



TECHNICAL DATA SHEET

UV-RESIN MA-HR

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HOUSELINER® UV-RESIN MA-HR

CHARACTERISTICS

Application field

The Houseliner MA-HR has been specifically developed for UV-cured pipe rehabilitation. This resin is suitable for inversion lining repairs and can be used both as a matrix material for in-situ applications or with pre-impregnated composites.

Properties

- Tack-free surface
- Exceptional chemical resistance
- High mechanical strength
- Excellent adhesion to concrete, steel, and PVC

Adhesion was measured on composites consist of Houseliner MA-HR + Houseliner Liners, steel plates were roughened.

Composition

Houseliner MA-HR is a methacrylate-based, single-component system that comes pre-formulated with the required UV initiator. The resin is entirely free of styrene.

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Liquid components

Characteristics	Value	Unit
Density	1,1 ± 0,1	g/cm3
Viscosity (20 min)	3000 ± 400	mPas
Flash point (closed space)	~110	°C
Appearance, color	transparent, yellowish liquid	

Measured at 25 °C

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Hardened resin / Essential characteristic

Characteristics	Test method	Performance	Unit
Young's modulus	EN ISO 527	> 3000	MPa
Tensile strength	EN ISO 527	> 60	MPa
Elongation at break	EN ISO 527	> 3	%
Flexural modulus	EN ISO 178	> 2700	MPa
Flexural strength	EN ISO 178	> 80	MPa
Compressive strength	EN ISO 604	> 150	MPa
Shore-D hardness	ISO 868:2003	> 85	
Glass-transition temp	EN ISO 6721	170 ± 10	°C
Overall chemical resistance		outstanding	

All the properties were measured on UV cured samples (irradiation strength ~30 mW/cm²)

RESISTANCE

Chemical resistance

Chemicals tested	Result	Chemicals tested	Result	Chemicals tested	Result
Normal petrol	5	H2O2 30%	3	HNO3 40%	3
Super petrol	5	H2O2 5%	5	IPA	5
CaCl2- saturated	5	H2SO4 10%	5	MgCl2 - saturated	5
Diesel	5	H2SO4 20%	5	NaCl 20%	5
Acetic acid 10%	5	H2SO4 40%	5	NaOH 10%	5
Acetic acid 20%	4	HCl 10%	5	NaOH 30%	5
Ethanol	5	HCl 37%	5	NaOH 50%	5
Oil	5	HNO3 10%	5	Lactic acid 10%	5
Phosphoric acid 10%	5	HNO3 20%	5	Toluol	5

After one month soaking on 25 °C :

1: Mechanical properties changed significantly (color may change) - the coating is not suitable for the storage of the test chemical. 2: Mechanical properties changed considerably (color may change) - the coating may be suitable for the storage of the test chemical for less than one week period. 3: Mechanical properties changed moderately (color may change) - the coating may be suitable for the storage of the test chemical for less than one month period. 4: Mechanical properties changed slightly (color may change) - the coating may be suitable for the storage of the test chemical for one to two months period. 5: Mechanical properties remained unchanged (color may change) - the coating is suitable for the permanent storage of the test chemical.

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APPLICATION

Ambient temperature at work

Minimum ambient temperature at work: -5 °C

Maximum ambient temperature at work: +40 °C

Workability time

It remains liquid as long as the resin is not exposed to sunlight or any UV light.

Mixing

The resin is a one-component system, therefore mixing the components is not required.

Curing conditions

Houseliner MA-HR contains the required amount of photoinitiator. For proper curing, the resin must be exposed to UV light, preferably at a wavelength of $400\text{ nm} \pm 20\text{ nm}$ and with a minimum power intensity of 200 mW/cm^2 when using the inversion lining technique. The photoinitiator enables curing with both high-pressure mercury lamps and UV-LED systems.

Tool cleaning

Before any exposure to UV light, resin-contaminated tools and equipment must be cleaned using clean cloths. Any thin residual resin layer can be removed with acetone. When acetone is used, a functional fire extinguisher must be available at the job site.

Waste treatment

Any remaining liquid or gel-like resin mixture must be treated as hazardous waste. Fully cured resin and residual reinforcing materials are inert and may therefore be disposed of as normal household or industrial waste. Waste contaminated with acetone must be collected separately from other refuse and stored in tightly sealed metal containers.

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DELIVERY

Packaging

Designation	Packaging	Net mass
Houseliner MA-HR Small Pack	10 L lid can	10 kg
Houseliner MA-HR Medium Pack	20 L lid can	20 kg

STORAGE

Storage conditions

Houseliner MA-HR must be stored indoors in its original, unopened, and undamaged packaging, in a dry environment at temperatures between 5 °C and 30 °C. The product should be kept in completely light-tight containers and protected from direct sunlight.

Storage time

The quality of the product is guaranteed for six months from the date of delivery, provided it is stored in its original, unopened packaging.

MARKING

Product group

UV-cured pipe rehabilitation product

Safety

The manufacturer provides safety data sheets with the first purchase. Follow all instructions for handling, storage, and disposal. Required protective equipment includes thin rubber gloves, side-protective glasses or a face shield, and removable full-body overalls over work clothes. On-site, a first aid kit, eye wash, spare clothing, and a fire extinguisher must be available.

SPECIAL INFORMATION

Any application of the product to purposes other than clearly mentioned in this data sheet, is possible only by preliminary consulting with Sacpro AB.

THANK YOU FOR USING

