DUROTECH

DUROPROOF™ TTC

ONE PACK TRAFFICABLE POLYURETHANE MEMBRANE FOR ROOF , DECK AND FLOORING

DUROPROOFTM TTC is a technologically superior, high performance, single pack liquid polyurethane which cures to form an extremely tough and permanently flexible waterproof membrane with outstanding resistance to UV, weathering and wear. It is used as a top coat over other Duroproof PU membranes to provide a system with extreme levels of performance. It can also be used as floor coating direct to primer, with a non slip finish by adding DURO GRIT.

PRINCIPLE CHARACTERISTICS

- One pack, easy to spread, sprayable, forms a tough flexible seamless membrane.
- Trafficable, with extremely high tensile and tear strengths, and abrasion resistance.
- High gloss, very low dirt pickup and extremely easy to clean.
- Full outdoor exposure with outstanding weathering performance.
- Fast dry and tack free time.
- Resistance to oils & automotive fluids.

USE AREA

- Protective top coating of Duroproof PU basecoats such as DUROPROOF™ PPM for reinforced concrete roofs and decks, external balconies, plazas & podium levels to boost weatherability, UV protection, trafficability and ease of cleaning.
- Pedestrian traffic installations
- Work areas, mechanical and equipment rooms.
- General flooring use (with DUROGRIT non slip additive, over Hibuild WBE Primer).

PACKAGING

- 10 Litre pail

TECHNICAL INFORMATION

Appearance (dry film)	Grey, glossy, (other colours on request).
Tack-free Time	3-4 hours at 250C & 50% R.H. , 0.15 mm film
Cure	Apply second coat after 16 hours but no longer than 48 hours. Light foot traffic after 24 hours. Leave at least 3 days for heavy traffic.
Weather Resistance	2000 hours QUV, no crazing, spalling or softening.
Solids Content	80%
Tensile Strength Max.	13.0 MPa, ASTM D-412
Elongation at break	150%, ASTM D-412
Tear Strength	36 N/cm, ASTM D-1004
Hardness	87 Shore A.
Abrasion Resistance	No weight loss, 1000 cycles, 1000 gm, CS-17, ASTM D4060
Chemical Resistance	No visible effect, 16 hrs, 400C: 20% detergent, auto coolant, kerosene, motor oil, caustic solution (pH 13.5).

RECOMMENDED WET FILM THICKNESS

UV protection: Total 0.25mm (4.0 sq.m./L) to 0.3mm (3.3 sq.m./L)
Pedestrian traffic: Total 0.4mm (2.5 sq.m./L) to 0.50mm (2.0 sq. m./L) .
Non slip Floor coating: Total 0.4mm (2.0 sq.m./L) to 0.50mm (1.5 sq. m./L) .
Heavy traffic: Minimum 0.66 mm (1.5 sq. m./L). All applied as 2-3 coats.

MINIMUM DRY FILM THICKNESS

Total 0.2mm for weather protection, 0.3mm for pedestrian, and 0.5mm for heavy traffic areas.
Clean up : Xylene

PRIMING

Apply DUROPROOF™ PPM & other approved Duroproof PU basecoats according to their respective technical datasheets. Allow a minimum of 16 hours before over-coating with DUROPROOF™ TTC but do not delay more than 48 hours.For light traffic areas , TTC can be applied direct to Hibuild WBE Primer.

APPLICATION

For exposed areas, do not begin application if rain is anticipated in the next 16 hours. Where dew is expected overnight, it is best not to apply in the early morning or late afternoon.
For weather protection and occasional foot traffic: To the basecoat surface, apply DUROPROOF™ TTC by notched squeegee, brush, roller or airless spray in two coats or more. If rolling, use only a 5 to 6 mm nap roller cover that is free of loose fibre. For airless spray equipment, use a minimum 30:1 ratio pump. Further coats must be applied within a maximum of 24 hours to achieve the best intercoat adhesion. When dry, check for pinholes or misses and rectify if necessary. If the membrane becomes dirty between coats, clean with Xylene or preferably MEK solvent to ensure adhesion.

NON SLIP FINISH

Use DUROGRIT to create a non slip finish as detailed below. For extreme friction and hardness use 700 micron aluminium oxide or silicon carbide.

1. Light Traffic (Pedestrian, apartment maintenance room, domestic garage floor areas): Apply WBE Hibuild Primer. Allow to dry overnight. Using a lint free 5mm nap roller, spread a coat of DUROPROOF™ TTC evenly at a rate of 3 to 4 sq. m./L . Allow to dry overnight. Mix 2.2kg or 1.5 litres of loose packed of DUROGRIT into a 10 litre pail (11kg) of DUROPROOF™ TTC. Mix at low speed. Do not mix in air. Apply the non slip finish coat with a 5mm roller , spreading the grit as evenly as possible by rolling the surface in all directions. Allow to cure at least 16 hours before setting foot on the surface.

2. For high traffic areas, such as traffic aisles: Before applying DUROPROOF™ TTC check that the basecoat in these areas has been applied at 0.7 to 0.8mm (700-800 micron) dry film thickness. Spread DUROGRIT evenly onto a wet film of DUROPROOF™ PU TTC until refusal (completely covered in grit), i.e. about 2.5kg per sq.m.. The required wet film thickness before spreading the grit is 0.33mm (330micron), i.e. about 3.0 sq. m./L. Leave overnight to cure, then vacuum or carefully sweep off all loose grit. A final coat is applied over the grit by 5mm nap roller at a coverage rate of 3.0 – 4.0 sq. m./L. This final coat has DUROGRIT mixed into it in the same amount as described above for Light Traffic areas.

3. For areas of exceptional traffic and very high wear such as ramps, turning areas, entrances & exits, increase the thickness of DUROPROOF™ TTC by 50% before spreading with grit. The overall coverage (all coats) will be 1.2 sq. m./L minimum (0.83 L/sq. m.). This is best achieved by applying as two coats, a thin first coat at 6.0 sq. m./L, allowing this to dry, and then applying another thicker coat at 3.0 sq. m./L. The DUROGRIT is then broadcast into this wet coat in the same way as for high traffic areas. Leave overnight to cure, then vacuum or carefully sweep off all loose grit. A final coat is applied over the grit by 5mm nap roller at a coverage rate of 3.0 – 4.0 sq. m./L. This final coat has DUROGRIT mixed into it in the same amount as described above for Light Traffic areas.

Typically, allow to cure a minimum of 16 hours before any traffic. Conditions below 25°C & 50% R.H. will extend the time before any traffic is allowable. Wait at least 72 hours (3 full days) before allowing any vehicle traffic, and longer the more severe the expected traffic conditions, e.g. ramps and turning areas. For coarser non-slip finishes use sand graded at 500-1000 micron at 3 to 4 kg per 10 litre pail of DUROPROOF™ PU TTC, either broadcast over or mixed into the product.

CLEANING

Tools & spray equipment should be cleaned as soon as possible after use with xylene solvent. Read the MSDS before use. Note that once DUROPROOF™ TTC has set to a solid it will not re-dissolve.

MAINTENANCE

Duroproof TTC can be repaired by first cleaning the surface thoroughly with MEK or acetone solvent and applying the coating system however consult Durotech for advice beforehand.

WARNINGS AND HAZARDS

Keep away from heat and flame. Use only with adequate ventilation. Refer to the MSDS prior to use

PRECAUTIONS

Do not direct-stick tiles to the membrane. Do not apply above 30°C or below 10°C ambient temperature. For exposed areas, do not begin application if rain is anticipated in the next 16 hours. Where dew is expected overnight, it is best not to apply in the early morning or late afternoon.

Do not cover until fully dry. Protect the membrane system against damage before installation is completed.

Reseal all partly used product containers as soon as there is any significant delay in application. This re-sealed product must used within 1 or 2 days. Note that the product cures by reaction with moisture in the air, therefore container seals need to be air tight.

HANDLING AND STORAGE

DUROPROOF™ TTC can be stored for 6 months provided containers are stored under cover at below 25°C & 50% RH. Avoid prolonged exposure to humidity or high temperature. Avoid contamination with water or alcohols. The product is very sensitive to moisture. Once opened, containers should NOT be re-sealed for future use beyond one or two days.

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