HYPERDESMO®-LV

CE
ETA – 18/0947

Low viscosity, polyurethane liquid membrane for waterproofing & protection.

DESCRIPTION

HYPERDESMO®-LV a low viscosity version of **HYPERDESMO® (CLASSIC VERSION)**. The product is resulted from the consideration of the popularity of the spray method of application but also the need to keep dilution as low as possible. **ALCHIMICA** invested in controlling the polymerization procedure parameters so that the molecular weight distribution is narrow, which is directly linked to low polymer viscosity.
The resulting product **HYPERDESMO®-LV** is a one-component polyurethane fluid that cures with the humidity in the atmosphere. It has a viscosity of approximately 30% lower than **HYPERDESMO®** and can be applied by airless spray with minimum or zero % solvent addition

As with **HYPERDESMO® (CLASSIC VERSION)**, the material based on pure elastomeric hydrophobic polyurethane resin plus special inorganic fillers, it displays excellent mechanical, chemical, thermal, UV and natural element resistance properties.

Apply with brush, roller or airless spraying in two or three coats. Minimum total consumption: 1.5-1.8 kg/m^2.

COMPLIANCE - CERTIFICATION

- CE: ETA-18/0947.

RECOMMENDED FOR

Waterproofing and protection of:

- gypsum and cement boards,
- bathrooms,
- verandas and balconies,
- roofs,
- light roofing made of metal or fibrous cement,
- asphalt membranes,
- EPDM membranes,
- stadium stands,
- car parks,
- bridge platforms,
- irrigation channels.

LIMITATIONS

Not recommended for:

- unsound substrates (in some cases, application is possible with the use of geotextile reinforcement; please contact our technical department for consultations).
- waterproofing of swimming pool surfaces in contact with chemically treated water.



When used in dark colours for exposed use, a protective topcoat of **HYPERDESMO®-ADY-E** (always pigmented at the desired colour) or **HYPERDESMO®-ADY 500** is required.
In order to maintain long-term solar reflectance and better colour protection, it is beneficial to apply the aforementioned topcoat layers even when **HYPERDESMO® CLASSIC** is applied in light colours.

FEATURES & BENEFITS

- Excellent adhesion on almost any surface, with or without the use of special primers.
- No thinning required.
- Excellent weather and UV resistance. The white colour reflects much of the solar energy and so reduces the internal temperature of buildings considerably.

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CE
ETA – 18/0947

- Excellent thermal resistance, the product never turns soft. Max service temperature 80 °C, max shock temperature 200 °C.
- Resistance in 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.
- Non-toxic after full cure.
- Water vapor transmission: The film breathes so there is no accumulation of humidity under the coat.
- Special primers available for almost every substrate.
- Special additives, like **ACCELERATOR-3000A,** are available.

APPLICATION PREREQUISITES

Can be successfully applied on:

Concrete/steel reinforced concrete or otherwise, fibrous cement, mosaic, cement roof tiles, old (but well adhered) acrylic and asphalt coats, wood, corroded metal, and galvanized steel. For information about other substrates, please contact our tech department.

Concrete substrate conditions (standard):

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

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.

Mixing:

Use a low speed (300 rpm) mixer for 2-3 minutes.

Application:

Apply the material with roller or brush in two, at least, coats. Do not exceed 48 hours between coats. If more time passes (for example more than 4 days) or if you are unsure of the interlayer adhesion, please contact our technical department.

CONSUMPTION

Minimum total consumption: **1.5-1.8 kg/m²**.

CLEANING

Clean tools and equipment first with paper towels and then using SOLVENT-01. Rollers will not be re-usable.

PACKAGING

1 kg, 6 kg, 15 kg, 25 kg.

SHELF LIFE

Can be kept for minimum 12 months in the original unopened pails in dry places and at temperatures of 5-25 °C. Once a pail has been opened, use as soon as possible.

PRECAUTIONS

Contains volatile flammable solvents. Apply in well-ventilated, no smoking areas, away from naked flames. In closed spaces use ventilators and carbon active masks. Keep in mind that solvents are heavier than air so they creep on the floor. The MSDS (Material Safety Data Sheet) is available on request.

HYPERDESMO®-LV

CE
ETA – 18/0947

CLASSIFICATION ACCORDING TO EOTA GUIDELINE (EUROPEAN ORGANISATION OF TECHNICAL APPROVAL)

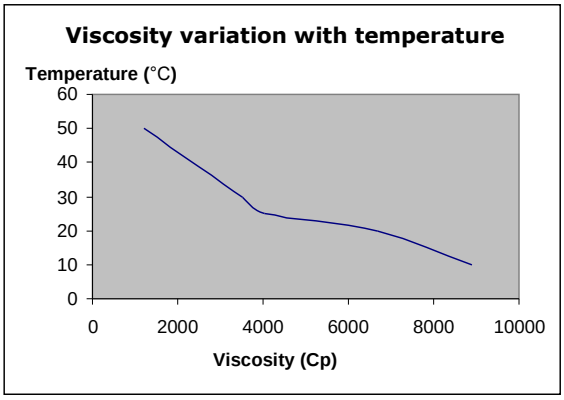
REQUIREMENT	HYPERDESMO®-LV	HYPERDESMO®-LV + HYPERDESMO®-ADY
Minimum expected working life	W3 (25 years)	W2 (10 years)
Climatic zone	S (Severe)	
User load	P1	P3
Roof slope	S1-S4	
Minimum surface temperature	TL3 (-20 ºC)	
Maximum surface temperature	TH4 (90 ºC)	
Exposure to external fire	Broof (t1)	
Reaction to fire	NPA	

TECHNICAL SPECIFICATIONS

In liquid form (before application):

PROPERTY	UNITS	METHOD	SPECIFICATION
Viscosity (BROOKFIELD)	cP	ASTM D4287, @ 25 ºC	2,000-5,000
Specific weight	gr/cm^3	ASTM D1475 / DIN 53217 / ISO 2811, @ 20ºC	1.35-1.45
Flash point	ºC	ASTM D93, closed cup	42
Tack free time, @ 77 ºF (25 ºC) & 55% RH	hours	-	6
Recoat time	hours	-	6-24

NOTE: Like all polyurethane materials, it is sensitive to temperature variations when considering viscosity. Viscosity measurements are carried out at 25 °C according to ASTM D2196-86. Viscosity increases inversely with temperature.



Temperature (°C)	Viscosity (Cp)
10	5500
20	4300
25	3000
30	2000
50	850

Certified quality, environmental and occupational health & safety management systems:
ISO 9001/14001 & ISO 45001.

HYPERDESMO®-LV

CE
ETA – 18/0947

The cured membrane:

PROPERTY	UNITS	METHOD	SPECIFICATION
Service temperature	°C	-	-40 to 80
Max. temperature short time (shock)	°C	-	200
Hardness	Shore A	ASTM D2240 / DIN 53505 / ISO R868	>60
Tensile strength at break @ 23 °C	Kg/cm^2 (N/mm^2)	ASTM D412 / EN-ISO-527-3	>80 (>8)
Percent elongation @ 23 °C	%	ASTM D412 / EN-ISO-527-3	> 450
Percent elongation @ -25 °C	%	ASTM D412	450
Water vapor transmission	gr/m^2.hr	ASTM E96 (Water Method)	0.8
Adhesion to concrete	Kg/cm^2 (N/mm^2)	ASTM D4541	> 20 (> 2)
Tensile set (after 300% elongation)	%	ASTM D412	< 3%
QUV Accelerated Weathering Test (4hr UV, @ 60 °C (UVB-Lamps) & 4hr COND @ 50°C)	-	ASTM G53	passed (2000 hours)
Hydrolysis (8% KOH, 15 days @ 50°C)	-	-	no significant elastomeric property change
Hydrolysis (H2O, 30 day-cycle 60-100 °C)	-	-	no significant elastomeric property change
HCL (PH=2, 10 days @ RT)	-	-	no significant elastomeric property change
Thermal resistance (100 days @ 80 °C)	-	EOTA TR011	passed

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