

AplicaPROOF PUA H LV

Low-viscosity polyurea membrane
for waterproofing and protection



Hybrid, low
viscosity polyurea



Ideal for waterproofing
polyurethane
foam systems

DESCRIPTION

AplicaPROOF PUA H LV is a dual-component sprayable aromatic coating, suitable for waterproofing, protection and sealing. It is composed of two highly reactive liquid components, isocyanates and resins, which are mixed using our specific spraying equipment, to form a solid, continuous, watertight and waterproof polyurea membrane, without joints or overlaps, of high density, with high mechanical qualities, specially designed as a coating and protection for polyurethane foam systems.

USE

For the waterproofing and protection of:
Pitched or flat roofs of corrugated fibre cement, asbestos or similar.
Protection of polyurethane foam thermal insulation systems.
Furniture, decoration and theming.
Vehicle and boat coatings.
Flat walkable roofs, terraces, balconies and pitched roofs.
Inverted roofs (bottom insulation).
Concrete slabs, retaining walls and foundations.
NOTE: consult our technical department for application on other types of substrates or settings.

PACKAGING

225 kg metal drums in both components (Component A: isocyanates and Component B: amines)

EXPIRY

The shelf life of both components is 12 months stored at a temperature between 5°C to 35°C in dry locations. Once opened, the drum must be used. When opening the drums, mechanically shake component B (blue drum) to ensure good mixing of the internal components.

COLORURS

Grey

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HIGHLIGHTED

Recommended minimum thickness	±1,5 mm
Initial drying	±15~17 seconds
Tensile strength	± 13 MPa
Elongation	>250%
Shore A hardness	>85
VOC (Volatile Organic Compounds)	0
Method of application	Medium pressure dosing equipment

GENERAL CHARACTERISTICS

- AplicaPROOF PUA H LV is a highly stretchable and wear-resistant product which, once applied, offers great stability and durability and perfect waterproofing and watertightness.
- The versatility and its drying time of 13 to 17 seconds give it the possibility of adapting to any surface, making it the ideal product to be applied on irregular areas with shapes of any nature, whether curved or squared.
- The solid membrane is applied and formed by means of suitable dosing equipment. Its working pressure and temperature requirements mean that it can be applied using dosing equipment typical of polyurethane foam systems.
- The properties of the AplicaPROOF PUA H LV system allow it to adhere to any surface such as: concrete, ceramics, metals, polyurethane foam, wood, asphalt/bituminous sheets. In any situation or material, the surface must be uniform, firm, clean and dry at the time of application of the products. It is recommended to be applied directly on reinforced concrete structural slabs (floor slabs). Check what type of primer is necessary depending on the type of substrate.
- Consumption is approximately 1.7 kg/m² (at 1.5 mm dry film thickness). This may vary depending on the type of application, weather conditions or the nature of the substrates.
- The application of AplicaPROOF PUA H LV must be carried out in conditions where there is no moisture or water coming from the substrate, either at the time of application or afterwards (water table pressure, etc.). In the case of existing moisture in the substrate at the time of application, consult the technical data sheets of our primers where the maximum moisture ranges are specified.
- AplicaPROOF PUA H LV is 100% recyclable by environmentally friendly mechanical means. It is free of ozone depleting substances, so it does not promote the greenhouse effect (NO HFCs, HCFCs, VOCs, etc...), VOC=0.
- AplicaPROOF PUA H LV is an aromatic membrane and although it is stable against solar radiation, it needs protection to maintain its physical-mechanical properties. For this reason, the system needs to be protected with an aliphatic polyurethane resin, APLICAPROOF COAT 2K in cases where there is no protection with other physical elements. APLICAPROOF COAT 2K POOL or APLICAPROOF COAT 1K can also be applied.
- System complies with the Technical Building Code (CTE) according to the basic document DB SUA1, Class 3 ENV12633:2003; possibility of forming anti-slip finishes by adding solid particles.

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APPLICATION PROCEDURE

In general, the following factors should be taken into account prior to spraying:

Repair of surfaces (filling of cracks, elimination of irregularities, removal of old existing waterproofing). Work at specific points (unions with vertical walls, drains/evacuations, expansion or structural joints). Cleaning of the substrate, removing dust, dirt, grease or existing efflorescence. The substrate has to be sufficiently compressive to support the adhesion force of the membrane. If this is not the case, our primers will be used to achieve this goal. The minimum adhesion strength of the membrane to the substrate shall be 1.5 N/mm²(MPa). In case of doubt, apply to a limited area to check. The substrates on which the AplicaPROOF PUA H LV pure polyurea system can be applied are manifold and depending on their nature or condition, different procedures are to be followed. Below, we define the application on some of the most common surfaces, although if you have different needs, please contact our technical department.

Concrete surface.

In the case of concrete, it is necessary to have a surface with good flatness, without excessive irregularities. Therefore, assess whether prior grinding, polishing, milling or shot blasting of the surface is required. Existing cracks or areas with missing material must be repaired with a mixture of our epoxy resin APLICAPROOF PRIMER EP and silica aggregate (ratio ±1:4).

The concrete must be fully cured (the concrete curing process takes 28 days), or in any case, it is necessary to check the maximum degree of permissibility of substrate moisture depending on the primer to be used. Slurry or release agents must be removed and therefore an open pore surface must be achieved by shot blasting, milling or sanding (to achieve a substrate preparation according to the -CSP- index of values between 3 to 6, depending on the final use of the element).

Afterwards, the entire surface must be cleaned and removed of contaminants such as dust or particles from these previous processes. Apply the primer under the conditions and within the parameters indicated in the data sheets of these products. As a general rule, APLICAPROOF PRIMER PU, a two-component polyurethane primer, shall be used, applied homogeneously over the entire surface to fill existing irregularities. This should preferably be done with a short nap roller.

Uniform application of the AplicaPROOF PUA H LV membrane, in order to apply the desired thickness over the entire surface.

Application of the aliphatic resin coat APLICAPROOF COAT 2K/1K, in the desired amounts and thickness, in the case of no UV protection. This application can be done by short nap roller, "airless" type equipment (see application conditions in the technical data sheet of the product).

Notes:

In all cases, please consult the waiting times, drying times, solution in specific points of the construction, the application conditions of all the products through the technical data sheets of each product or consult our technical department. For other types of substrates, climatic conditions or the substrate to be applied, please consult the technical data sheets of these products, or our technical department.

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HANDLING AND TRANSPORT

These safety recommendations during handling are necessary during the execution process, as well as in the processes before and after the execution in situations of exposure to machinery under load.

Respiratory protection: When handling in aerosol form, an approved air-purifying respirator must be worn.

Skin Protection: Wear rubber gloves. Remove immediately after contamination. Wear clean clothes that cover the whole body. Wash thoroughly with soap and water after work and before eating, drinking or smoking. Contaminated clothing should be washed and/or dry cleaned.

Eye/face protection: Wear safety goggles to avoid splashing and exposure to spray mist.

Waste: Waste generation shall be avoided or minimised. Incinerate under controlled conditions in accordance with local and national laws and regulations.

In any case, consult the existing safety data sheets for the product, which are publicly available.

APPLICATION REQUIREMENTS (PROJECTION EQUIPMENT)

For formation, it is necessary to mix the two initial liquid components, isocyanates and amines/polyols, by means of suitable dosing equipment. The most general parameters of this equipment shall be the following:

Isocyanate heater temperature: 60-65°C.

- Amine heater temperature: 60-65°C.

- Hose temperature: $\pm 65^\circ\text{C}$.

- Operating pressure: 2,500-3,000 psi.

- Recommended mixing chamber: use mechanical purge chamber.

These temperature and pressure parameters must be assessed, ratified or slightly varied by the application agent, depending on the conditions of each climatic zone, climatic situation or according to the specifications of the spraying equipment.

REPAIR AND OVERLAPPING PROCEDURE

In cases where it is necessary to repair the membrane due to accidental causes, or when the assembly of unforeseen installations requires perforations on the membrane, the procedures to be followed shall be as follows:

Repairs

Trimming, removal of the affected and/or damaged area. Surface sanding of the affected area, extending this area by 20-30 centimetres around the entire perimeter, as a safety overlap. Cleaning (vacuuming) of the residues generated (dust); if possible, do not use water, and if water is used, assess the humidity of the support; possibility of applying ketone-based solvents for this type of surface cleaning. Thin film application ($\pm 100-150 \text{ g/m}^2$) of one of the following resins: APLICAPROOF PRIMER EP ALL. Lightly spread silica aggregate while the primer resin is still wet and wait for it to dry completely. Application of AplicaPROOF PUA H LV, (also compatible with manual membranes): APLICAPROOF PU with addition of APLICAPROOF PLUS. Application of the aliphatic UV protection resin APLICAPROOF COAT 2K/2KPOOL/1K.

Work overlap

In cases where the recoating time (24-48 hours) has been exceeded, i.e. the waiting time between jobs has been extended, proceed as follows: Sanding of a longitudinal overlap strip approximately 20-30 cm wide. Cleaning (vacuuming) of the residues generated (dust); if possible, do not use water, and if water is used, assess the humidity of the support; possibility of applying ketone-based solvents for this type of surface cleaning. Thin film application ($\pm 100-150 \text{ g/m}^2$) of one of the following resins: APLICAPROOF PRIMER EP ALL. Lightly spread silica aggregate while the primer resin is still wet and wait for it to dry completely. Application of APLICAPROOF PUA H, (also compatible with manual membranes): APLICAPROOF PU LV with addition of APLICAPROOF PLUS). Application of the aliphatic UV protection resin APLICAPROOF COAT 2K/2K POOL/1K.

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ADDITIONS

In the application of this system/product, the following products can be applied as complements to its use. In this way, they are protected and their physical-mechanical characteristics are improved depending on their exposure, type and conditions of the substrate, according to the desired finish or external conditioning factors. Check in each case its technical data sheet.

APLICAPROOF PRIMER EP: epoxy resin mortar with incorporated loads for filling and plugging of existing cracks in the surfaces of concrete or ceramics, to be applied in a single coat.

APLICAPROOF PRIMER EP ALL: water-based epoxy resin for pre-application on concrete, asphalt sheeting, metal or ceramic substrates, improving adhesion, absorbing moisture residing in the substrate and regularising the flatness of the substrate.

APLICAPROOF PRIMER WET: epoxy resin for pre-application on concrete or ceramic substrates, improving adhesion, absorbing moisture residing in the substrate and regularising the flatness of the substrate.

APLICAPROOF COAT 2K: two-component, coloured, aliphatic polyurethane resin for UV protection in situations of roofs or pavements without additional protection, for pedestrian or vehicular use.

APLICAPROOF COAT 2K POOL: two-component coloured aliphatic polyurethane resin for protection against UV rays and chlorinated agents for waterproofing swimming pools, ponds and aquariums.

APLICAPROOF COAT 1K: single-component aliphatic resin for UV protection on roofs, terraces, structural slabs or floors without additional protection, for non-walkable use or maintenance.

APLICAPROOF PLASTIC: plastic particles (different weights) which, once mixed with APLICAPROOF COAT 2K/2K POOL/1K, form a rough surface, in accordance with CTE DB SUA1 (Slipperiness of floors), up to a CLASS 3 classification ($R_d > 45$) ENV 12633:2003, depending on their dosage.

APLICAPROOF MESH: non-woven / woven mesh for pre-laying on excessively uneven substrates or on areas of soil or natural substrate.

APLICAPROOF BAND: deformable cold adhesive band, composed of an upper layer of non-woven mesh and a visco-elastic self-adhesive lower layer, both of which allow adaptation to the shape of the support. Suitable for use in joints and overlaps between metallic materials.

APLICAPROOF MASTIC PU: polyurethane joint filler (use in conjunction with APLICAPROOF BAND where necessary).

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TECHNICAL DATA OF THE COMPONENTS

PROPERTIES	COMPONENT A	COMPONENT B*
Specific weight ISO 1675	1,10 ± 0,05 g/cm ³	1,09 ± 0,05 g/cm ³
Viscosity at 23°(12 rpm) ISO 2555	300 ± 150 cps	800± 50 cps
Mixing ratio - by weight	100	102
Mixing ratio - by volume	100	100

*Data for component B pigmented in grey. Results carried out in the laboratory at 23°C and 50% RH, under controllable conditions.

PROPERTIES OF THE MEMBRANE

PROPERTIES	RESULT**
Density ISO 1675	±1,13 ±0,03 g/cm ³
Initial drying time	±15~17 seconds
Complete curing time	± 12 hours
Elongation at break ISO 527-3	>250%
Tensile strength ISO 527-3	>13 MPa
Shore hardness A /D DIN 53.505	>85 / >45
Application temperature range (substrate and ambient)	3°C ~ 40°C
Maximum relative humidity of application	85%
Temperature range of use	5 °C ~ 40 °C
Pedestrian trafficability	±3 hours
Slope constructive element	applicable at zero slope100%
Solids content ISO 1768	100%
Fire performance	NPA
VOC (Volatile Organic Compounds)	0
Solids content ISO 1768	100%
Adhesion to concrete	>2 MPa

**Results obtained in the laboratory at 23°C and 50% RH, under controllable conditions. These values may vary depending on the application, climatic and substrate conditions.

NOTE

The recommendations for use are based on our knowledge and experience. The technical data have been obtained under normal laboratory conditions and may vary depending on the conditions of installation. As the conditions of application are beyond our control, the information in this sheet does not imply any liability on the part of the company