

HYPERDESMO® AQUA



ETA-17/0922

Very Fast Drying, Water based, One Component, Fully Aliphatic Polyurethane Coating for Waterproofing and Protection

DESCRIPTION

HYPERDESMO® AQUA based on **ALCHIMICA's** innovative water based polyurethane dispersion technology, protects structures in an environmental way, offering waterproofing in the most difficult conditions. **HYPERDESMO® AQUA** provides excellent resistance to ponding water with high resistance to difficult weather conditions and as it is aliphatic, it offers excellent resistance to UV radiation and improves the energy performance of a building by reducing surface temperatures. It is thixotropic, with excellent workability and quick drying which makes it easy to apply to a variety of substrates such as concrete or metal ceilings, polyurethane foam, etc. It is easily applied by brush, roller or spray in two or more coats on both vertical and horizontal substrates, forming an elastic and hydrophobic film.

The product can be used with a second component (booster) during cold weather for faster curing.

The product is also available in a fire-retardant version as **HYPERDESMO® AQUA-FR** (relevant certifications available).

COMPLIANCE - CERTIFICATION

- **CE:** EN 1504-02:2004 No: 2928-CPR-55
- **CE:** ETA-17/0922
- **CE:** EN 14891:2012 (type DM 02P)

RECOMMENDED FOR

Waterproofing, Painting and Protection of:

- PU foam,
- Roofs,
- Light roofing made of metal or fibrous cement,
- Under tile applications such as wet rooms
- Protection of concrete/reinforced concrete from carbonization

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).

FEATURES & BENEFITS

- Water based
- Very fast drying
- Easy to apply & repair.
- Thixotropic
- Seamless.
- Elastic.
- Highly resistant to stagnating water (ensure proper adhesion-see suitable primers list).
- Water vapor transmission: The film breathes so there is no accumulation of humidity under the coat.
- Excellent weather and UV resistance. The white color reflects much of the solar energy and so reduces the internal temperature of structures considerably. SRI (Solar Reflectance Index) for the white color is 106 as per ASTM E-1980.
- Easy coloring of product with almost any water-based pigment paste available at hardware stores, subject to adequate tests.
- Compatible with all standard **ALCHIMICA's** Primers.

APPLICATION PREREQUISITES

Can be successfully applied on:

Concrete, fibrous cement, cement roof tiles, wood, galvanized steel, PU foam. For information about other substrates, please contact our tech department.

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Standard concrete substrate conditions:

- Strength: C20/25.
- Humidity: $W \leq 5\%$.
- Temperature: 5-35 °C.
- Relative humidity: $< 85\%$.

Suitable primers: **AQUADUR**, **AQUASMART®-DUR**, **AQUASMART®-PU PRIMER-2K** or **MICROSEALER-50**, depending on the substrate. Please contact our technical department for primer selection advice.

APPLICATION PROCEDURE

Clean the substrate using a high-pressure washer, if possible. Remove oil, grease and wax contaminants. Cement laitance, loose particles, mould release agents, cured membranes must also be removed. Surface irregularities should also be filled.

Priming:

Apply recommended primer according to Technical Data Sheet specifications.

For non-demanding applications (where standing water or negative water pressure is not an issue) prime with same material by diluting with 15% water. For more professional applications, apply primers as per above list or contact our technical department for further information.

Mixing:

Use a low speed (300 rpm) mixer.

Application:

Apply with roller, brush or airless spraying in two or more coats.



Do not apply under conditions of extreme wet weather or imminent rain or near freezing temperature.

CONSUMPTION

- Applied with roller or brush -
First coat: 0.6-0.8 kg/m².
Second coat: 0.6-0.9 kg/m².
- Applied by airless spraying: 0.5 kg/m² per coat.
Minimum total consumption: **>1.5 kg/m²** for waterproofing, depending on project requirements. For use as a protective paint, recommended consumption is 0,5 Kg/m².

CLEANING

Clean tools and equipment immediately with water.

PACKAGING

Plastic pails of 5kg, 12 kg

SHELF LIFE

Can be kept for 12 months minimum in the original unopened pails in dry places and at temperatures of 5-25 °C. Once opened, use as soon as possible. Protect from freezing conditions.

SAFETY INFORMATION

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

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TECHNICAL SPECIFICATIONS

In liquid form (before application):

PROPERTY	UNITS	METHOD	SPECIFICATION
Viscosity (Brookfield)	cP	ASTM D2196-86, @ 25 °C	20,000-40,000
Specific weight	gr/cm ³	ASTM D1475 / DIN 53217 / ISO 2811, @ 20 °C	1.45-1.55
Required application temperature	°C	-	> 5

In cured form (after application):

PROPERTY	UNITS	METHOD	SPECIFICATION
Service temperature	°C	-	-20 to 90
Hardness	Shore A	ASTM D2240 / DIN 53505 / ISO R868	70
Tensile strength at break @ 23 °C	Kg/cm ² (N/mm ²)	ASTM D412 / EN-ISO-527-3	50 (5.0)
Elongation @ 23 °C	%	ASTM D412 / EN-ISO-527-3	> 300
H ₂ O absorption	%	-	< 5
QUV Accelerated Weathering Test (4hr UV, @ 60 °C (UVB-Lamps) & 4hr COND @ 50 °C)	-	ASTM G53	passed (2,000 hours)

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CLASSIFICATION ACCORDING TO EN 1504-02

CE
22
ALCHIMICA S.A. 7 Lampsakou, Athens-GREECE
2928-CPR-55
EN 1504-2:2004 2928 HYPERDESMO® AQUA Product for protection and repair of concrete structures
www.alchimica.com

Essential characteristics	Performance	Harmonized technical specification
CO ₂ permeability, m	S _D >50	EN 1504-2:2004
Permeability to water vapor, m	S _D <5 Class I	
Capillary absorption, kg/m ² ·h ^{0.5}	w<0.1	
Adhesion strength by pull-off test, N/mm ²	≥1.5	
Abrasion resistance, mg	<3000	
Impact resistance, N.m	≥4 Class I	
Reaction to fire	Euroclass F	

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CLASSIFICATION ACCORDING TO EOTA (EUROPEAN ORGANISATION OF TECHNICAL APPROVAL)

CE
24
ALCHIMICA S.A. 7 Lampsakou, Athens-GREECE
17/0922
EAD 030350-00-0402 1219 HYPERDESMO® AQUA Liquid Applied Roof Waterproofing Kit based on Polyurethane.
www.alchimica.com

Essential characteristics	Performance	Harmonized technical specification
Minimum thickness	1.6mm	EAD 030350-00-0402
Water vapour diffusion resistance factor (μ)	~890	EAD 030350-00-0402
Resistance to wind loads	>50KPa	EAD 030350-00-0402
Statement on dangerous substances	Does not contain any	EAD 030350-00-0402
External fire performance	NPD	EAD 030350-00-0402
Expected working life	W2 (10 Years)	EAD 030350-00-0402
Climatic zone of use	S (Severe)	EAD 030350-00-0402
User loads	P1 to P3 (P3 REINFORCED)	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 (90°C)	EAD 030350-00-0402

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CLASSIFICATION ACCORDING TO EN 14891

CE
24
ALCHIMICA S.A. 7 Lampsakou, Athens-GREECE
1020-CPR-020050844
EN 14891:2012 1020 HYPERDESMO® AQUA Dispersion liquid-applied water impermeable product for use beneath ceramic tiling bonded with adhesives.
www.alchimica.com

Essential characteristics	Performance	Requirement	Harmonized technical specification
Water tightness	No penetration	No penetration	EN 14891:2012
Crack bridging ability under standard conditions (23°C)	2.29 mm	≥0.75 mm	
Crack bridging ability at low temperatures (-5°C)	1.55 mm	≥0.75 mm	
Crack bridging ability at low temperatures (-20°C)	1.36 mm	≥0.75 mm	
Initial bond strength	0.88 N/mm ²	≥0.5 N/mm ²	
Bond strength after water immersion	1.04 N/mm ²	≥0.5 N/mm ²	
Bond strength after heat ageing	1.01 N/mm ²	≥0.5 N/mm ²	
Bond strength after freeze-thaw cycles	1.22 N/mm ²	≥0.5 N/mm ²	
Bond strength after contact with lime water	0.52 N/mm ²	≥0.5 N/mm ²	
Bond strength after contact with chlorinated water	0.98 N/mm ²	≥0.5 N/mm ²	

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