

ISOMAT PUA 1240

Two-component, hot spray-applied, hybrid polyurea waterproofing membrane

Description

ISOMAT PUA 1240 is a two-component, solvent-free, highly reactive, fast-curing hybrid polyurea for spraying application.

ISOMAT PUA 1240 is a 100% solids waterproofing membrane obtained from the reaction of an aromatic, isocyanate prepolymer with a blend of amine-polyol resin. Thanks to its special composition, the reaction takes place within seconds and the final product delivers excellent mechanical and chemical resistance to any kind of substrate.

It is applied with a special high pressure and temperature spray gun, offering the following advantages:

- Forms a jointless and seamless monolithic surface.
- Excellent physical-mechanical properties: ultimate tensile stress, crack-bridging ability, abrasion resistance, high elasticity etc.
- Very quick reaction; gel time in seconds.
- The waterproofed area can be returned to service immediately. Pedestrian use may begin within minutes after application.
- 100% solids, “no VOC” and odorless or nearly odorless.
- Thanks to its fast-curing time, it may be safely applied on vertical surfaces, too.
- Adheres well to almost any substrate.

Fields of application

ISOMAT PUA 1240 is used in a large number of waterproofing applications, especially when high mechanical and chemical resistance and fast completion of works are required.

ISOMAT PUA 1240 is ideal for waterproofing:

- roofs, balconies and terraces,
- inverted and green roofs,
- metal roofs,
- metal or concrete bridges,
- stadiums and arenas.

Technical data

1. Properties of components (at +23°C)

Form:

Component A: Liquid

Component B: Liquid

Color:

Component A: Yellowish

Component B: White/Grey

Density:

Component A: 1.11 kg/l

Component B: 1.03 kg/l

(DIN EN ISO 2811-1)

Viscosity:

Component A: 1,000 mPa·s

Component B: 1,000 mPa·s

2. Application process

Mixing ratio: 1:1 per volume

1:0.95 per weight

Application

temperature: from +5°C to +40°C

Layer thickness: 2 mm (min)

3. Membrane features (2 mm thickness)

Chemical base:

Component A: Isocyanate prepolymer

Component B: Polyol/Polyamine resin

VOC content: 0%

Solids content: 100%

Colors: Grey and selected colors upon order

Service

temperature: from -40°C to +80°C

Tensile strength: 13 ± 1 N/mm²
(ISO 37)

Elongation at break: 350 ± 50%
(ISO 37)

Hardness according to

SHORE A: ≥ 85

(EN ISO 868)

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Hardness according to

SHORE D: ≥ 30
(EN ISO 868)

Abrasion resistance: < 300 mg
(H22/1000/1000) (EN ISO 5470-1, loss in weight < 3000 mg with an H22 abrasive disk/1000 cycles/1000 g load)

Tear resistance: 75 ± 3 N/mm
(ISO 34-1)

Capillary water absorption: $w = 0.01$ kg/m²h^{0.5}
(EN 1062-3, requirement EN 1504-2: $w < 0.1$)

CO₂ permeability: $S_d > 200$ m
(EN 1062-6)

Vapor permeability: $S_d = 2$ m
(EN ISO 7783-2, vapor-permeable Class I, $S_d < 5$ m)

Adhesion strength: > 2.5 N/mm²
(EN 1542, requirement for flexible systems with no traffic: 0.8 N/mm²)

Crack-bridging ability:
(EN 1062-7)

Static: > 2.5 mm class A₅
Dynamic: class B_{4.2}

Reaction to fire: Class F
(EN 13501-1)

4. Curing times (at +23°C)

Gel time: 15 s

Tack-free time: < 60 s

Overcoat time:

Minimum: fresh on fresh

Maximum: 24 h

Walkability: 15-20 min

Mechanical load: 24 h

Directions for use

1. Substrate preparation

Polyurea may be applied on most substrates using a suitable primer, following appropriate preparation.

The substrate must be resistant, dry (moisture content $< 4\%$) and free from loose material, dust, oil, pollutants etc.

1.1. Concrete surfaces

Cavities in the concrete must be filled with proper repairing materials.

Deep cracks on the substrate must be sealed with one of the polyurethane mastic sealants FLEX-PU 20/30 S/40/50 S.

After the surface is properly prepared, it is primed with the one-component polyurethane primer PRIMER-PU 100 (or the two-component polyurethane PRIMER-PU 140 if humidity is between 4% and 6%).

The primer should be applied continuously on the entire surface using a brush, roller or spray gun at a consumption of approx. 200 g/m². ISOMAT PUA 1240 may be applied 2-3 hours after the application of the polyurethane primer and while the surface is still tacky. In any case, the waiting time after the application of the primer should not exceed 24 hours.

Alternatively, apply the epoxy primer DUOPRIMER-PSF (two-component, solvent-free) using a brush or roller in one layer at a consumption of 200-300 g/m².

After applying the DUOPRIMER-PSF and while this is still fresh, quartz sand (\varnothing 0.3-0.8 mm) must be broadcast. The quartz sand must be completely dry.

Once the primer has cured, remove any residual quartz sand grains using a high suction vacuum cleaner.

The membrane must be applied within 24 hours from the primer application.

1.2. Smooth – Non-absorbent surfaces

Smooth and non-absorbent surfaces, as well as surfaces of bituminous membranes or old waterproofing layers, after being cleaned of residue, loose material and anything that might affect adhesion, are primed with the two-component, water-soluble, epoxy primer EPOXYPRIMER-500. The primer is diluted up to 30% with water at a consumption of 150-200 g/m² and continuously applied on the entire surface using a roller, brush or spray gun.

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ISOMAT PUA 1240 may be applied within 24-48 hours from priming and as long as the moisture content of the primer falls at < 4%.

1.3. Metal surfaces

The substrate is prepared by brushing, rubbing, sandblasting etc. and it is then thoroughly cleaned using an industrial vacuum cleaner in order for the surface to be dry, stable and free from materials that may prevent adhesion, such as dust, loose material, oil, rust or corrosion of any type.

Then, the two-component, anti-rust epoxy primer EPOXYCOAT-AC is applied by brush, roller or spray in two layers. The second layer may be applied as soon as the first one has dried.

ISOMAT PUA 1240 is applied within 24 hours from priming.

2. Application – Consumption

Components A and B are packaged in separate containers.

Polyurea membrane is applied using a special high pressure and temperature spray gun. The application temperature of the two components has to be approximately 65°C and pressure must be set between 160-180 bar.

ISOMAT PUA 1240 is sprayed after the primer has dried (depending on the temperature and humidity conditions as well as the selected primer).

Consumption: approx. 1.0 kg/m²/mm, depending on the substrate.

Packaging

Set of metal drums: (A+B) 400 kg.

Shelf life – Storage

12 months from production date if stored in original, unopened packaging at temperatures between +5°C and +25°C. Protect from direct sunlight and frost.


Remarks

- Substrate temperature must be at least 3°C above the dew point in order to avoid the risk of vapor condensation.
- In order to preserve product quality, it is important that polymeric MDI products be stored and handled correctly. The viscosity of component A (isocyanate), is temperature-dependent. Exposure to temperatures below 5°C during transport or storage, can cause increase of the viscosity or even crystallization (in case of extremely low temperatures), depending on the time of the exposure and the minimum temperature at which the material was exposed. The process is reversible (by storing the material at room temperature and waiting for the viscosity to return to normal before application) and does not affect the properties and performance of the material.
- The applied membrane is sensitive to UV radiation, so discoloration is possible during exposure. In that case, in order to ensure that the properties of ISOMAT PUA 1240 are preserved, it is recommended to protect the final surface with the one-component, aliphatic, elastic, polyurethane coat TOPCOAT PU 720. TOPCOAT is applied by brush, roller or spray within 24 hours from the application of polyurea.

Volatile Organic Compounds (VOCs)

According to Directive 2004/42/CE (Annex II, table A), the maximum allowed VOC content for the product subcategory j, type SB is 500 g/l (2010) for the ready-to-use product. The ready-to-use product ISOMAT PUA 1240 contains a maximum of 0 g/l VOC.

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 2032
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2032-CPR-10.11D DoP No.: ISOMAT PUA 1240 / 1855-01 EN 1504-2 Surface protection products Coating Permeability to CO ₂ : Sd > 50 m Water vapor permeability: Class I (permeable) Capillary absorption: w < 0.1 kg/m ² ·h ^{0.5} Adhesion: ≥ 0.8 N/mm ² Reaction to fire: Euroclass F Dangerous substances comply with 5.3

ISOMAT S.A.

BUILDING CHEMICALS AND MORTARS

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