



# Matacryl® MANUAL MV

## SEAMLESS WATERPROOFING MEMBRANE

### Product Description

Matacryl® Manual MV 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 facilitates tight completion timelines of projects and ensures long-term performance and resilience. The cured product is a very flexible crack-bridging membrane that retains its flexibility and crack-bridging performance in service even at very low temperatures.

Matacryl Manual MV is an easy to apply, 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

- Highly-flexible crack-bridging membrane characteristics, even in extremely low temperatures of -20°C and below
- Withstands stress and movement in the substrate
- Easy to apply using a roller or a squeegee
- Thixotropic version available for vertical surfaces
- Excellent waterproofing properties
- Very high impact and puncture resistance
- Excellent adhesion to a variety of substrates
- Good chemical and abrasion resistance
- Can be applied over a wide range of ambient and substrate temperatures (-10 to 30°C)
- Can easily be repaired, excellent inter-layer adhesion due to chemical bonding
- Overcoating time not critical
- Fully cured one hour after application

### Waterproofing Applications


- Bridge decks (concrete and steel)
- Sub grade of civil engineering structures including underground slabs
- Protection and waterproofing of stadium terracing
- Pedestrian and vehicular bridges and walkways
- Concrete and metal railway bridges, including directly under track ballast
- Pedestrian and vehicular bridges and walkways

### Certification – External Approvals

See system build up (MSBU) for Matacryl System further information.

### Chemical Reaction/Curing

Radical polymerization initiated by peroxide.

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Universal Sealants (UK) Ltd, Kingston House, 3 Walton Road, Pattinson North, District 15, Washington, Tyne & Wear. NE38 8QA 13 1119-CPR-1190	
EN 1504-2 Surface protection system Coating	
Abrasion Resistance (Taber Test)	<3000 mg
Permeability to CO <sub>2</sub>	S <sub>D</sub> > 50 m
Capillary Absorption and Permeability to Water	<0.1 kg/m <sup>2</sup> .h <sup>0.5</sup>
Resistance to Severe Chemical Attack	Class II
Impact Resistance	Class I
Adhesion Strength by Pull-Off Test	≥2 MPa
Adhesion Test after Thermal Compatibility Testing	≥2 MPa
Adhesion on Wet Concrete	≥1.5 MPa
Reaction to fire	Cfl– s1



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### Chemical Resistance

See system build up (MSBU) for further information

### Temperature Resistance

See system build up (MSBU) for further information

### Technical Data\*

PROPERTY	TEST METHOD	VALUE	REMARKS
Density (part A) kg/L	ISO 1183	1.3	Approx
Density (part B) kg/L	ISO 1183	-	
Density (mixed) kg/L	ISO 1183		
Density (cured) kg/L	ISO 1183	1.36	Approx
Application Time at 20°C	T <sub>70/90°C</sub>	15 minutes	Approx
Can be overcoated at 20°C		1 hour	Approx
Maximum overcoat at 20°C		4-6 hours	Approx
Can be walked on at 20°C		1 hour	Approx
Full chemical cure at 20°C		2-3 days	
Finish		Matt	
Solids (cured)		100%	
VOC	2004/42/EC	0g/L (Cat A/j)	Theoretical
(Cat A/j)			
Melting point		-48°C	Approx
Boiling point		101°C	Approx
Flash Point	ISO 1516	12°C	Approx
Shore A	EN ISO 868	91	Approx
Shore D	EN ISO 868	35	Approx
Tensile Strength 25°C	EN ISO 527	11.2 MPA	Approx
Elongation Fmax 25°C	EN ISO 527	358 MPa	Approx
Elongation break 25°C	EN ISO 527	359%	Approx
E-Modulus 25°C	EN ISO 527	79.2 MPa	Approx
Abrasion, Taber	ISO 7784-2	64mm	Approx
Static crack bridging at 25°C	EN 1062-7	8.16mm	Approx
Tensile Strength -20°C	EN ISO 527	18.4 MPa	Approx
Elongation Fmax -20°C	EN ISO 527	185 MPa	Approx
Elongation break -20°C	EN ISO 527	186%	Approx
E-Modulus -20°C	EN ISO 527	441 MPa	Approx
Static crack bridging at -20°C	EN 1062-7	3.0mm	Approx

\* Mechanical data (Shore, tensile, elongation,..) obtained after 24 hours



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### EN DIN 53019

TEMPERATURE	VISCOSITY / mPa·s	SHEAR RATE / S <sup>-1</sup>	REMARKS
25°C	80.000 – 130.000	0.5	Approx.
25°C	1400 – 2500	50	Approx.
25°C	650 – 900	200	Approx.

## INSTALLATION INSTRUCTIONS

### Surface Preparation

See Model/ or Project Specifications for further details.

The area to be waterproofed must be dry, firm, solid and free of dust, fats and oil. Laitance and loose particles must be removed thoroughly, e.g. by shot blasting. Fats or oils as well as humidity can be removed by flame blasting for example.

Before the application of the Manual MV, a suitable Matacryl Primer, including sand-scatter when appropriate, must first be applied.

For further details, contact the Technical Department.

### Mixing

TEMPERATURE °C	WEIGHT PERCENTAGE PEROXIDE %
< 0 to -10	4.0 + accelerator*
0	4.0
10	2.4
20	1.4
30	1.0

\* Contact Technical Department

- 1 cm<sup>3</sup> MATACRYL Catalyst (C2) = 0.64 g
- 1 g MATACRYL Catalyst (C2) = 1.57 cm<sup>3</sup>

Add the required amount of catalyst to the resin and additive mix.

Mix with slow speed drill and helical stirrer, taking care not to entrain air.



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### Adhesion Table

Substrate with a minimum 25MPa compressive strength and 1.5MPa tensile strength (latter as tested to EN 1542).

Substrate moisture content should be <6%. Perform preliminary tests on critical and unknown surfaces.

See adhesion table below for necessary pre-treatment according to our experience.

**Priming of substrate is required.**

SUBSTRATE	RECOMMENDATION	RESOURCE
Concrete	Mechanical abrasion	KIWA
Concrete, humid	up to 97% RH (to BS 8203)	Internal R&D test
Ceramic	Mechanical abrasion	Internal R&D test
Steel	SA 2.5 (to DIN 55929)	KIWA
Cementitious screed	Mechanical abrasion	Internal R&D test
Wood	Mechanical abrasion	Internal R&D test

Mechanical abrasion: Shot blasting preferred

### Application

See Model/ or Project Specifications for further details.

Exceed the minimum application layer thickness to allow a continuous, unbroken resin film, which ensures full through cure.

### Application Conditions

The recommended substrate temperature is 0 -25°C, but no less than -10°C\* and to a maximum of 30°C.

The temperature of the substrate should exceed the “dew point” by 3°C during application and hardening.

In closed rooms a forced ventilation with at least 7-fold air exchange per hour is recommended.

\* For application temperatures below -10°C, please consult the Technical Department.

### Consumption

See Model/or Project Specifications for further details.

A minimum thickness of 1mm (1.3-1.4kg/m<sup>2</sup>) per layer of membrane should always be applied.

### Colours

See system build up (MSBU) for further information.

### Packaging

Matacryn Manual MV is available in 20kg metal pails & 180kg steel drums

BPO hardener catalyst is available as 25kg box

**Both above parts are required**

Acetone is available in 20 litre drums



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### 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

### Warranties and Disclaimers

Hychem warrants that this product shall conform to the technical specifications published in the product literature. The quality and fitness of the product is dependent upon the proper use and application of the product by the applicator. Hychem has no role in the application of the finished polymer other than to manufacture and supply its components. It is vital that the person applying this product understands the product and is fully trained and certified in the use of spray equipment and application of sol-gel materials. There are no warranties that extend beyond the description on the face of this instrument, except when provided in writing, directly by Hychem and executed under seal by a company officer.

### Field Support

Field support where provided, does not constitute supervisory responsibility. Suggestions made by HYCHEM either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they and not HYCHEM are responsible for carrying out procedures appropriate to a specific application.

### Customer Responsibility

The technical information and application advice given in this publication is based on the best information available at the time of print. As the information herein is of a general nature, no assumption can be made as to the product suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.