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PU5275/1 PU Binder for Permeable Pavements

DESCRIPTION

PU5275/1 is a MDI based polyurethane prepolymer for use as a high tensile PU binder for permeable pavements. It has a relatively low viscosity and its fast cure speed. The system is ideal for footpaths, trials, cycle ways and tree pits.

PU5275/1 has been formulated as a flexible moisture curing binder for binding recycled rubber crumb and aggregate blends for permeable (SUDS) compliant pavements, usually installed by hand. For machine application, please consult our sales team for further information.

PROPERTIES

Criteria	Typical Value
Colour:	Unpigmented (pale yellow)
Viscosity at 23°C:	2,800 ± 500 mPa.s
NCO content:	ca 7 – 8 %
Application Temperature:	15 – 40°C
Relative Humidity:	40 – 90%
Cure Times:	5 – 7 hours at 20°C
	2 – 3 hours at 30°C

STORAGE

Must be stored in closed, air-tight containers - the product reacts with moisture, leading firstly to an increase in viscosity and finally gelation.

- The containers should be kept cool
- Store between 10°C to 35°C
- Storage at elevated temperatures will result in a viscosity increase.

Storage life if stored under the recommended conditions: 6 months.

APPLICATION

PU5275/1 should be applied in dry conditions at 10°C-35°C ground temperature and 10°C-35°C ambient temperature, the relative humidity should be between RH 30-85%. The system should be applied at least 3°C above the dew point measured for the application surface. Applications in low temperature will elongate cure times, whilst applications in high temperatures will shorten cure times. If applied in wet conditions, there is a risk of the PU5274/1 binder foaming during curing.

Surface Preparation

Ensure the ground to be coated is well prepared. All loose material should be removed. Ensure the surface is free from contamination such as oil and grease. The surface should also be dry. A primer may be required, especially for concrete, please consult the sales team for further information.

Sub Base	Thickness (mm)	Rubber/Aggregate 2-5mm Blend (kg/m ²)	PU5275/1(kg/m ²)
Concrete*/Tarmac	25	25	3.3
Well compacted aggregate (e.g. MOT Type 1)	35	35	4.6

*Primer may be required for concrete surfaces

Wear Course

PU5275/1 porous paving system should be applied at the required thickness on to the prepared surface, the table below represents the material required to cover 1 square meter applied over a well compacted aggregate base.

Component	%	kg/m ²
SBR Rubber (5-6mm)	50	17.5
Aggregate (2-5mm)	50	17.5
Total	100	35
PU5275/1 Binder	13.2	4.6

The aggregate/rubber blend should be mixed before adding the binder following the advised binder loading. Thoroughly mix in a force action pan mixer for 5 minutes to ensure the aggregate/rubber blend is evenly coated in binder. To ensure consistency each pan mix should be mixed for the same amount of time and only full full bags should be mixed.

The materials should be applied to the substrate and levelled to the required thickness by rake, screeds or trowel and then smoothed and compacted using a hand trowel or weighted roller. Ensure an even compaction of the rubber. A release agent should be used on all tools to avoid adhesion of the binder to the tools. Ensure all equipment is cleaner well after use. In some cases, particularly low temperatures, D4861 Rubber Crumb Binder Accelerator (1k) may need to be added.

D4861 accelerator addition	5°C	10°C	15°C
0% Accelerator	10 hours	8 hours	6.5 hours
0.01% (1 ml in 9 Kg)	6 hours	5 hours	4.5 hours
0.02% (2 ml in 9 Kg)	4 hours	3 hours	2.5 hours
0.03% (3 ml in 9 Kg)	3 hours	2 hours	1.5 hours

Once installed the area needs to be protected until fully cured. Curing periods vary according to climatic conditions but typically can be between 6 and 24 hours. The system will achieve full cured strength after 72 hours after installation so for a heavily used area it is advised to restrict the area's use during the first 3 days.

MDI polyurethanes are subject to colour changes during exposure to ultraviolet light. This will not affect the mechanical properties of the binder.

HAZARDS DURING TRANSPORT AND STORAGE

- PU5275/1 contains a non-volatile isocyanate.
- Avoid prolonged contact with skin.
- In cases of contact with eyes, flush out with excess water and seek medical attention.

Before use, ensure that you have read Health and Safety Data Sheet for this product. The company will supply, upon request, individual advice in writing in connection with the use and application of its products in all appropriate cases. Customers are urged to make use of this service. This leaflet is provided for general guidance only. All recommendations and suggestions are made in good faith but without guarantee and are subject to the company's terms and conditions.