HI-PRO PVC Membrane

DESCRIPTION & USE

Lexcan Hi-Pro PVC is a premium roofing and waterproofing membrane. The membrane is a trilaminate, consisting of two heavy gauge PVC layers internally reinforced with a heavy duty polyester scrim. Other modifiers have been added to the polyvinyl chloride polymer to create a true roofing grade material that is highly resistant to UV radiation, temperature extremes, ozone and environmental pollutants.

Hi-Pro PVC roofing membrane is available in 1.3 mm (0.050”), 1.5 mm (0.060”) and 2.0 mm (0.080”) thicknesses for enhanced puncture resistance and durability. Standard colours are white and grey, however tan and custom colour blends are also available.

FEATURES & BENEFITS

- **Reliable Heat-Welded Seams** - Thermofused, molecularly bonded seams offer high strength and superior reliability.
- **Superior Formulation** - Over 90% of the total polymer content is PVC polymer, suitably mixed with plasticizers, stabilizers and pigments to form a low volatility membrane designed for long term weather resistance.
- **Economical** - A mechanically fastened PVC roof can be very economical in either new or re-roof applications. In most cases the membrane can be installed over top of an existing roof to avoid the high costs of tearing-off and disposing of the old roof.
- **Energy Saving** - Studies have shown that a light coloured roof surface can significantly reduce air conditioning costs in the summer.
- **Roof-top Advertising** - Using different coloured membranes, your logo can be incorporated right into your roof!
- **Easy to Repair** - Should mechanical damage occur, it can be easily found and quickly repaired by trained roofing technicians.
- **Environmentally Friendly** - With heat-welded seams, only the most minimum amount of adhesives and sealants are required to complete the system.
- **Chemical Resistant** - Hi-Pro PVC is able to withstand prolonged exposure to numerous industrial wastes and chemicals, including some oils. Contact Lexcan to verify the resistance of the membrane to a particular chemical before proceeding with an installation.
- **The Backing of Lexcan** - Canada's premier supplier of single ply membrane systems. With more technical representatives and support staff to help you plan your job, answer your questions and provide jobsite assistance.

APPLICATION

Hi-Pro PVC Roofs may be fully adhered or mechanically fastened to the structural deck.

Fully Adhered Roof System

The adhesive adhered system is the most versatile of Lexcan's roofing assemblies. Able to be used on any sloped surface, it is ideal for barrel, saw-tooth or irregularly shaped roofs where comers and direction changes prevail. It is also the system of choice for high-rise buildings or buildings exposed to unusually extreme winds.

In the fully adhered assembly, the Lexcan PVC membrane is bonded to an acceptable insulation or other substrate with PVC Low-VOC Bonding Adhesive. Membrane seams are heat-welded to complete the watertight membrane from the parapet to the drain.

Mechanically Fastened Roof System

The mechanically fastened roof system (MFRS) takes advantage of the Hi-Pro PVC membrane’s super strong tear resistance and heat welded seams to provide a secure, lightweight roof. Economical to install, the mechanically fastened roof system is as popular and reliable in re-roofing as it is for new construction.

In the MFRS, the Hi-Pro PVC membrane is secured to the structural deck with Lexgrip membrane fasteners and plates, evenly spaced down the side of each membrane sheet. The number and pattern of fasteners required depends upon several factors including local wind conditions, building construction and the height of the roof. Adjacent sheets are positioned to overlap the fasteners and then heat-welded to form a watertight seal that is as strong as the membrane itself.

Lexcan has a variety of special corrosion resistant fasteners for securing the Hi-Pro PVC membrane to steel, concrete, lightweight concrete and wood decks. Lexgrip™ fasteners surpass Factory Mutual requirements for wind and corrosion resistance.

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APPROVALS & COMPLIANCES

- Lexcan Hi-Pro PVC membrane meets and exceeds the requirements of ASTM D4434, Standard Specification for Polyvinyl Chloride Sheet Roofing.
- Hi-Pro PVC membrane conforms to CAN/CGSB-37.54-95, Standard for Polyvinyl Chloride Roofing.
- CCMC 13312-L is the evaluation listing for Hi-Pro PVC Membrane

Hi-Pro PVC roof systems have also been tested and meet the requirements of:

- Factory Mutual Research Corp.
- Underwriters' Laboratories Inc.

For further information on specific listings and approvals, refer to the appropriate listing book or consult your Lexcan representative.

INSTALLATION

Hi-Pro PVC is installed by professional roofing contractors trained and approved by Lexcan. Refresher seminars are Regularly held to update contractors on the latest techniques and developments.

WARRANTY

Superior installation quality and long term performance is guarantied with comprehensive Lexguard warranty packages. To provide the best assurance of a quality installation, projects are normally inspected both during installation and after completion by a Lexcan technical representative.

Radiative Properties for ENERGY STAR, Cool Roof Rating Council (CRRC) and LEED

Physical Property	Test Method	White PVC
ENERGY STAR – E-903 Initial solar reflectance	Solar Spectrum Reflectometer	0.87
ENERGY STAR – E-903 Solar reflectance after 3 years	Solar Spectrum Reflectometer (uncleaned)	0.61
CRRC Initial solar reflectance	ASTM C1549	0.87
CRRC Solar reflectance after 3 years	ASTM C1549 (uncleaned)	0.61
CRRC Initial thermal emittance	ASTM C1371	0.95
CRRC Thermal emittance after 3 years	ASTM C1371 (uncleaned)	0.86
LEED Thermal emittance	ASTM E408	0.94
SRI - Solar Reflectance Index	ASTM E1980	111

LEED INFORMATION

Pre-consumer Recycled Content	10%
Post-consumer Recycled Content	0%
Solar Reflectance Index (White)	111

TECHNICAL DATA

Physical Property	ASTM D4434 Requirement	1.27 mm (50-mil)	152 mm (60-mil)	2.03 mm (80-mil)
Thickness over scrim, ASTM D4434, optical method, avg. of 3 areas	0.40 mm (0.016") min.	0.432 mm (0.017") typ.	0.635 mm (0.025") typ.	0.762 mm (0.030") typ.
Weight	—	1.61 kg/m² (0.33 lbs/ft²)	1.95 kg/m² (0.40 lbs/ft²)	2.68 kg/m² (0.55lbs/ft²)
Breaking strength, (MD x CD), ASTM D751 grab method	35 kN/m (200 lbf/in) min.	56 x 53 kN/m (320 x 300 lbf/in)	58 x 55 kN/m (330 x 300 lbf/in)	63x 58 kN/m (360 x 330 lbf/in)
Elongation break of reinforcement, (MD x CD), ASTM D751 grab method	15% min.	30% x 30%	30% x 30%	30% x 30%
Seam strength, min., ASTM D751 grab method (% of breaking strength)	>75%	PASS	PASS	PASS
Tearing strength, (MD x CD), ASTM D751 proc. B, 8 in. x 8 in.	200 N (45 lbf)	222 x 311 N (50 x 70 lbf)	222 x 311 N (50 x 70 lbf)	222 x 311 N (50 x 70 lbf)
Low temperature bend, no cracks 5x ASTM D2136	PASS	PASS (-40 °C)	PASS (-40 °C)	PASS (-40 °C)
Linear dimensional change, ASTM D1204, 6 hours at 80 °C	± 0.5% max.	0.4% typ.	0.4% typ.	0.4% typ.
Ozone resistance, no cracks 7X ASTM D1149, 100 pphm, 168 hrs	PASS	PASS	PASS	PASS
Water absorption resistance, ASTM D570 166 hours at 70 °C water	± 3.0% max.	2.0% typ.	2.0% typ.	2.0% typ.
Field seam strength, ASTM D1876 tested in peel	No requirement	4.4 kN/m (25 lbf /in.) min. 10.5 kN/m (60 lbf /in.) typ.	4.4 kN/m (25 lbf /in.) min. 10.5 kN/m (60 lbf /in.) typ.	4.4 kN/m (25 lbf /in.) min. 10.5 kN/m (60 lbf /in.) typ.
Water vapour permeance, ASTM E96 proc. B	No requirement	0.10 Perms max., 0.05 Perms typ.	0.10 Perms max., 0.05 Perms typ.	0.10 Perms max., 0.05 Perms typ.
Puncture resistance - Federal, lbf (kN) FTM 101C, method 2031	No requirement	280 lbf typ.	320 lbf typ.	380 lbf typ.
Puncture resistance - Dynamic, ASTM D5635	14.7 ft-lbf (20 J)	PASS	PASS	PASS
Puncture resistance - Dynamic, ASTM D5635	145 N (33 lbf)	PASS	PASS	PASS
Xenon-Arc resistance, no cracks/ crazing 10x ASTM G155 0.35 W/m² at 340nm, 63 °C B.P.T. 12,600 kJ/m² total radiant exposure 10,000 hours	PASS	PASS	PASS	PASS
Properties after heat aging, ASTM D3045, 56 days at 80 °C Breaking strength, % retained Elongation reinf., % retained	90% min 90% min	90% min 90% min	90% min 90% min	90% min 90% min

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.