HYPERDESMO®-LV

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 has a viscosity of approximately 30% lower than HYPERDSMO and can be applied by airless spray with minimum or zero % solvent addition polyurethane fluid which cures with the humidity in the atmosphere.

As with HYPERDESMO (CLASSIC VERSION)the material is 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 coats. Minimum total consumption: 1.5-1.8 kg/m^2.

COMPLIANCE

The product complies with the EU guideline for this type of materials, EOTA (European Organization of Technical Approval).

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,
- 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) or **HYPERDESMO®-A500** is required .

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.
- 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.

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- 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, fibrous cement, mosaic, cement roof tiles, old (but well adhered) acrylic and asphalt coats, wood, corroded metal, 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 the necessary product.

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, use UNIVERSAL PRIMER-2K-4060.

CONSUMPTION

First coat: 0.8-0.9 kg/m^2.
Second coat: 0.7-0.9 kg/m^2.
Application by spraying: 0.8 kg/m^2 per coat.
Minimum total consumption: **1.5-1.8 kg/m^2**.

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.

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

REQUIREMENT	HYPERDESMO®	HYPERDESMO® + 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 °C)	
Maximum surface temperature	TH4 (90 °C)	TH3 (80 °C)
Exposure to external fire	Broof (t1)	
Reaction to fire	Class F	

TECHNICAL SPECIFICATIONS

In liquid form (before application):

95% dry matter in Xylol.

PROPERTY	UNITS	METHOD	SPECIFICATION
Viscosity (BROOKFIELD)	cP	ASTM D2196-86, @ 25 °C	2500-4500
Specific weight	gr/cm^3	ASTM D1475 / DIN 53217 / ISO 2811, @ 20°C	1.3-1.4
Flash point	°C	ASTM D93, closed cup	> 42
Tack free time, @ 77 °F (25 °C) & 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.

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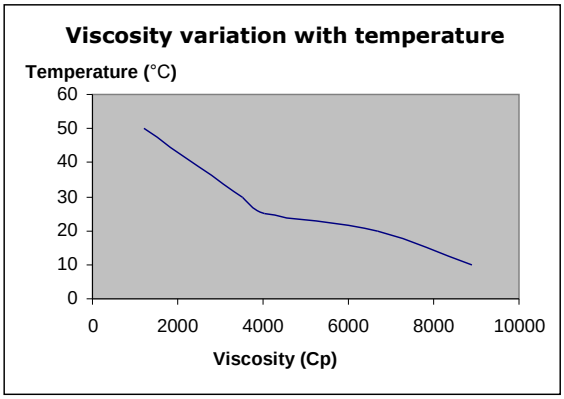

Temperature (°C)	Viscosity (Cp)
10	5500
20	4300
25	3000
30	2000
50	850

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	(N/mm^2)	ASTM D412 / EN-ISO-527-3	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

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HCL (PH=2, 10 days @ RT)	-	-	no significant elastomeric property change
Thermal resistance (100 days @ 80 °C)	-	EOTA TR011	passed