

## PERMOHONAN PERSETUJUAN MATERIAL

Aplikasi Waterproofing Consol PVC Membrane

|                   |                                                                   |
|-------------------|-------------------------------------------------------------------|
| Nama Proyek       | : : Epoxy Flooring & Waterproofing PVC Membrane Skuadron Udara 04 |
| Nomor SPK         | : 004/PO/MMK/IV/2026                                              |
| Lokasi Pekerjaan  | : Lanud Abdul Rachman Saleh Malang                                |
| Item Pekerjaan    | : Aplikasi Waterproofing Consol PVC Membrane                      |
| Tanggal Pengajuan | : 21 Juli 2026                                                    |
| Diajukan Oleh     | : Ramdhani Amrullah                                               |

### 1. MATERIAL YANG DIAJUKAN

#### 1.1.

|             |                                                                                                                                                     |                                                                                       |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Nama Produk | : Consol PVC Membrane                                                                                                                               |  |
| Packaging   | : 2 x 20 m, 1.5 mm / Roll                                                                                                                           |                                                                                       |
| Keterangan  | : Consol PVC Membrane berfungsi sebagai perlindungan kedap air yang optimal, memiliki fleksibilitas tinggi, serta tahan terhadap cuaca dan penuaan. |                                                                                       |

#### 1.2.

|             |                                                                                                                                                                                                     |                                                                                       |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Nama Produk | : Consol 71 Fc                                                                                                                                                                                      |  |
| Packaging   | : 6 kg / set                                                                                                                                                                                        |                                                                                       |
| Keterangan  | : Consol 71 FC digunakan sebagai epoxy seal pada detail termination PVC membrane untuk menutup celah antara membrane dan dinding parapet sehingga mencegah masuknya air dari bagian atas sambungan. |                                                                                       |

**2. LEMBAR PERSETUJUAN**

| Diajukan Oleh                                                                                            | Diperiksa Oleh | Disetujui Oleh |
|----------------------------------------------------------------------------------------------------------|----------------|----------------|
| <br>(Ramdhani Amrullah) | ( )            | ( )            |
| Tanggal: _____                                                                                           | Tanggal: _____ | Tanggal: _____ |



# CONSOL PVC MEMBRANE

## WATERPROOFING

PVC Root Penetration and UV Resistant Waterproofing Membrane

### DESCRIPTION

**CONSOL PVC MEMBRANE WATERPROOFING** is a type of new high macromolecular waterproofing membrane by adding plasticizer, filler, antioxidant, ultraviolet light absorber and other auxiliaries with polyvinyl chloride resin as raw material. Cold-adhesive and hot-welding is both available when attending to the joint of membrane.

### RECOMMENDED FOR

- Green roofs such as industrial and civil buildings
- Public building
- Garage roof
- Subway station rooms
- Comprehensive pipe corridors
- and other buildings

### BENEFITS

- UV resistant polyester scrim reinforced membrane with lacquer
- High tensile strength, large ductility, strong applicability for contraction or deformation of the substrate
- Large width of material, high construction efficiency, small product consumption
- Good diffusion of water vapour, easy discharge of condensate, easy discharge of moisture left in the substrate
- High tensile strength and excellent mechanical properties
- Root penetration resistance, chemical corrosion resistance and aging resistance
- Good flexibility at low temperature even at -30 °C and heat resistance
- Suitable for mechanically fastened exposed roof system
- No liquid flow at high temperature
- Cold construction and good safety performance

### PRODUCT DATA

Type

Polyester reinforce

Colour

White, Grey

Packaging

Roll (2m x 20 m), 1.2 mm thickness

Roll (2m x 20 m), 1.5 mm thickness

### TECHNICAL DATA

**Tensile Performance**

**Maximum Tension**

≥ 250 N/cm

**Tensile Strength**

≥ 10 Mpa

**Elongation Rate at Maximum Strength**

≥ 15%

**Size Change Rate due to Thermal Treatment**

≥ 0.5%

**Low Temperature Bending Performance**

No crack at -25 °C

**Peeling Strength of Joints**

≥ 3.0 N/mm

**Thermal Aging Treatment**

**Retention Rate at Maximum Tension**

≥ 85%

**Elongation Retention Rate at Maximum Tension**

≥ 80%

**Low Temperature Bending Performance**

No crack at -20 °C



## Chemical Resistance

### Retention Rate at Maximum Tension

≥ 85 %

### Elongation Retention Rate at Maximum Tension

≥ 80%

### Low Temperature Bending Performance

No crack at -20 °C

## Artificial Weathering

### Time

≥ 1500 h

### Retention Rate at Maximum Tension

≥ 85 %

### Elongation Retention Rate at Maximum Tension

≥ 80%

### Low Temperature Bending Performance

No crack at -20 °C

## HANDLING PRECAUTIONS

Widely used for waterproof and anti-seepage, caverns, tunnels, subway, bridge, water conservancy dam basement, landfills, sewage treatment pool, municipal construction.



# CONSOL 71 FC

## 2-Part Thixotropic Multipurpose Epoxy Adhesive (Fast Curing)

### DESCRIPTION

**CONSOL 71 FC** is a moisture tolerant, thixotropic, structural two parts adhesive and repair mortar. Based on a combination of epoxy resins and special fillers.

### RECOMMENDED FOR

**CONSOL 71 FC** may only be used by experienced professionals. As a structural adhesive and mortar for:

- Concrete element
- Polyester, Epoxy
- Mortar, bricks, masonry
- Ceramics, fiber cement
- Hard natural stone
- Steel, iron
- Wood

### As a repair mortar and adhesive:

- Corners and edges
- Holes and void filling
- Vertical and overhead use
- Joint filling and crack sealing
- Joint and crack arris/edge repair

### BENEFITS

**CONSOL 71 FC** provides the following properties of benefit such as:

- Easy to mix and apply
- Suitable for dry and damp concrete surface
- Thixotropic: non-sag in vertical and overhead applications
- Good adhesion to most construction materials
- Abrasion resistant
- No primer needed
- Chemical resistant
- Impermeable to liquids and water vapour
- Hardens without shrinkage
- Different colored component
- Sea water resist

### PRODUCT DATA

#### Form

Epoxy Resin

### Appearance

Part A: White

Part B: Dark grey

Mixed of A+B: Concrete Grey

### Density

1.7 ± 0.1 kg/L (part A+B mixed) (at +25 °C) (evacuated)

### Packaging

Part A : 4 kg

Part B : 2 kg

6 Kg (A+B) Pre-Batched unit

### Storage

Dry, shaded place. Protect from direct sunlight and frost. Store in dry condition at temperatures between +5 °C and +30 °C.

### Shelf Life

**CONSOL 71 FC** can be stored for 12 months if stored as recommend in original unopened container.

### TECHNICAL DATA

#### Compressive Strength

ASTM D 695

| Curing Temperatures |                        |                        |
|---------------------|------------------------|------------------------|
| Curing Time         | +10°C                  | +25°C                  |
| 4 Hours             | ~ 20 N/mm <sup>2</sup> | ~ 25 N/mm <sup>2</sup> |
| 1 Days              | ~ 45 N/mm <sup>2</sup> | ~ 50 N/mm <sup>2</sup> |
| 3 days              | ~ 50 N/mm <sup>2</sup> | ~ 55 N/mm <sup>2</sup> |
| 7 days              | ~ 55 N/mm <sup>2</sup> | ~ 60 N/mm <sup>2</sup> |

#### Modulus of Elasticity in Compression

##### Compressive

>4600 N/mm<sup>2</sup> (14 days at 25 °C)

ASTM D 695

##### Flexural

>5000 N/mm<sup>2</sup> (14 days at 25 °C)

EN 53452



## Tensile Strength in Flexural

DIN EN 53452

| Curing Temperatures |                        |                        |
|---------------------|------------------------|------------------------|
| Curing Time         | +10 °C                 | +25 °C                 |
| 4 Hours             | ~ 15 N/mm <sup>2</sup> | ~ 20 N/mm <sup>2</sup> |
| 1 days              | ~ 25 N/mm <sup>2</sup> | ~ 30 N/mm <sup>2</sup> |
| 3 days              | ~ 30 N/mm <sup>2</sup> | ~ 35 N/mm <sup>2</sup> |
| 7 days              | ~ 35 N/mm <sup>2</sup> | ~ 40 N/mm <sup>2</sup> |

## Tensile Adhesion Strength

≥2 N/mm<sup>2</sup>

(CONCRETE FAILURE)

## APPLICATION INFORMATION

### Mixing Ratio

Part A : Part B = 2 : 1 by weight or volume

### Consumption

The consumption of **CONSOL 71 FC** is ~ 1.7 kg/m<sup>2</sup> per mm of thickness

### Layer Thickness

15 mm max.

When using multiple units, one after the other. Do not mix the following unit until the previous one has been used in order to avoid a reduction handling time.

### Sag Flow

On vertical surfaces it is non-sag up to 7 mm thickness.

### Ambient Air temperature

+10 °C min / +40 °C max

### Dew Point

Beware of condensation.

Substrate temperature during application must be at least 3°C above dew point.

### Substrate Temperature

+10 °C min / +40 °C max

### Substrate Moisture Content

When applied to mat moisture concrete, brush the adhesive well into substrate.

### Pot Life

+10 °C : ~20 minutes

+25 °C : ~15 minutes

+35 °C : ~10 minutes

## APPLICATION INSTRUCTION

### Substrate Quality

Mortar and concrete must be older than 28 days (depends on minimal requirement of strengths).

Verify the substrate strength (concrete, masonry, natural stone).

The substrate surface (all types) must be clean, dry and free from contaminants such as dirt, oil, grease, existing surface treatments and coatings etc. Steel substrate must be de-rusted similar to 2.5.

The substrate must be sound and all loose particles must be removed.

### Substrate Quality

Concrete, mortar, stone, and bricks:

Substrate must be sound, dry, clean, and free from laitance, ice, standing water, grease, oils, old surface treatments or coatings and all loose or friable particles must be removed to achieve laitance and contaminant free, open textured surface.

Steel:

Must be cleaned and prepared thoroughly to an acceptable quality i.e. by blast cleaning and vacuum. Avoid dew point conditions.

### Mixing

Pre-Batched units:

Mix part A+B together for at least 3 minutes with a mixing spindle attached to a slow speed electric drill (max.300 rpm) until the material becomes smooth and a uniform grey color. Avoid aeration while mixing. Then, pour the whole mix into a clean container and stir again for approx. 1 more minute at low speed to keep air entrapment at a minimum. Mix only that quantity which can be used within this pot life.

### Application

When using a thin layer adhesive, apply the mixed adhesive to the prepared surface with a spatula, trowel, notched trowel, (or with hands protected by gloves).

When using for bonding metal profiles onto vertical surface, support and press uniformly using props for at least 12 hours, depending on the thickness applied (not more than 5 mm) and the room temperature. Once hardened check the adhesion by tapping with a hammer.

### Cleaning tools

Clean all tools and application equipment with general cleaner after use. Hardened/cured material can only be mechanically removed.