EDITION: 280724
Technical Data Sheet

Matacryl® MACHINE

SEAMLESS WATERPROOFING MEMBRANE – SPRAY APPLIED

HYCHEM
Infrastructure

Product Description

Matacryl® Machine is a medium viscosity, urethane-modified, pre-reacted 100% solids membrane system based on acrylic monomers. It is part of an innovative waterproofing system that supports tight completion timelines of projects and ensures long-term performance and resilience. Matacryl Machine is a cold spray applied, highly elastomeric liquid waterproofing membrane and coating. It can be applied at a range of ambient and substrate temperatures from -20°C to 35°C onto cementitious based screeds, concrete, filled bitumen/asphalt, metal, ceramic tile and wood substrates.

Features and Benefits

- Fully cured one hour after application
- Rapid cure allows quick installation, regardless of temperature, enabling wintertime installations
- Excellent performance characteristics, even in extremely low temperatures: -30°C
- Excellent adhesion to a variety of substrates
- Unique chemistry facilitates easy repair solutions
- Excellent chemical, abrasion, impact and puncture resistance
- Withstands movement and stress in the substrate
- Cold applied; no heating required for spray equipment
- Suitable for horizontal and vertical surfaces

Waterproofing Applications

- Bridge decks (concrete and steel)
- Sub grade of civil engineering structures including underground slabs
- Concrete and metal railway bridges, including directly under track ballast
- Pedestrian and vehicular bridges and walkways
- Tunnels, channels and dam structures
- Containment structures including waste and contaminated material storage

CE 1119	
Universal Sealants (UK) Ltd, Kingston House, 3 Walton Road, Pattinson North, District 15, Washington, Tyne & Wear. NE38 8QA 13 1119-CPR-1190	
EAD 0303675-00-0107 Liquid Applied Bridge Deck Waterproofing Kit EN 1504-2 Surface protection system Coating	
Bond Strength to Support	3.04 MPa
Capacity to Bridge Cracks	Watertight
Adhesion	≥1.5 MPa
Dangerous substances	Complies with 5.3
Resistance to Perforation	Pass (I4)
Resistance to Heat Ageing; Tensile Stress	8.8 MPa
Resistance to Heat Ageing; Elongation	269%
Resistance to Heat Ageing; Bond Strength	4.21 MPa
Bond Strength to Overlay; Mastic Asphalt	1.27 MPa
Bond Strength to Overlay; Asphalt Concrete	1.23 MPa
Abrasion Resistance (Taber Test)	<3000 mg
Permeability to CO_2	S_D > 50 m
Reaction to fire	Efl

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PROPERTY	TEST METHOD	VALUE
Viscosity @ 25°C	DIN 53019	1300-2100 mPa•s
Density @ 25°C	ISO 2811	1.23 g/ml
Curing Time @ 20°C		approx. 60 minutes
Elongation @ 24°C	DIN EN ISO 527 –2	> 280 %
Tensile Strength @ 24°C	DIN EN ISO 527 - 2	> 10 MPa
Shore A Hardness	DIN EN ISO 868	87
Shore D Hardness	DIN EN ISO 868	35
Dynamic Crack Bridging @ -26°C	NF EN 1062-7	≥ 2.7 mm
Resistance to Heat Ageing; Tensile Stress		8.8 MPa
Resistance to Heat Ageing; Elongation		269%
Resistance to Heat Ageing; Bond Strength		4.21 MPa
Bond Strength to Overlay; Mastic Asphalt		1.27 MPa
Bond Strength to Overlay; Asphalt Concrete		1.23 MPa
Bond Strength to Support		3.04 MPa
Resistance to Perforation		Pass (I4)

* Please note that an objective comparison with other data is only possible if norms and parameters are identical.

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INSTALLATION INSTRUCTIONS

Surface Preparation

- To prime, substrates must be dry, firm, solid and free of dust, grease, oil, and loose particles, usually by shot or sand blasting to attain correct surface profile. Newly poured concrete must have reached adequate strength to receive Matacryl system.
- Prior to applying Matacryl Machine, a suitable Matacryl Primer, including sand-scatter when appropriate, must be applied.
- Substrate moisture content should be <6%.

Mixing

- Prior to use, both Part A and Part B of Matacryl Machine must be carefully stirred to achieve uniform distribution of the paraffin in the product, normally a minimum of three (3) minutes.
- Using a variable speed drill with helical stirrer, Matacryl Machine Part B is thoroughly mixed together with Matacryl Reactive Filler (25% dibenzoyl peroxide) or Matacryl Catalyst (50% dibenzoyl peroxide), in accordance with the following guidelines. The amount of Matacryl Reactive Filler/Matacryl Catalyst to be added depends on the substrate temperature.

TEMP °C	MATACRYL REACTIVE FILLER	MATACRYL CATALYST	MATACRYL ACCELERATOR
<0	12% by weight of resin	6% by weight of resin	1-3% by weight of resin
0	10% by weight of resin	5% by weight of resin	n/a
10	8% by weight of resin	4% by weight of resin	n/a
20	4% by weight of resin	2% by weight of resin	n/a
30	2.2% by weight of resin	1% by weight of resin	n/a

Note: For safety reasons, Matacryl Accelerator must be added to reactive resin PRIOR to adding any Matacryl Reactive Filler/Matacryl Catalyst. See TDS Matacryl Accelerator for more details.

Application

Matacryl Machine is spray-applied using plural component (1:1 by volume), high-pressure, airless spray equipment with pump capacity suitable for the application and material viscosity. For the consumption of product per m^2, please consult the System Build Up Sheets.

A minimum thickness of 1mm (1.23kg/m^2) per layer of membrane should always be applied. If extending an existing Matacryl application, the new membrane should overlap by a minimum of 50 mm.

- Do not apply when surface temperature is above 40°C and/or rapidly rising. Special care must be observed if area is exposed to direct sunlight.
- Substrate temperature must be at least 3°C above actual dew point and rising.

The techniques involved may require modification to adjust to job-site specific conditions. Consult your USL Speciality Products Sales Representative or USL Technical Services for site conditions and requirements. For further installation details, see our General Preparation and Application Guidelines for “Matacryl Systems”.

Cleaning

Clean all mixing equipment and tools regularly and immediately after use with Acetone.

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Packaging

Matacryl Machine Parts A & B are available in 25kg pails & 125kg drums
BPO hardener catalyst is available as 25kg box
Both above parts are required
Acetone is available in 20 litre drums

Storage

Shelf life is 12 months for resin and 6 months for BPO when stored in original unopened packs in a cool and dry place.
The date of manufacture is given on the label.
Storage temperature between 5°C and 40°C out of direct sunlight. Optimal storage temp: 15°C to 20°C.
Flash point + 12°C.
Protect from frost, adverse weather and moisture / contaminant ingress.

Health and Safety

Suitable protective clothing, gloves and safety goggles must be worn during mixing and application.

In case of contact with eyes rinse immediately for a long period of time and consult a physician. In case of contact with skin clean immediately with water and soap.

Highly flammable; keep away from heat and all sources of ignition and do not smoke. All electric appliances used on the application site must be explosion-proof versions.

For further information see our Material Safety Data Sheet. Safety Data Sheets (SDS) are available from USL and are provided to help customers satisfy their safe handling, use and disposal needs as well as assist with any conformance requirements made locally by health and safety regulations.

SDS are continually updated to provide the latest information to our customers. We therefore recommend contacting our head office to obtain the most recent and accurate SDS before handling and using any product

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