



POLYAC® BDM-HD

FLEXIBLE, LIQUID, VERY FAST CURING, SPRAYABLE,
 PUMA BASED, ELASTOMERIC WATERPROOFING MEMBRANE



Description

POLYAC® BDM-HD is a highly reactive, flexible, liquid and easy to apply, elastomeric waterproofing membrane or wear layer with a very high durability even at low temperatures and has been developed for professional 2 component 1:1 spraying installations.

Benefits

- Sprayable – 1:1 mixing ratio.
- High reactivity
- Can be used horizontally and vertically
- Long processing time
- Very fast curing
- Applicable at low temperature
- Crack bridging
- Cold application
- High chemical resistance
- Thermal shock resistant
- Resistant to thawing salt

Field of Application

POLYAC® BDM-HD can be used as a waterproofing membrane or as a wear layer.

- Roofs
- Terraces
- Balconies
- Galleries
- Parking roofs
- Bridges
- Reservoirs
- Emergency basins

Application

Note: The following is a typical application description. In case of other jobsite parameters, please contact our technical department.

Preliminary analyses

Before starting the substrate preparation and applying the products, it is important to test various parameters in order to achieve a good and sustainable result.

- Compressive strength of the substrate: min. 25 N/mm²
- Tensile strength of the substrate: min. 1,5 N/mm²

POLYAC® BDM-HD must be applied on a dry surface.

Moisture content in the substrate: ≤ 5% moisture.

Exception: ≤ 10% moisture if the primer POLYAC® 18 is used.

Conditions during the application and curing: see “Application conditions” further described in this technical data sheet.

Technically studied dilatation joints must be provided. These are resumed in the synthetic resin system to be installed.

The flatness of the surface must be consistent with the desired requirements. Should this not be the case, correct measures must be taken to fill in or level out the unevenness with products that are complementary to the substrate and to the synthetic resin system to be installed.



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Shrink joints and passive cracks can be coated. This on condition that they are not used as dilatation joints or if they do not follow other movements of the structure and the substrate and that they are flattened with products that are complementary to the substrate and to the synthetic resin system to be installed.

Required tools

- Mixer with spindle (min. 300 rpm)
- Professional 2 component 1:1 spraying installation
- Masking tape

Preparation of the substrate

POLYAC® BDM-HD is always applied on a suitable primer depending on the type of substrate.

POLYAC® 12: Dry, form-retaining, mineral substrates.

POLYAC® 14: Moving or less form-retaining mineral substrates, asphalt or bituminous membranes.

POLYAC® 15: Metal.

POLYAC® 18: Damp, form-retaining, mineral substrates. (Always consult the POLYAC® primers technical data sheets)

It is not necessary to place a primer on existing POLYAC® systems before applying POLYAC® BDM-HD.

Before applying the primer.

Cracks, joints and other parts that show water leaks must first be made completely water-tight and leak-proof.

The surface must be mechanically pre-treated. This can be achieved by removing the dust by bullet- or sandblasting or by sanding the surface. Tiles are to be degreased well and grinded with a diamond blade. These treatments ensure that an open texture surface is obtained, to remove the cement skin from concrete and old remnants of coatings and adhesives.

High pressure water jetting is possible but then the surface must dry sufficiently before applying the primer. Moisture content in the substrate: ≤ 5% moisture. (Exception: ≤ 10% moisture if the primer POLYAC® 18 is used.)

Always apply the products on a clean surface, free from adhesion reducing materials such as dirt, oil, grease, old coatings or surface treatments.

The parts of the surfaces to be coated that do not meet the requirements as described above (compressive strength, tensile strength, parts that are not well connected) must be treated or removed and repaired according to a correct method and with products that are complementary to the substrate and the synthetic resin system to be installed. Remove any loose parts by brushing properly and remove dust with an industrial vacuum cleaner.

The surface must be mechanically pre-treated. This can be achieved by removing the dust by bullet- or sandblasting or by grinding the surface. The degree of roughness for metal surfaces is SA 21/2. Remove rust by sandblasting. The surface must be dry and free of impurities such as grease, oil or dust.

Galvanized steel is thoroughly cleaned in advance with water and soap or sandblasted. Degrease metal surfaces immediately after the mechanical preparation with SOLVENT MEK. After the SOLVENT MEK has fully evaporated, immediately apply a layer of POLYAC® 15 to prevent the steel from re-oxidizing.



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Preparation of the product

Mix all POLYAC® BDM-HD components well before use. Avoid contact between A and B components during mixing. Add one package of POLYAC® PTC per 40kg to the POLYAC® BDM-HD A-component. This mixture remains stable for 24 hours when stored closed under normal environmental conditions and protected from direct sunlight.

If a different colour is desired than the standard colour, you can now add the pigment powder (5% by weight of the B component) to the B component and mix it well until a homogeneous mass is achieved.

Add 2 to 10% POLYAC® CATALYST to POLYAC® BDM-HD B component.

Add POLYAC® CATALYST to POLYAC® BDM-HD COMPONENT B

Temp.	In % (on weight comp A + COMP B)	In grams Add to 40 kg Comp B
0°C	5%	4000 g
5°C	4%	3200 g
10°C	3%	2400 g
20°C	2%	1600 g
30°C	1%	800 g

Preparation of the equipment

The best result for spraying POLYAC® BDM-HD is obtained by using a 2-component pump and a static mixer at the end of the high-pressure hoses.

Always work with clean mixing containers and application material. The pump must be flushed before starting to spray. Both components must be mixed with a static mixer or mixing chamber. Check the 1:1 mixing ratio, deviations in mixing ratio will negatively influence the quality and properties of the primer.

Application

OPTION 1: As anti-slip wear layer

Apply only 1 layer. Spray POLYAC® BDM-HD in one or more movements on the surface to be treated. Apply sufficient product and ensure sufficient coverage. This to obtain a continuous film over the entire surface. During the application, thoroughly flush all parts of the pump where components A en B have met with POLYAC® CLEANER.

Certainly when the downtimes between spray sessions are longer than the reaction time stated in this technical data sheet. Immediately broadcast this layer full and abundantly with dry quartz grains and this within the reaction time described in this technical data sheet. Minimum quartz grain size is 0.4 – 0.8 mm. Note: Do not disturb the paraffin layer that occurs during curing.

Layer	Product	Layer thickness mm	Consumption kg/m ²
Primer	Depending on the substrate	≈ 0.3	0.25 - ...
Levelling layer	Optional	1.5 - ...	
Anti-slip wear layer	POLYAC® BDM-HD + broadcasting with dry quartz	Approx. 1.5 2 – 3	Approx. 1.8 4 – 6
Topcoat	POLYAC® 61-64 AF-65	0.6 – 1	0.6 – 1



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OPTION 2: As a standard waterproofing system

Always apply 2 layers (waterproofing layer + protective layer). Spray POLYAC® BDM-HD in one or more movements on the surface to be treated. Apply sufficient product and ensure sufficient coverage. This to obtain a continuous membrane over the entire surface. During the application, thoroughly flush all parts of the pump where components A en B have met with POLYAC® CLEANER. Certainly when the downtimes between spray sessions are longer than the reaction time stated in this technical data sheet. After the first layer has cured, apply a second layer.

Only this last layer is then fully and abundantly broadcasted with dry quartz grain after the spraying and this within the reaction time described in this technical data sheet. Minimum quartz grain size is 0.4 – 0.8 mm. Note: Do not disturb the paraffin layer that occurs during curing.

Layer	Product	Layer thickness mm	Consumption kg/m ²
Primer	Depending on the substrate	≈ 0.3	0.25 - ...
Levelling layer	Optional	1.5 - ...	
Waterproofing layer	POLYAC® BDM-HD	Approx. 1.5	Approx. 1.8
Anti-slip wear layer	POLYAC® BDM-HD + broadcasting with dry quartz	Approx. 1.5 2 – 3	Approx. 1.8 4 – 6
Topcoat	POLYAC® 61-64 AF-65	0.6 – 1	0.6 – 1

OPTION 3: As a waterproofing system according to ETAG 005: Roofs, Balconies, Terraces

Always apply 2 layers (waterproofing layer + protective layer). First apply the waterproofing layer POLYAC® BDM-M+ with integrated reinforcement fleece POLYAC® REINFORCEMENT FLEECE. Spread a layer of POLYAC® BDM-M+ on the surface (approx. 1 mm thick).

Immediately (wet in wet) apply the fleece in the resin without creases or bulbs and pour another sufficient amount (wet in wet) of POLYAC® BDM-M+ onto this and spread out (approx. 1.5 mm thick). After this waterproofing layer has cured, spray the protective layer POLYAC® BDM-HD in one or more movements on the surface to be treated.

Apply sufficient product and ensure sufficient coverage. This to obtain a continuous membrane over the entire surface. During the application, thoroughly flush all parts of the pump where components A en B have met with POLYAC® CLEANER. Certainly when the downtimes between spray sessions are longer than the reaction time stated in this technical sheet. Only this last layer is then fully and abundantly broadcasted with dry quartz grain after the spraying and this within the reaction time described in this technical data sheet. Minimum quartz grain size is 0.4 – 0.8 mm. Note: Do not disturb the paraffin layer that occurs during curing.

Layer	Product	Layer thickness mm	Consumption kg/m ²
Primer	Depending on the substrate	≈ 0.3	0.25 - ...
Levelling layer	Optional	1.5 - ...	
Waterproofing layer	POLYAC® BDM-M+ POLYAC® REINFORCEMENT FLEECE	Approx. 1.0 Fleece	Approx. 1.0 Fleece
	POLYAC® BDM-M+	Approx. 1.5	Approx. 1.5
Protective wear layer	POLYAC® BDM-HD + fully and abundantly broadcasting with dry quartz	Approx. 1.5 2 – 3	Approx. 1.8 4 – 6
Topcoat	POLYAC® 61-64 AF-65	0.6 – 1	0.6 – 1



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OPTION 4: As a waterproofing system according to ETAG 033: Waterproofing bridge deck – Trafficable zone with cast asphalt

Always apply 2 layers (waterproofing layer + protective layer).

Spray POLYAC® BDM-HD in one or more layers on the surface to be treated. Apply sufficient product and ensure sufficient coverage. This to obtain a continuous membrane over the entire surface. During the application, thoroughly flush all parts of the pump where components A en B have met with POLYAC® CLEANER.

Certainly when the downtimes between spray sessions are longer than the reaction time stated in this technical sheet. After the first layer has cured, apply a second layer. Only this last layer is then slightly broadcasted with dry quartz grain after the spraying and this within the processing time described in this technical data sheet. Minimum quartz grain size is 0.4 – 0.8 mm. Note: Do not disturb the paraffin layer that occurs during curing.

A POLYAC® 17 intermediary primer is then applied to this system to optimise the adhesion of the cast asphalt to the installed POLYAC® system.

Layer	Product	Layer thickness mm	Consumption kg/m ²
Primer	Depending on the substrate	≈ 0.3	0.25 - ...
Levelling layer	Optional	1.5 - ...	0.25 - ...
Waterproofing layer	POLYAC® BDM-HD	Approx. 1.5	Approx. 1.8
Protective layer	POLYAC® BDM-HD + lightly broadcasting with dry quartz	Approx. 1.5 + 0.3	Approx. 1.8 + Approx. 120 g/m ²
Intermediary primer	POLYAC® 17	0.1-0.2	0.1-0.2 l/m ²
Finishing	Cast Asphalt

OPTION 5: As a waterproofing system according to ETAG 033: Waterproofing bridge deck – directly charged parts

Spray POLYAC® BDM-HD in one or more layers on the surface to be treated. Apply sufficient product and ensure sufficient coverage. This to obtain a continuous membrane over the entire surface. During the application, thoroughly flush all parts of the pump where components A en B have met with POLYAC® CLEANER. Certainly when the downtimes between spray sessions are longer than the reaction time stated in this technical sheet. After the first layer has cured, apply a second layer. Only this last layer is then fully and abundantly broadcasted with dry quartz grain after the spraying and this within the processing time described in this technical data sheet. Minimum quartz grain size is 0.4 – 0.8 mm. Note: Do not disturb the paraffin layer that occurs during curing.

Layer	Product	Layer thickness mm	Consumption kg/m ²
Primer	Depending on the substrate	≈ 0.3	0.25 - ...
Levelling layer	Optional	1.5 - ...	
Waterproofing layer	POLYAC® BDM-HD	Approx. 1.5	Approx. 1.8
Protective wear layer	POLYAC® BDM-HD + fully and abundantly broadcasting with dry quartz	Approx. 1.5 + 0.3	Approx. 1.8 4 – 6
Topcoat	POLYAC® 61-64 AF	0.6 – 1	0.6 – 1



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Finishing

OPTION 1, 2, 3, 5:

After 2 hours all loose quartz is removed and a POLYAC® topcoat can be applied. (Always consult the POLYAC® topcoat technical data sheets)

OPTION 4:

After the last POLYAC® BDM-HD layer has cured, apply the intermediary primer POLYAC® 17. After applying POLYAC® 17 the cast asphalt must be applied within a few hours, but in any case the same day. When in doubt, it is recommended to perform an adhesion test in advance.

Application conditions

Conditions during the application and curing of the products.

The recommended processing temperature for substrate, environment, material and products is between +5°C and +35°C. For temperatures lower than +5°C please contact RESIPLAST NV.

Relative humidity: Max. 85%

Dew point: The temperature of the substrate and of the not fully cured product must be at least 3°C higher than the dew point. Avoid condensation on the surface from the moment that the preparations start until the complete curing of the products. Ensure adequate ventilation and a low relative humidity during curing.

Cleaning and maintenance

Clean the used tools with POLYAC® CLEANER before the curing of POLYAC® BDM-HD. Cured products residues must be removed mechanically.

For cleaning and maintenance of the installed synthetic resin systems please refer to the information sheets:

- Cleaning and maintenance of synthetic resin floor systems – INDUSTRY
- Cleaning and maintenance of synthetic resin floor systems – PUBLIC AND PRIVATE BUILDINGS.

Complimentary products

- Cleaning solvent for tools: POLYAC® CLEANER
- POLYAC® CATALYST
- Pigment powder
- Dry sprinkling granulate
- Depending on the application: POLYAC® BDM-M+, POLYAC®
- REINFORCEMENT FLEECE, POLYAC® THIXOGENE, POLYAC® 17
- POLYAC® primers and topcoats

Advice/focal points

Always consult all technical and safety data sheets of the products concerned.

For applications with heavy direct charge and friction, the protective layer can be replaced by a broadcasted layer of POLYAC® 55 with POLYAC® SL 2 FILLER or POLYAC® SL 3 FILLER.

Appearance – Composition

POLYAC® BDM-HD: Two pasty base components.

Component A: grey Component B: white

POLYAC® PTC: Colourless liquid.



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Reaction times

Reaction time: 10 to 15 min.

Processing time after mixing: max. 1 day

Trafficable: after 1 hour

Recoatible: after 1 hour

Fully mechanical load: after 2 hours

Full chemical resistance: after 2 hours

Times measured at 20°C; lower temperatures extend the curing time.

Consumption

POLYAC® BDM-HD consumption depends on the substrate and the project type.

The recommended minimum layer thickness of POLYAC® BDM-HD is 1.5 mm – 1.5 mm/layer = 1.8 kg/layer.

Technical Data

Odour	Methyl methacrylate (See also information sheet "POLYAC® ODOUR")
Initiator: POLYAC® CATALYST	BPO 50%, depending on the temperature from 1% to 5 weight % calculated on the proportion of POLYAC® BDM-HD
Viscosity	5000 – 8000 mPa.s (EN ISO 3219 at 20°C, Brookfield, spindle VI / 50 rpm)
Density	1.20 g/cm ³ ±0.05 (EN ISO 2811-1 at 20°C)
Flash point	10°C (MMA, DIN 51755)
Exothermic peak	110 – 130°C
POLYAC® BDM-HD Comp A + 5.8% POLYAC® PTC (weight % Comp A) POLYAC® BDM-HD Comp B + 4% POLYAC® CATALYST (weight % Comp B)	
Density	+/- 1.2 kg/dm ³
Colour	White
Shore D hardness	40 – 60

Chemical resistances

Polymerized POLYAC® resins have good chemical resistance to alkalis, petroleum derivatives, acid, salts and maintenance products. For more information please contact RESIPLAST NV.



POLYAC® BDM-HD

CE MARKING

CE	
0749	
KORAC NV, Gulkenrodestraat 3, 2160 Wommelgem, Belgium	
13 0749-CPR-BC2-562-4714-0001-001	
EN 1504-2 : 2004 Surface protection products – Coating	
Bond strength by pull-off	≥ 1.5 (1.0) N/mm ²
Thermal compatibility: Freeze-Thaw with deicing salts	AR ≥ 1.5 (1.0) N/mm ² 0,5
CO ₂ permeability	$S_D \geq 50$ m
Water vapour permeability	Class II
Capillary water absorption	$w < 0.1\text{kg}/(\text{m}^2 \cdot \text{h}^{0.5})$
Crack bridging	Class B3.1 (-10°C)
Wear resistance: Systems (Membrane: Taber, CS17/1000/1000)	< 3000mg (< 100mg)
Impact resistance	Class III
Skid resistance (in specific system)	Class III
Artificial weathering	No visual defects
Reaction to fire	E _{FL} (B _{FL} -s1 in system with topcoat POLYAC® 64 AF)
Dangerous substances	Complies with 5.4
DoP N°: DOP02PLC01S2	

Reference documents

Information sheet "POLYAC® ODOUR".



ETA certificate (ETA 17/0296) according to ETAG 005

ATG certificate (ATG 3151) according to ETAG 033 -g0003

Cahier des clauses techniques de mise en Oeuvre – Système d'étanchéité liquide POLYAC® STANDARD et POLYAC® BDM SYSTEM 5 – SAS ALPHA CONTROLE – (FR)



POLYAC® BDM-HD

Packaging

POLYAC® BDM-HD		
COMP A	40 kg	Metal pail
COMP B	40 kg	Metal pail
COMP C	2.4 kg	Plastic pail

To be ordered separately:

POLYAC® CATALYST	0,5 kg	Plastic pail
	5 kg	Plastic pail
	25 kg	Box

Storage and shelf life

Store POLYAC® products in a dry, well-ventilated storage area between +5 and +35°C.

Shelf life: 12 months after production date.

In case of doubt, please contact RESIPLAST NV and state the batch number on the packaging. Do not discharge into groundwater, surface water or sewers. Dispose of contaminated packaging and residues in accordance with the applicable legal requirements.

Safety precautions

Carefully read the safety data sheets before using POLYAC® products. A characteristic odour arises during processing. Ensure adequate ventilation, keep away from sources of ignition and do not smoke. Avoid skin contact. Eye irritation and/or hypersensitivity may occur with severe vapour concentration, inhalation and/or skin contact. Do not store food or drinks in the same workspace. Always wear personal safety equipment in accordance with the applicable local guidelines and legislation. Gloves and safety glasses are mandatory.

Warranties and Disclaimers

Hychem warrants that this product shall conform to the technical specifications published in the product literature. The quality and fitness of the product is dependent upon the proper use and application of the product by the applicator. Hychem has no role in the application of the finished polymer other than to manufacture and supply its components. It is vital that the person applying this product understands the product and is fully trained and certified in the use of spray equipment and application of sol-gel materials. There are no warranties that extend beyond the description on the face of this instrument, except when provided in writing, directly by Hychem and executed under seal by a company officer.

Field Support

Field support where provided, does not constitute supervisory responsibility. Suggestions made by HYCHEM either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they and not HYCHEM are responsible for carrying out procedures appropriate to a specific application.

Customer Responsibility

The technical information and application advice given in this publication is based on the best information available at the time of print. As the information herein is of a general nature, no assumption can be made as to the product suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.