

HYPERDESMO®-POLYUREA-2K-HC



Two-component, sprayable, hot-cure polyurea for waterproofing & protection.

DESCRIPTION

HYPERDESMO®-POLYUREA-2K-HC is a two-component polyurea system, composed of 100% solids, for application by plural component spraying equipment.

It is elastic and has a polymerization profile specially formulated for enhanced adhesion. It is highly recommended for commercial and industrial applications that require high levels of abrasion resistance and impact strength.

The product is also available in a highly elastic version under the name of **HYPERDESMO®-POLYUREA-2K-HC ELASTIC** (see below properties table).

Minimum total consumption: 1.5-2.0 kg/m².

RECOMMENDED FOR

Sealing of cementitious surfaces.

Waterproofing and protection of:

- PU and polystyrene insulation foam,
- Floors (HYPERDESMO-POLYUREA-2K-HC),
- roofs,
- tanks,
- drinking water tanks (for this application please consult our technical department),
- pipes.

COMPLIANCE - CERTIFICATION

CE: ETA 11/0016 liquid applied roof waterproofing kit

Potable water tank waterproofing: UNE-EN 12873-1/2014 RD 140/2003

LIMITATIONS

Not recommended for:

- unsound substrates.



Direct UV exposure requires the use of a topcoat to retain the colour. Recommended Topcoats:

HYPERDESMO® ADY 810

HYPERDESMO® ADY-2K

HYPERDESMO® ADY-E

AQUASMART® TC 2K FLOOR PROTECT

The selection of the final topcoat should be done based on the final use of the surface. Please see individual TDS of the above list or contact our technical department.

FEATURES & BENEFITS

- Quick curing - gel time 30 sec (unaffected by humidity and weather).
- Bubble and defect free membrane.
- No plasticizers.
- No heavy metal toxic catalysts.
- Excellent thermal resistance, the product never turns soft. Max service temperature 80 °C, max shock temperature 250 °C.
- Resistance to the cold: The film remains elastic even down to -40 °C.
- Excellent mechanical properties: High tensile and tear strength, high abrasion resistance.
- Good chemical resistance.
- Moisture vapor transmission: The film breathes so there is no accumulation of humidity under the coat.
- Special primers are available for almost every substrate.

APPLICATION PREREQUISITES

Concrete substrate conditions (standard):

- Hardness: $R_{28} = 15\text{Mpa}$.
- Humidity: $W < 10\%$.
- Temperature: 5-35 °C.
- Relative humidity: $< 85\%$.

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Primer selection for special conditions and substrates:

Please refer to the **Primer Selection Table**.

APPLICATION PROCEDURE

Clean the surface using a high-pressure washer, if possible. Remove oil, grease and wax contaminants. Cement laitance, loose particles, mould release agents, cured membranes must be removed. Fill surface irregularities with appropriate products.

Priming:

Apply the required primer following the guidelines above.

Application:

Drums of components should be pre-heated to 25° C prior to mixing or dispensing. In cold weather conditions, it is recommended that the drums be protected with a heating jacket prior to use. Please contact our technical department for information on setting up plural component dispensing machines. Do not walk on membrane for 24 hours after application.

Application general guidelines:

Component A (ISO) temperature: 70-75 °C

Component B (POLYOL) temperature: 60-67°C

Hose temperature: ±70 °C

Working pressure: 2.500-3.000psi (170 to 205 bar)

For additional application information please contact our technical department.

CONSUMPTION

Minimum total consumption: **1.5-2.0 kg/m²**.

CLEANING

Cured polyurea is very difficult to remove. Spillages should be kept to a minimum and cleaned up immediately. A special solvent is available for cleaning and flushing of the lines.

PACKAGING

Drums of 198 kg (A)+ 193 kg (B).

Drums of 198 kg (A)+ 205 kg (B) for ELASTIC version.

SHELF LIFE

Can be kept for minimum 12 months in the original unopened pails in dry places and at temperatures of 5-25 °C.

SAFETY INFORMATION

The MSDS (Material Safety Data Sheet) is available on request.

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TECHNICAL SPECIFICATIONS (HYPERDESMO-POLYUREA-2K-HC)

In liquid form (before application):

PROPERTY	UNITS	METHOD	SPECIFICATION	
			COMP. A	COMP. B
Viscosity (BROOKFIELD)	cP	ASTM D4287, @ 25 °C	1,000-2,000	1,000-1,500
Specific weight	gr/cm ³	ASTM D1475 / DIN 53217 / ISO 2811, @ 20°C	1.05-1.15	1.05-1.15
			Cured membrane: ±1.10	
Gel time	sec	-	20-30	
Cure time	hours	-	24	

The cured membrane:

PROPERTY	UNITS	METHOD	SPECIFICATION
Service temperature	°C	-	-40 to 80
Max. temperature short time (shock)	°C	-	250
Hardness	Shore A Shore D	ASTM D2240 / DIN 53505 / ISO R868	90 40
Tensile strength at break @ 23 °C	(N/mm ²)	ASTM D412 / EN-ISO-527-3	> 15
Percent elongation @ 23 °C	%	ASTM D412 / EN-ISO-527-3	> 400
Tear resistance	[KN/m]	-	> 100
Water vapour transmission	gr/m ² .hr	ASTM E96 (Water Method)	0.8
Abrasion Resistance (Taber) CS17 WHEELS, 1000 REVS, 1000 gr	mg loss	ASTM D6040	<30

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TECHNICAL SPECIFICATIONS (HYPERDESMO-POLYUREA-2K-HC ELASTIC)

In liquid form (before application):

PROPERTY	UNITS	METHOD	SPECIFICATION	
			COMP. A	COMP. B
Viscosity (BROOKFIELD)	cP	ASTM D4287, @ 25 °C	1,000-2,000	1,000-1,500
Gel time	sec	-	20-30	
Cure time	hours	-	24	

The cured membrane:

PROPERTY	UNITS	METHOD	SPECIFICATION
Service temperature	°C	-	-40 to 80
Max. temperature short time (shock)	°C	-	250
Hardness	Shore A	ASTM D2240 / DIN 53505 / ISO R868	70
Tensile strength at break @ 23 °C	(N/mm ²)	ASTM D412 / EN-ISO-527-3	8
Percent elongation @ 23 °C	%	ASTM D412 / EN-ISO-527-3	> 550
Tear resistance	[KN/m]	-	> 30
Water vapour transmission	gr/m ² .hr	ASTM E96 (Water Method)	0.8

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CE
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ALCHIMICA S.A. 7 Lampsakou, Athens – GREECE
CPR-11/0016-COAT
EAD 030350-00-0402 1219
HYPERDESMO-POLYUREA-2K-HC Liquid Applied Roof Waterproofing Kit, Based on Polyurea
www.alchimica.com

Essential characteristics	Performance	Harmonized technical specification
Minimum thickness	1.6mm	EAD 030350-00-0402
Water vapor diffusion resistance factor (μ)	~9000	EAD 030350-00-0402
Resistance to wind loads	>50KPa	EAD 030350-00-0402
Resistance to plant roots	NPD	EAD 030350-00-0402
Statement on dangerous substances	Does not contain any	EAD 030350-00-0402
Resistance to slipperiness	NPD	EAD 030350-00-0402
External fire performance	Broot (t1): Concrete support	EAD 030350-00-0402
Fire reaction	Class F	EAD 030350-00-0402
Expected working life	W3 (25 years)	EAD 030350-00-0402
Climatic zone of use	S (Severe)	EAD 030350-00-0402
User loads	P4:TH2, P4:TH4, Concrete P3:TH4, Polystyrene	EAD 030350-00-0402
Roof slopes	S1 to S4	EAD 030350-00-0402
Minimum surface temperatures	TL3 (-20°C)	EAD 030350-00-0402
Maximum surface temperatures	TH4-TH2	EAD 030350-00-0402

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