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Corporate Video

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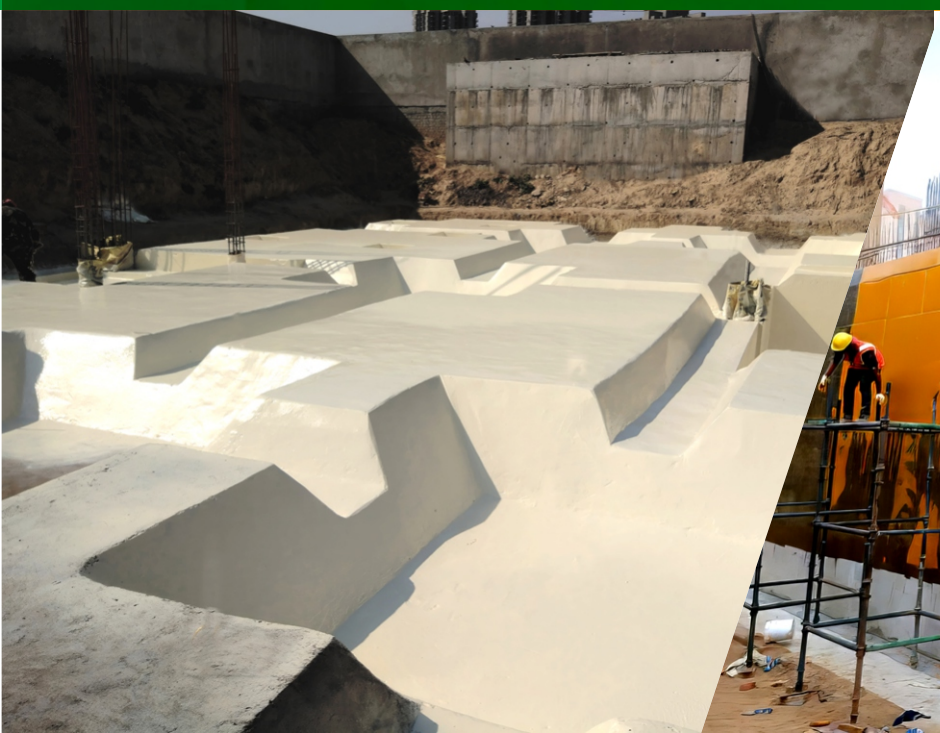
With the perfect waterproofing...
Imagine the possibilities!

DRYTHANE®

Solvent Free, Thick Film, Liquid Applied, Polyurethane and Hybrid Polyurea Waterproofing Membranes

Revision 11



OVERVIEW

Drythane® coatings are 100% Solids (Solvent Free) two component Polyurethane & Hybrid Polyurea Coating systems that contains no solvents, noxious smells and are non-flammable. They have been formulated specifically as high performance waterproofing membranes.

Drythane® provides lifelong protection to concrete and other masonry. Once coated, the surface is completely impervious to water. With Drythane®, you can create green and cool roofs of your dreams, with gardens, vegetation, water bodies, swimming pools etc.

Applied as a thick film (1.20 - 2.00 mm), these premium, high performance products have an expected service life of 30 years and more.

PRODUCT FEATURES

SEAMLESS MEMBRANE, EASY TO APPLY

Liquid applied as a seamless, monolithic membrane to a thickness of 1.20 – 2.00 mm. Simply mix the two components, pour and spread using paint roller to specified thickness in one or two coats. Special two component 100% Solids Damp Tolerant Polyurethane Primer will seal concrete prior to application of Drythane® main coat. Can be applied even in high humidity environments.

IMPERMEABLE TO WATER, GOOD CHEMICAL RESISTANCE

Drythane® coatings are completely impermeable to water and have very low water absorption in continuous immersion. Saturated weight gain < 1.20% as per Procedure 7.4 (Long Term Immersion) of ASTM D 570. This unique property allows them to be used for continuously damp or wet applications such as rooftop gardens, ponds, storage tanks, swimming pools etc. Drythane® coatings are also highly resistant to a wide variety of Acid, Alkalis, Salts etc.

TOUGH, DURABLE FILM

Cured Drythane® films are very tough, durable, elastomeric membranes with tensile strengths of 1,200 to 3,500 Psi and hardness of 75 Shore A to 60 Shore D! Cannot be damaged during normal use – hence no need for reinforcement or protection covering with masonry. Resists degradation from sunlight (UV), rain, heat & cold weather. Provides a long service life of 30 years and more. The coating are impervious to penetration by roots and puncture in normal usage. Liquid water cannot penetrate the coating, even at pressure of 100,000 N/m^2 (34 ft head) or more.

ELASTIC NATURE, CRACK SPANNING

Elastic membranes with 125 - 600% elongation. They are unaffected by temperature cycling and will span cracks in concrete from 2.80 - 12.00 mm depending upon product and base coat - top coat combination. Our technical team shall be happy to assist you in chosing the right product for your application.

HIGH ADHESION

Bonds strongly to the substrate. In pull off tests, break takes place within the concrete and not at the interface. Unlike sheet applied materials, liquid water cannot intrude under the coating.

OPTIONAL REFLECTIVE TOP COAT

Heat insulation can be achieved by greening (with drainboard, soil and grass) the roof after installing Drythane®! If you do not want a green roof and want to reduce indoor temperatures, simply apply optional aliphatic, colour fast, heat reflective top coat over the Drythane® main coat. Drythane Aliphatic® has a Solar Reflective Index (SRI) of 110 and reduces roof temperature by 12-15°C in peak summers.

TYPICAL APPLICATIONS

- Roof Top, Podium, Terrace
- Basement Foundation and Walls
- Tunnels, Inspection Pits
- Bathroom & Kitchen Foundation
- Water Storage Tanks (incl. Potable)
- Sewage Treatment Plants
- Swimming Pools
- Bridges, Inverted Roofs
- Car Decks, Balconies, Patios

PERFORMANCE PROPERTIES - MAIN COAT

Property**	ASTM Standard	Test Result - Typical				
		Standard	400 HE	600 HE	Plus	Ultimate Combo (0.5 mm 400 HE + 1.0 mm Std.)
Hardness	D 2240	60 Shore D (>100A)	85 Shore A	75 Shore A	92 Shore A	60 Shore D (>100A)*
Tensile Strength	D 638, Type IV Test Speed	> 15 N/mm² 50 mm/min.	> 6.00 N/mm² 500 mm/min.	> 8.00 N/mm² 500 mm/min.	> 20 N/mm² 500 mm/min.	> 6 N/mm² Base > 15 N/mm² Top
Elongation @ Break	D 638, Type IV Test Speed	120% (+/-) 10% 50 mm/min.	400% (+/-) 10% 500 mm/min.	600% (+/-) 10% 500 mm/min.	350% (+/-) 10% 500 mm/min.	400% (+/-) 10% Base 130% (+/-) 10% Top
Crack Bridging Static 1.50 mm DFT	BS EN 1062-7	2.80 mm (+/-) 10%	4.50 mm (+/-) 10%	5.50 mm (+/-) 10%	7.00 mm (+/-) 10%	12.00 mm (+/-) 10%
Crack Bridging Dynamic	ASTM C 1305	-	-	–	–	No Cracks
Tear Strength	D 624, Die C	> 50 N/mm	> 15 N/mm	> 20 N/mm	> 40 N/mm	> 25 N/mm
Puncture Resistance	E 154	> 800 N	> 300 N	> 300 N	> 600 N	> 900 N
Adhesion to Concrete	D 4541	Greater Than Tensile Strength Of Concrete				
Abrasion Resist. CS-17,1000gm,1000 cyl	D 4060	< 60 mg	< 2 mg	< 2 mg	< 20 mg	< 60 mg*
Water Absorption, Long term	D570, Para 7.4	0.59%	0.72%	1.20%	1.14%	0.59%*
Depth Of Water Penetration	EN 12390-8	Nil	Nil	Nil	Nil	Nil
Resistance Hydrostatic Head 7 Bar	ASTM D 5385	Pass	Pass	Pass	Pass	Pass
Chemical Resistance	D 543	10% H_2SO_4 = 0.26%	10% H_2SO_4 = 0.58%	10% H_2SO_4 = 0.63%	10% H_2SO_4 = 0.49%	10% H_2SO_4 = 0.26%*
	30 Days	30% NaOH = 0.62%	30% NaOH = 0.62%	30% NaOH = 0.72%	30% NaOH = 0.55%	30% NaOH = 0.62%*
	Weight Gain	30% NaCl = 0.19%	30% NaCl = 0.48%	30% NaCl = 0.58%	30% NaCl = 0.52%	30% NaCl = 0.19%*
Water Vapour Transmission	F 1249	0.85 gms/M2/ Day	1.25 gms/M2/ Day	1.80 gms/M2/ Day	0.645 gms/M2/ Day	1.000 gms/M2/ Day
Permeance	50% RH, 23C	0.071 Metric Perms	0.105 Metric Perms	0.151 Metric Perms	0.054 Metric Perms	0.084 Metric Perms
Permeability	MOCON	0.0064 Perm Inch	0.009 Perm Inch	0.0135 Perm Inch	0.005 Perm Inch	0.0075 Perm Inch

*** Values for top coat in contact with service. ** Varies slightly with colour.**

P-IV PRIMER

A 100% solids damp tolerant, two component polyure thane primer with excellent adhesion to damp and dry concrete. Penetrates and reinforces concrete surface.

- Seals and prevents outgassing and pin-holing. Reacts with moisture present in the concrete.

PERFORMANCE PROPERTIES - REFLECTIVE COAT

Property	ASTM Standard	Test Result
Tensile Strength	D 638	> 2,550 Psi (17.6 MPa)
Elongation @ Break	D 638	> 85%
Tear Strength	D 624, Die C	> 300 Lbf/in (52.5 N/mm)
Hardness, Shore D	D 2240	> 60 Shore D
Abrasion Resistance CS-17, 1000 gm, 1000 cycles	D 4060	< 50 mgs.
Flexibility	D 522	1.50 mm film passes 12 mm mandrel
Water Absorption	D570, Para 7.4	< 1.50% Saturation Water Absorption

ABOUT AMCHEM

Amchem is the pioneering manufacturer of two component solvent free polyurethane coatings. We have a 30 year track record and have executed some of the largest Polyurethane coating projects in the world. We ship our coatings worldwide from our ISO 9001, 14001 and 45001 certified plants in NOIDA, a suburb of New Delhi India. To learn more about our company please scan the adjacent QR code or visit **https://bit.ly/3JP0ipR**

APPLICATION

CONCRETE :
Drythane® can be used directly over concrete with PIV primer. Allow new concrete to fully cure for a minimum of 28 days (a concrete dryness test should be performed before application). Remove defective concrete, honeycombs, cavities, joint cracks, voids and other defects by routing to sound material.

SURFACE PREPARATION:
Broom clean existing substrate. Clean substrate of contaminants such as laitance, dirt, debris, oil, and grease that can affect adhesion of Drythane® by water jet at minimum 3,000 psi. Remove existing coatings if any. Allow to dry thoroughly. Verify that existing substrate is dry before proceeding with application of Drythane®.

MIXING OF MATERIALS:
Use a heavy duty power drill with Jiffy Mixer attachment. Mix Resin for 1 minute before adding Activator. After adding Activator mix the combined materials for a minimum of 2 minutes moving the mix blade from top to bottom. Make sure to mix areas around side walls and bottom of pail. Improper mixing will result in non-curing material. Never fully invert empty pails in attempt to drain material. This will result in non-curing material. Do not break down kits into smaller quantities. MIX ENTIRE KIT. Do not keep main coat in bucket after mixing - pour onto the surface immediately and spread.

SAFETY:
100% Solids Polyurethane systems are solvent free eliminating solvent health hazards and flammability concerns. All safety precautions warranted by good industrial hygiene practices and regulated by local, state or central laws must be taken into consideration while applying these coatings.

PRIMING:
Substrate must be free of laitance, dust, oils and grease. Divide the surface to be coated into grids of 8 Sq.M each. Spread mixed materials using roller @ 1 Kit (0.80 L Resin + 0.80 L Activator)/ 8 Sq.m grid for 0.20 mm thickness single coat for moisture level of up to 4%. For 4-8% moisture level apply another coat after 3 hour minimum interval. If the primed area is exposed to rain, dry with a clean cloth and apply a coat of 100 microns.

COATING:
Divide the surface to be coated into grids of 8 Sq.M each. Spread mixed materials using notched trowel and then roller @ 1 Kit / 8 Sq.m grid for Drythane Standard/ 600 HE or @ 2 Kit/ 8 Sq.m for 400E/ Plus to get 1.00 mm thickness. Before beginning application measure the dew point using a digital psychrometer and the surface temperature using non-contact IR thermometer. Avoid applying if the air dew point is less than 3°C below the ambient temperature. Avoid applying during times of rapidly rising temperatures (forenoon) or if inclement weather is imminent. In case of rainfall after first coat, dry with a clean cloth and apply a primer coat of 75 microns. Allow to dry before applying second coat.

REINFORCEMENT: Drythane® normally requires NO reinforcement. However, if the surface is very rough or has voids Glass Mat/ Industrial Nylon Fabric reinforcement can be used. Fully embed reinforcement into wet base coat using a brush or roller until free of voids, wrinkles, air pockets, standing fibres, etc. Apply a second layer of base coat over the surface.

MATERIAL CHARACTERISTICS

	Primer	Standard	400 HE	600 HE	Plus	Aliphatic
Solids Volume	100%	100%	100%	100%	100%	100%
Mix Ratio By Vol. (Resin : Act.)	1.00 : 1.0	3.80 : 1.0	4.25 : 1.0	1.75 : 1.0	3.35 : 1.0	2.50 : 1.0
Sp. Gravity Resin (Varies with colour)	0.96	1.20	1.11	1.10	1.10	1.44
Sp. Gravity Activator	1.24	1.23	1.22	1.11	1.22	1.15
Sp. Gravity Mixed (Varies with colour)	1.10	1.21	1.13	1.10	1.13	1.36
Recommended DFT	0.20 mm	1.50 mm	1.50 mm	1.50 mm	1.50 mm	0.30 mm
Coverage Litres/M2 (at recomm. DFT)	0.20	1.50	1.50	1.50	1.50	0.30
Recommended DFT (as base coat)	N.A	N.A	0.75 mm	0.75 mm	0.50 mm	N.A
Coverage Litres/M2 (as base coat)	N.A	N.A	0.50	0.50	0.50	N.A
Can Size Resin (Gross, Litres)	2.00	10.00	5.00	10.00	5.00	5.00
Can Content Resin (Nett., Litres)	0.80	6.33	3.24	5.09	3.08	2.57
Can Size Activator (Gross, Litres)	1.00	2.00	1.00	3.00	1.00	1.10
Can Content Activator (Nett., Litres)	0.80	1.67	0.76	2.91	0.92	1.03
Gel Time (Temperature Dependent)	30-60 mins.	30-60 mins.	30-60 mins.	30-60 mins.	30-60 mins.	30-60 mins.
Tack Free Time (Temp. Dependent)	90-150 mins.	90-150 mins.	90-150 mins.	90-150 mins.	90-150 mins.	90-150 mins.
Storage & Shelf Life	Temperature: Min. 4 C, Max. 50 C. Keep sealed cans indoors and dry. Shelf life of unopened cans is 12 months.					