substrate: direct application to the wood (cf. page 23)**

### Application of SOUPLETHANE 5 resin

- Using a roller or notched comb, apply 1 mm of SOUPLETHANE 5

| Characteristics of Polyurea-Urethane Resin |                                                                                                      |                                                          |                                 |
|--------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------|
| <b>Chemical nature</b>                     | 2-component polyurea-urethane (aromatic) resin                                                       | <b>Mix Ratio</b>                                         | Comp A / Comp B : 3/1 en volume |
| <b>Composition</b>                         | Component A – polyol : opaque coloured liquid<br>Component B – isocyanate : transparent amber liquid | <b>Density @20°C of mixture A+B according to ISO2811</b> | 1.3 g/ml                        |
| <b>Dry extract</b>                         | 100%                                                                                                 | <b>Colour</b>                                            | On request                      |
| <b>Compressive Strength</b>                | 110 MPa                                                                                              | <b>Tensile Strength</b>                                  | 18 MPa                          |
| <b>Elongation</b>                          | 150%                                                                                                 | <b>Fire Rating :</b>                                     | Bfl-S1                          |



## PREPARATION OF SUBSTRATES

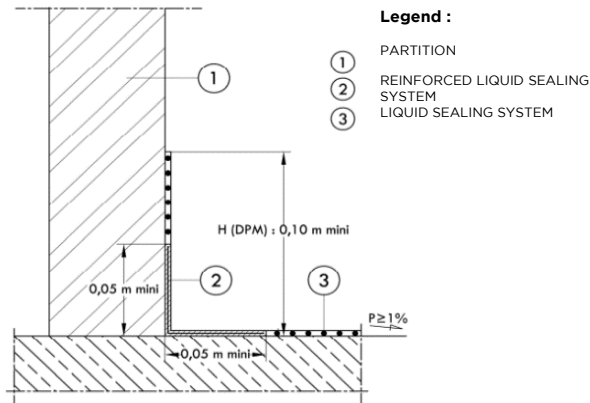
The wooden support will be flat and dry.

To restore the flatness of the wooden support, the wood will be sanded with a belt sander and dusted.

## **TREATMENT OF SINGULAR POINTS**



## Upstands

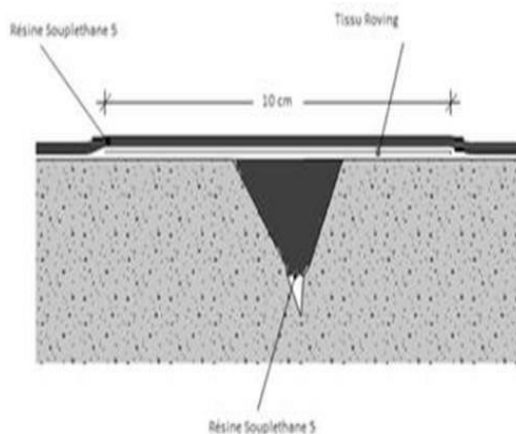


Careful sanding of concrete and dusting with a vacuum cleaner

*Note: The minimum height of the stand is 100 mm*

- Application of a strip of **KEMTEX** roving fabric (280 gr/m<sup>2</sup>), 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**

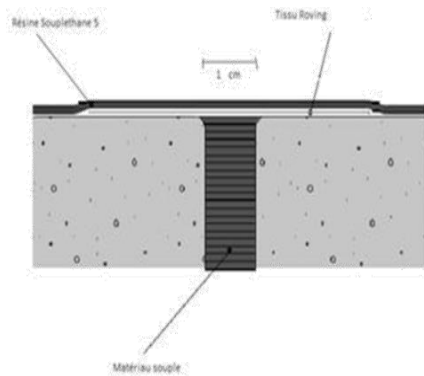
## Existing cracks (no difference in level)



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)



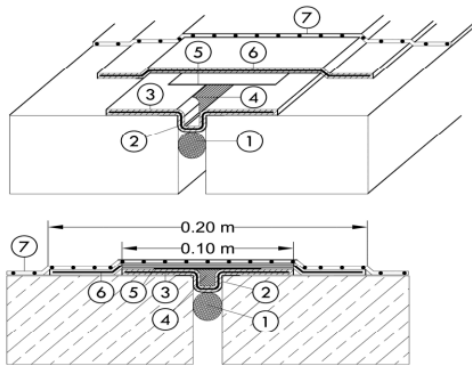
Concrete sanding and careful dusting with a vacuum cleaner

*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 bonded 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.

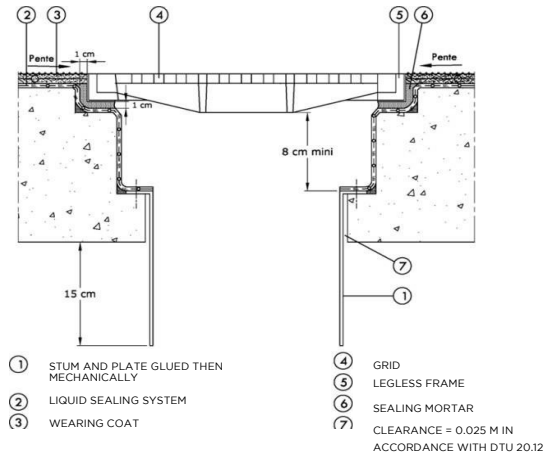
Fill the cavity with **SOUPLETHANE 5 COR PUTTY**.

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

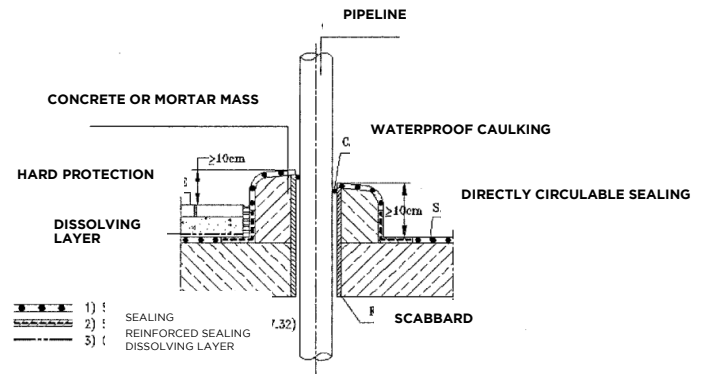
#### Legend:

- 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

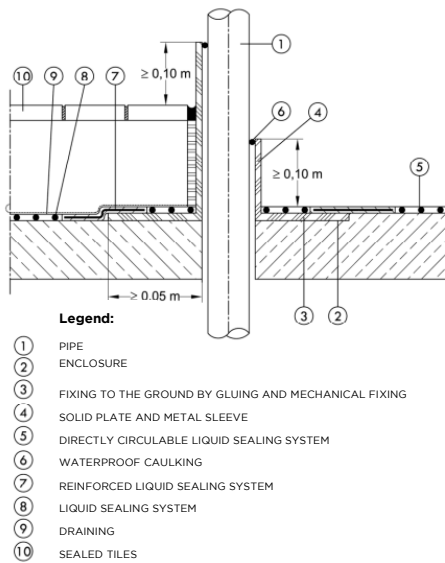
## Traps



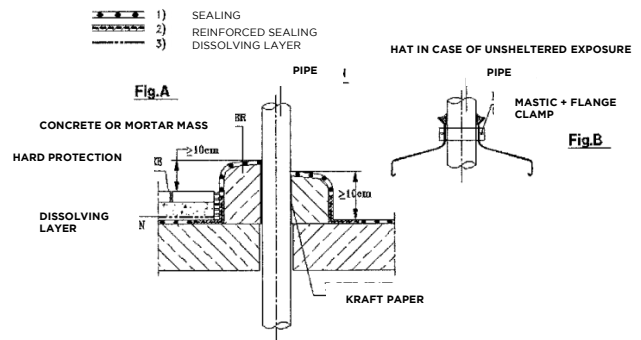
## Pipe passages (on solid with sheath)



## Hose Penetrations (with Plate and Metal Sleeve)



## Hose passages (on solid without sheath)





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