

Neodur® FT Clear

Transparent, fast-drying, brushable elastic aliphatic polyurea varnish



Description

Transparent, fast-drying, brushable elastic aliphatic polyurea varnish, ideal for the waterproofing and protection of roofs and balconies, which are covered with tiles

Fields of application

On top of ceramic tiles in balconies and roofs

The surfaces require appropriate preparation and priming prior to the application of Neodur® FT Clear.



Properties – Advantages

- Forms a transparent film with impeccable water uptake resistance (zero absorption)
- Highly resistant to UV radiation and yellowing
- Very high resistance to abrasion and mechanical stress
- Blister-free final surface
- Fast-drying (dry to recoat in 5 hours)
- Retains and enhances the aesthetic result of the tiles

Packing

Sets (A+B) of 8kg and 2kg

Appearance (cured)

Transparent

Certificates – Test reports

- CE Certification acc. to EN 1504-2
Certificate of Conformity No. 1922-CPR-0386
- Test report by the external independent quality control laboratory Geoterra (No. 2019/300 & 2020/190_7)
- Complies with the V.O.C. content requirements acc. to the E.U. Directive 2004/42/CE

Technical characteristics

Mixing ratio A:B (w/w)	1:1
Density (EN ISO 2811-1)	1,01kg/L (±0,05)
Gloss (60°)	>98
Elongation at break (ASTM D412)	200% (±30)
Tensile strength at break (ASTM D412)	22MPa (±1)
Adhesion strength (EN 1542)	>2,5N/mm ²
Abrasion resistance (Taber Test, CS 10/1000/1000, ASTM D4060)	80mg
Hardness Shore A (ASTM D2240)	69
Hardness Shore D (ASTM D2240)	25
Skid resistance (EN 13036-4, wet surface, with 2,5% w/w addition of Neotex® Antiskid M)	27 (PTV – slider 55)
Liquid water permeability (EN 1062-3)	<0,1kg/m ² h ^{0,5}
Permeability to CO ₂ – Diffusion-equivalent air-layer thickness Sd (EN 1062-6)	>50m
Water vapour permeability – Diffusion-equivalent air-layer thickness Sd (EN ISO 7783)	3,8m (Class I – permeable)
Service temperature	-35°C min. / +60°C max.
Consumption: 700g/m² for two layers	

Application conditions

Substrate moisture content	<4%
Relative air humidity (RH)	<80%
Application temperature (ambient - substrate)	+5°C min. / +35°C max.

Curing details

Pot life (+25°C, RH 50%)	30 minutes
Dry to recoat (+25°C, RH 50%)	5 hours
Full hardening	~ 7 days

** Low temperatures and low humidity during application and/or curing prolong the above times, while high temperatures and high humidity reduce them*

Appropriate adhesion promoters - primers on usual substrates

Substrate	Primer	Description - Details
Ceramic tiles	Neosil® Bond (mandatory)	Adhesion promoter for coating systems on inorganic surfaces, ceramic tiles, glass etc.



	Neodur® Polyurea M	Two-component, transparent fast-drying aliphatic polyurea resin, also ideal for use as a fast-drying primer (diluted with Neotex® PU 0413)
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Instructions for use

Substrate preparation

Ceramic tiles

The surface must be clean, dry (substrate moisture <4%), protected from rising moisture and free of dust, oil, grease, dirt and loose materials. In case of glossy tiles, it is recommended to mechanically grind the surface.

Repairs to the substrate, filling of blowholes/voids and surface leveling-smoothing may be carried out with the fast-curing, aliphatic polyaspartic polyurea putty **Neodur® FT Putty**, after proper preparation of the surface. The material can be sanded and overcoated after ~2 hours (+25°C). The surface must be as flat and smooth as possible, without any irregularities.

The substrate under the tiles must be completely dry. In case of balconies or terraces with a history of leakages, the area should be thoroughly inspected for signs of water penetration and the internal areas of the balconies or terraces should be also checked for damage or deterioration, in order to assess further the risk of substrate humidity. In case there is a probability of trapped humidity underneath the tiles, appropriate air vents should be installed prior to the application. It is extremely important to locate any hollow tiles, ie that are not fully attached to the substrate. Such tiles should be removed and replaced, using an elastic tile adhesive (indicative proposed type C2TE S1). At this point, the substrate under the hollow tiles should be also inspected. In case it is soft and spongy or rotten, then it is strongly recommended to instead opt for a complete renovation of the balcony or terrace.

Deep cleaning of the tiled surfaces and the existing joint grouts is also of extreme importance. Cleaning may be performed by using appropriate tile & grout cleaners. It is recommended to perform a trial application on a small part of the surface, in order to ensure that the cleaner does not stain or bleach the tiles. High-pressure water-jetting should be avoided, especially in case of leaking balconies and terraces. Scrubbing by brushes or sponges is proposed instead. The water used for rinsing should be as little as possible.

The whole surface should be also inspected thoroughly for any joint grouts that are broken, cracked, worn out, brittle or defective in any way (e.g. with holes). Any defective grouts should be removed and replaced. Any new cementitious grouts should be allowed to harden completely, according to the manufacturer's instructions.

It is recommended to create elastic tile joints, in case they do not already exist on the surface (indicatively per 10-15m² or per 8 lin.m. in case of long and narrow areas).

Any mouldy or deteriorated sealants should be removed and replaced.

Application of adhesion promoter - Priming

In order to enhance the adhesion of the subsequent layers, the surface of the tiles and the joint grouts should be washed with the liquid adhesion promoter **Neosil® Bond**. The material is applied by a clean and dry soft cloth, which is soaked with **Neosil® Bond** and used with circular movements over the entire surface, washing and rubbing it. The cloth should be changed frequently. It is very important that no spots are left untreated.

Indicative consumption of **Neosil® Bond**: ~50ml/m² in one layer



Then, and especially in case of recently installed grouts, it is proposed to apply by roller (after ~2 hours and ideally before 6 hours have passed) the transparent aliphatic polyurea **Neodur® Polyurea M** diluted ~60% with solvent **Neotex® PU 0413**.

Indicative consumption of **Neodur® Polyurea M**: ~50gr/m² in one layer

Application

After the application of the adhesion promoter **Neosil® Bond** (after ~2 hours and ideally before 6 hours have passed) or **Neodur® Polyurea M** if used (after ~2 hours), the first layer of the transparent elastic aliphatic polyurea varnish **Neodur® FT Clear** is applied undiluted, by roller or brush.

The two components A & B are mixed in the predetermined ratio (1A:1B w/w) and stirred thoroughly with a low-speed electric stirrer for app. 2-3 minutes, until the mixture is homogeneous. The mixture is left in the container for a short period (~1 minute) and then applied on the application surface shortly, in order to avoid potential hardening of the mixture inside the container, due to the limited pot life.

After 5 hours (+25°C, RH 50%), it is recommended to apply the second layer of **Neodur® FT Clear** undiluted, by roller or brush. In case of application of additional layers, the same procedure is followed.

For increased anti-slip properties, it is recommended to apply an additional thinner final layer of **Neodur® FT Clear**, with the addition of the anti-slip additive **Neotex® Antiskid M** in the mix, in a ratio 1,5-2,5% w/w.

Special notes

- **Neodur® FT Clear** should not be applied under wet conditions, or if wet conditions or rainy weather are expected to prevail during the application or the curing period of the product
 - The components must not be stored in very low or very high temperatures, especially before their mixing. Preferably, the mixing and stirring of the mixture is recommended to be done in the shade. The stirring must be done mechanically and not manually with rods etc.
 - It is recommended not to over-stir the product, in order to avoid air entrapment in the mixture. After the stirring of the mixture, it is recommended to apply it immediately in order to prevent high temperatures and its polymerization inside the container
 - Substrate temperature during application and curing must be at least 3°C above dew point to avoid condensation issues
 - The application is continued sufficiently in the vertical surfaces of the roof (skirting board), in order to form a uniform waterproofing membrane
 - Every subsequent layer of **Neodur® FT Clear** should be applied in a vertical or different direction than the previous waterproofing layer
 - If more than 24 hours have passed from the application of **Neosil® Bond** without overcoating the surface, the procedure should be repeated.
 - If more than 24 hours have passed between consecutive layers of **Neodur® FT Clear**, it is recommended to lightly sand the surface with fine sandpaper or an abrasive sponge
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- **Neodur® FT Clear** should not be applied in thick layers of a consumption greater than 400gr/m² per layer
- The system should not be applied in case the tiles or the joint grouts have been treated in the past with siloxanes, silicones or other water repellent compounds.
- It is not recommended to apply **Neodur® FT Clear** on marbles
- In any case, before the application of **Neodur® FT Clear** it is recommended to perform a test application on a small part of the surface (on top of both tiles and grout)

Maintenance instructions

- The total hardening of the film occurs app. 7 days after the application of the final layer, depending also on the atmospheric conditions. During this period, it is advisable that the access to the application area is prohibited or limited only to specialized personnel.
- It is recommended to annually inspect the coating for any damage caused by accidental impact or misuse
- In case of need for local repair, any peeled **Neodur® FT Clear** layers are carefully removed by brushing and using a spatula. For the new application, all the details mentioned in the "Substrate Preparation" section of this technical data sheet should be taken into account. For surfaces that are already coated with **Neodur® FT Clear** and are about to be re-coated, it is recommended to lightly sand them with a fine sandpaper or abrasive sponge and clean them. In addition, it is recommended that the new application is not limited to uncovered surfaces of joints and tiles, but also extended to covered surfaces, in such a way that each application is made entirely on surfaces enclosed by tile joints, where no detachment is evident. The dry film thickness of the new application must be at the minimum equal to the original thickness of the dry film.
- Periodic cleaning by water-jetting is advisable (combined with a neutral washing agent, if needed), especially in case of heavy accumulation of dirt, dust and pollutants on the surface

Appearance (cured)	Transparent, glossy
Packing	Sets (A+B) of 8kg and 2kg in metal cans
Cleaning of tools – Stains removal	By Neotex® PU 0413 immediately after application. In case of hardened stains, by mechanical means
Volatile organic compounds (V.O.C.)	V.O.C. limit acc. to the E.U. Directive 2004/42/CE for this product of category AjWB: 500g/l (Limit 1.1.2010) - V.O.C. content of the ready-to-use product <500g/l
UFI code	<i>Component A:</i> 9740-202U-W00D-8TA8 <i>Component B:</i> Y940-J0S8-600W-W4WA
Storage stability	1 year, stored in its original sealed packing, protected from frost, humidity, and exposure to sunlight

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1922-CPR-0386 DoP No.: 4950-46 EN 1504-2 Neodur® FT Clear Surface protection products Coating	
Water vapour permeability	Class I
Adhesion strength	$\geq 1,5\text{N/mm}^2$
Capillary absorption and permeability to water	$W < 0,1\text{Kg/m}^2\text{h}^{0.5}$
Permeability to CO ₂	$S_D > 50\text{m}$
Reaction to fire	Euroclass F
Dangerous substances	Complies with 5.3

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