



HydroPor® 610.2

Highly reactive PUR spray and casting foam system

The 2-component system HydroPor® 610 is a rigid polyurethane spray foam developed preferably for seamless and jointless thermal insulation "on site". It is characterised by its high reactivity and fast curing - with very good interlayer adhesion. As with all highly reactive 2 component products, processing requires 2 component equipments adapted to such systems.

The two components of HydroPor® 610 - a modified isocyanate and a formulated polyol - react immediately after mixing to form a foam, which cures after a few minutes to a body with almost wood-like strength and a fine, uniform cell structure.

Meanwhile expansion the foam is very sticky. The adhesion to all typical building surfaces is superb, provided that the surface is free of dust, grease, oil and silicone or other separating substances. The surface preparation is the same as coating. Coatings made of HydroPor foam are very stable and are walkable for maintenance work.

**Excellent adhesion
of layers
and
equally
fine cell structure**



With HydroPor® 610 one can apply so-called "overcoating" layers of up to 100 mm thickness and more in one operation. Due to the very good adhesion of the foam coating to mineral substrates, metal, wood and many plastics (but not to PE/PP*), elaborate designed component connections are avoided.

HydroPor® rigid foam comes with a closed-cell structure and has the same excellent physical properties as conventional PUR rigid foams.

The thermal resistance [0.019 W/(Km)] is - typical for PUR insulation materials - higher than that of all other insulation materials.

With comparatively low layer thicknesses, HydroPor® can therefore achieve excellent insulating effects against cold/heat.

The foam structure consists of more than 95% closed cells. **The foam is therefore waterproof and cannot absorb water or transport water by capillary action even when stored under water.** HydroPor® 610 can therefore be used to insulate and seal surfaces that are directly exposed to the weather or in contact with earth without additional sealing layers. However, the surface of the uncovered foam must be provided with a suitable protective coating to protect it from UV light.

Substrate Preparation

HydroPor® 610 can be applied to all typical building substrates, metals, glass, ceramics, plastics such as PVC, polyamide, epoxy resin, polyester. The foam does not adhere to non-polar surfaces - preferably plastics such as PE, PP, PTF - which are also difficult to bond or print.

Even load-bearing coatings with good adhesion to the substrate (emulsion or latex paints) and even burnt lacquers are suitable as substrates. In the case of substrates that are no longer load-bearing, sanding or flaking plasters and concrete, etc., we recommend priming with our PRIMER 609, which is specially formulated for the product.

HydroPor® 610 is not intended for the external coating of roofs.



HydroPor® 610 is used to insulate and seal cellar walls without seams and joints or to insulate facades with double-shell masonry in a single operation.

The diffusion of water vapour through HydroPor® 610 is excellent, therefore no additional vapour barriers or vapour pressure compensation layers are necessary for exterior coatings ("cold side").

Due to the aromatic structure of the isocyanates required as the second component, all PUR rigid foams yellow very strongly on exposure to light and are ultimately destroyed by UV rays on their surface. We therefore recommend that surfaces exposed to sunlight should always be covered with a suitable coating. Indoors, a commercially available, wash-resistant latex paint is sufficient for this purpose. For exterior surfaces, our product Silox 903 DF - a highly elastic, water-dilutable one-component coating - is an ideal and durable UV protection for the foam.



Storage tank insulated with PUR foam and coated with protective coating.

Product data

Components	: 2 Components (A + B)
Component A	: Polyol formulation
Component B	: Modified aromatic diisocyanate
Mixing ratio	: 1:1 volumetric / 1:1.1 by weight
Density (mixture 1:1)	: about. 1,15 gr/ml
Viscosity (60°C)	: approx. 80 mPa.s (mixture 1:1)
Volume weight (free foamed)	: approx. 30 - 40 kg/m ³
Compressive strength (free foamed)	: approx. 0,4 - ,07 N/mm ²
Water absorption, 90 Days*	: approx. 1 - 2 vol. %
Thermal conductivity	: 0,019 kcal/mh °C (DIN 52612)
Steam diffusion-resistance	: factor 75 (dimensionless)
DIN 4102 (Building material class)	: B 3

*stored under water

Processing Equipments

The processing i.e. the spray application - of HydroPor® 610 is simple and is mastered by any craftsman who relies on the spray application of paints and coatings after a short period of familiarization. Due to the high reactivity of the foam system, however, it is absolutely necessary to work with 2K pumps. Pumps specially adapted to the properties of PUR cast and spray foams are available and are naturally particularly suitable.



In principle, both high-pressure and low-pressure machines can be used. From our practical experience we recommend high-pressure piston pumps, if possible with additional feed pumps (barrel pumps) and as a gun a system with counterflow injection mixing and mechanical cleaning of the mixing chamber.

The pumps should be combined with flow heaters and the hose lines to the gun should be tempered (trace heating). When working in the cold season it is advisable to heat the material barrels with heating sleeves.

Work Safety

HydroPor-610 is a dangerous working material when used as spray foam. The oligomeric isocyanates used as the B-component have a very low vapour pressure, but become respirable as an aerosol during spray application and can cause severe allergic reactions in persons sensitive to them.

This reaction - typical for all isocyanates - can be safely avoided by using suitable respiratory protective devices. It is therefore strongly recommended that the product be sprayed only if all employees involved in the processing are adequately protected and uninvolved third parties are not exposed to any danger from the spray mist..

It is essential to observe the national regulations, e.g. those of the employers' liability insurance associations on the subject of "**Handling and processing of isocyanates**".

Storage Waste disposal

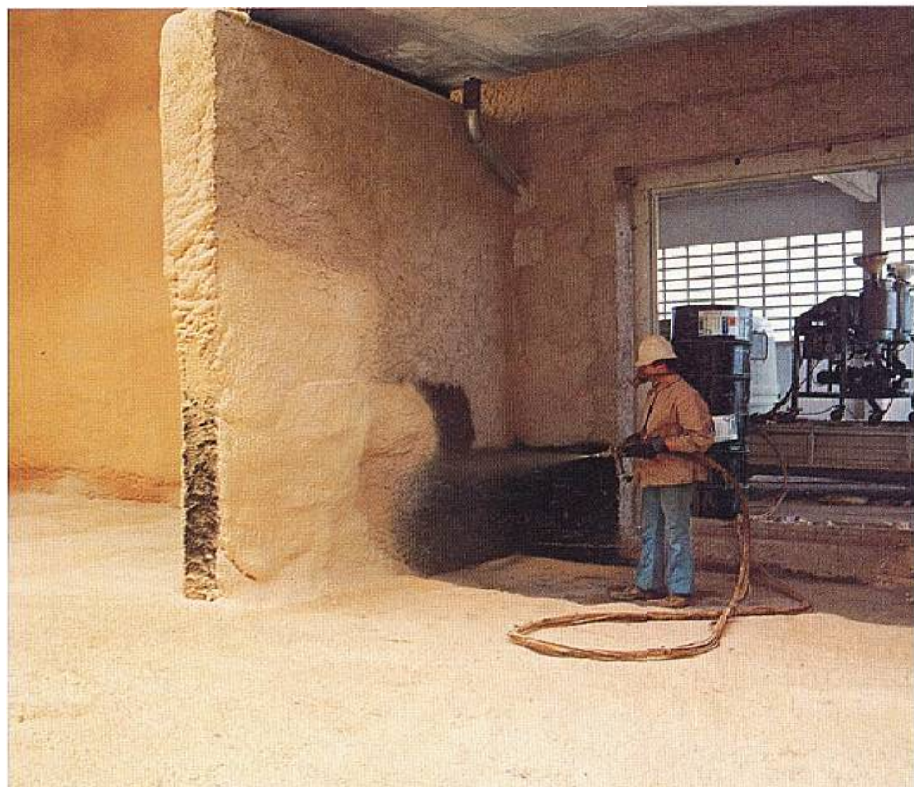
As with all polyurethane raw materials, the isocyanate (B) component of HydroPor® 610 in the supplied product, reacts slightly with water.

Since even traces of moisture affect the quality of polyurethane resins, opened containers must always be sealed tightly.

Stored in a cool and dry place HP-610 can be stored for at least 12 months, quality and reactivity are not affected by storage. At low temperatures the viscosity of the components increases; at frost the B-component can solidify to a wax-like mass. This transformation can be reversed without loss of quality by careful heating (e.g. in a water bath, not over 50 °C!).

The components are not flammable but combustible. This property has to be considered. They must not be stored together with food and must be kept in such a way that they are not accessible to children and unauthorized persons.

Reacted foam is physiologically completely harmless and can be disposed of as household waste. Product residues can therefore be rendered harmless most easily by mixing the components. Liquid residues and empty containers with liquid adhesions are hazardous waste and must be disposed of according to local regulations for such waste



These technical information describe the present-day state of knowledge these product. They should only inform about the possibilities of application and could not release the applicator of his commitment to check the possibility to use the product for the required application. Information for processing can be found in processing instructions of our product. Information about safe handling can be found in our current safety data sheet.

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ARCAN Waterproof

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