DonProof PU-H50

Spray applied, polyurea /polyurethane hybrid membrane for waterproofing and protection

DESCRIPTION

DonProof PU-H50 is a sprayable, high-quality, two-component, 100% solids, aromatic hybrid polyurea/ polyurethane coating that cures to form a solid, seamless, watertight and waterproof, high density polyurea membrane, with high mechanical properties.

DonProof PU-H50 is designed to have excellent adhesion on many common construction surface such as concrete, ceramic tiles, metals, spray polyurethane foam, plywood, asphalt/bituminous sheets when primed with Strongcoat Primer Range.

DonProof PU-H50 adaptability and drying time makes it suitable for application on uneven surfaces and in areas of any shape, whether curved or squared.

APPLICATIONS

Waterproofing and protection of:

- Sloped and flat roofs (walkable), balconies, and overhangs.
- Green roofs.
- Retaining walls and foundations.
- Concrete decks.
- Car park and bridge decks.
- Cut and cover structures.
- Furniture and thematizations.
- Vehicle and boat coatings (bed liners).
- Swimming pools, aquariums, lakes.

ADVANTAGES

- Solvent free.
- Excellent mechanical properties, high tensile and tear strength, high abrasion resistance.
- Excellent adhesion to all common substrates.
- Strong, flexible and hard-wearing membrane.
- Seamless and monolithic.
- Excellent thermal resistance. Max service temperature 90ºC.
- Cold Resistance: down to minus 20ºC.
- Excellent stability and durability.
- Friendly to the environment, free from harmful VOC compounds.
- Optimum maintenance and cleaning properties for the cured surface.
- Trafficable and it accept a rough finish to make it non-slip.

TECHNICAL PROPERTIES @ 25ºC:

Colour:	Gray
Density:	1.10 ± 0.02 g/cm³
Solid content: ISO 1768	100%
Tack free time:	5 - 7 sec
Light pedestrian traffice time:	3 hr
Curing time:	12 hr
Service temperature:	-20 to 90ºC
Shore hardness: ASTM D2240	
Shore A	≥ 90
Shore D	≥ 40
Taber abrasion: ASTM D4060	
H18 wheel	160 milligram
H22 wheel	120 milligram
Tensile strength: ASTM D412	≥ 18 MPa
Bond strength to concrete:*	≥ 2.0 MPa
Elongation: ASTM D412	≥ 350%
Tear strength: ASTM D624	≥ 80 N/mm
Crack Bridging: ASTM C1305	no cracks occurred after 10 cycles @ 8 mm
Resistance to water vapor diffusion: EN 1931	μ=1.700
Water vapor transmission: ASTM E96	0.15 g/(m²/day)
Water absorption: ASTM D570	Nil
UV accelerated weathering:	Pass @ 1000 hr

** When primed with Strongcoat Primer Range.*

DonProof PU-H50

METHOD OF USE

SURFACE PREPARATION

The surface should be clean, dry, sound, and free from oil, grease, and wax contamination. Cement laitance, loose particles, mold release agents, or curing membranes must be removed.

Fill surfaces irregularities with a suitable epoxy resin mortar. The maximum atmospheric relative humidity should not exceed 85%. New concrete structures need to dry for at least 28 days. Do not proceed with the application in the presence of moisture.

Concrete surface should achieve an open pore surface (surface Preparation index -CSP- 3 to 9) by grit blasting, milling, or sandblasting.

PRIMING

It is recommended to prime all kinds of substrates using epoxy primer of Strongcoat Primer Range. Refer to the Technical Datasheet of the primer for further information or Consult DCP's Technical Department for specific primer recommendation based on the project conditions.

Strongcoat Primer Range is designed to significantly improve the adhesion between DonProof PU-H50 and all kinds of non-porous substrates such as steel, ceramic tiles, bitumen, EPDM, PVC, and asphalt sheets.

APPLICATION

DonProof PU-H50 is hot spray applied; a suitable two components high-pressure heated spray machine (2.500 - 3.000 psi), with a heater temperature of 70 - 75ºC and a hose temperature of ±70ºC should be used. Both components must be heated up to approximately 70ºC. (consult DCP's technical department for further details).

	Component A	Component B
Density: ISO 1675	1.11 ± 0.03 g/cm³	1.09 ± 0.03 g/cm³
Viscosity @ 12 rpm: ISO 2555	850 ± 50 cps	1500 ± 400 cps
Mix ratio: By weight By volume	100 100	102 100

Stir/mix individual components well before use using a drum stirrer to homogenize the pigment and disperse any settlement. Failing to do so may cause color variances, foaming, sticky coating, and negatively affect DonProof PU-H50 performance.

Insert the pumps into the drums and attach the hoses to the equipment, set up the hoses and machine temperatures and start the equipment following the manufacturer instructions.

Apply the material using the spray gun. always apply DonProof PU-H50 perpendicularly to the substrate regardless of whether the surface is horizontal or vertical. This is extremely important, otherwise, it will cause gaps in the layer and incomplete seal.

Apply crossed coat continuously as needed to achieve the desired thickness according to the final use. When utilising a cross-hatch spray pattern, the minimum suggested application thickness for DonProof PU-H50 is typically 1.5 mm. After being applied, the material is suitable for light foot traffic) after about 3 hours, and is completely functional after about 2 - 3 days.

CONSUMPTION

Consumption will depend on the type of application, weather conditions, or substrates' nature.

- Recommended consumption is approximately: 1.7 kg/m² to provide 1.5 mm dry film thickness.
- To prevent the risk of cracks in the solid membrane, do not exceed 3 - 4 mm thickness in one single coat.

UV PROTECTION COAT

As with all aromatic coatings, DonProof PU-H50 should be sealed with a suitable polyurethane protection coat to prevent yellowing due to UV rays exposure. However, this will not cause any negative effect on the physical properties of the product.

Consult DCP Technical Department for specific recommendations for an aliphatic topcoat to guarantee its durability.

CLEANING

All tools should be cleaned immediately with xylene.

PACKAGING

DonProof PU-H50 is available in 450 kg drums (225 kg for each component).

STORAGE

DonProof PU-H50 has a shelf life of 12 months from date of manufacture if stored in a dry place, away from direct sunlight, extreme heat, cold, or moisture and in its original unopened pails at temperatures between 5°C and 35°C.

Once the tin has been opened, the product must be used. Once opening, component B drum must be agitated mechanically before inserting the transfer pumps and use.

If these conditions are exceeded, contact DCP Technical Department for advice.

CAUTIONS

HEALTH AND SAFETY

Apply in well ventilated areas. Do not smoke. Do not apply near naked flames. In closed areas use force ventilation and carbon active masks.

For further information, refer to the Material Safety Data Sheet.

FIRE

DonProof PU-H50 is nonflammable.

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A wide range of construction chemical products are manufactured by DCP which include:

- Concrete admixtures.
- Surface treatments
- Grouts and anchors.
- Concrete repair.
- Flooring systems.
- Protective coatings.
- Sealants.
- Waterproofing.
- Adhesives.
- Tile adhesives and grouts.
- Building products.
- Structural strengthening.