



## IB Roof Systems PVC Roofing Membranes: Typical Properties

Property	Method	Requirement	50 Mil	60 mil	80 mil
<b>Thickness [in]</b>	ASTM D751	0.045	0.05 (+/- 10%)	0.06 (+/- 10%)	0.080 (+/- 10%)
<b>Breaking Strength [lbf/in.]</b>					
<b>MD</b>	ASTM D751	200	370	465	540
<b>XMD</b>	A-Grab Method	200	310	400	480
<b>Elongation @ Break [%]</b>					
<b>MD</b>	ASTM D751	15 <sup>A</sup>	40	40	40
<b>XMD</b>	A-Grab Method	15 <sup>A</sup>	38	38	38
<b>Retention of Properties after Heat Ageing:</b>					
Breaking Strength [%]	ASTM D3045	90%	Pass	Pass	Pass
Elongation @ Break [%]	80°C for 56 days	Original	Pass	Pass	Pass
Tearing Strength [%]			Pass	Pass	Pass
<b>Tearing Strength [lbf]</b>	ASTM D751				
<b>MD</b>	B-Tongue Tear Method	45	72	73	74
<b>XMD</b>		45	49	60	70
<b>Low Temperature Bend [°C]</b>	ASTM D2136 -40°C	Pass	Pass	Pass	Pass
<b>Accelerated Weathering</b>					
Cracking (7x Magnification)	ASTM G53	None	None	None	None
Crazing (7x Magnification)	5,000 h min	None	None	None	None
Discoloration (Visual)		Negligible	Negligible	Negligible	Negligible
<b>Linear Dimensional Change [%]</b>	ASTM D1204				
<b>MD</b>	80°C for 56 days for	0.5	-0.4	-0.4	-0.4
<b>XMD</b>	6 hours	0.5	0.0	0.0	0.0
<b>Change in Weight After Immersion in Water [%]</b>	ASTM D570 70°C for 168 hours	3	1.5	1.2	1.2
<b>Static Puncture Resistance</b>	ASTM D5602 33 lbf @ 23°C	Pass	Pass	Pass	Pass
<b>Dynamic Puncture Resistance</b>	ASTM 5635 20J @ 23°C	Pass	Pass	Pass	Pass
<b>Seam Strength</b>	D751	75%	100%	100%	100%
<b>Warranty (years non-prorated)</b>			15 Material	20 Material	25 Material

<sup>A</sup> For reinforcing fabric only; elongation of PVC material shall be 250% MD and 220% XMD

The table presents typical properties of IB Roof Systems PVC roofing membranes. Requirements are taken from ASTM D4434-96.

Note: As well as ASTM D4434-96, IB Roof Systems PVC roofing membranes meet the following standards:

1. Factory Mutual 4470
2. UL/ULC Class A
3. CAN/CGSB 37.54-95

# IB Roof Systems PVC & ChemGuard Roofing Membranes: Chemical Resistance Properties

Chemical/Material	PVC	ChemGuard
Acetic Acid 10%	S	S
Acid Rain	S	S
Acrylic Paint	NS	S
Ammonium Hydroxide	NS	S
Ammonium Sulphide (22%)	S	S
Animal Fats	S	S
Asphalt/BUR Roofing	NS	S
ASTM Oil #1	S	S
ASTM Oil #2	NS	S
ASTM Oil #3	NS	S
Bleach	S	S
Citric Acid	NS	S
Cooking Grease	NS	S
Copper Sulfate	NS	S
Crude Oil (Alberta Light)	NS	S
Detergent Solution	NS	S
Diesel Fuel	NS	S
Fertilizer Solution	NS	S
Gasoline	NS	S
Grease/Lard	NS	S
Hydrofluoric Acid	NS	S
Hydrogen Peroxide	NS	S
Hydrogen Sulphide	S	S
Jet Fuel	NS	S
Kerosene	NS	S
Latic Acid	NS	S
Microbial Organism	S	S
Mineral Spirits	NS	S
Non Oxidizing Acids and Bases	S	S
Ozone	S	S
Phosphoric Acid	NS	S
Salt Water	S	S
Silicone Grease	S	S
Smog (no or SO <sub>2</sub> )	S	S
Soap Solution	S	S
Sodium Hydroxide	NS	S
Soldering Acid	NS	S
Soldering Flux	NS	S
Soy Bean Oil	NS	S
Sulphuric Acid	NS	S
Transformer Oil	NS	S
Tung Oil	NS	S
Turpentine	S	S
Utility Oil (Electric Motor, etc.)	NS	S
Vegetable Oil	NS	S
Xylene (25%)	NS	S

The table summarizes compatibility of IB PVC and ChemGuard membranes with select chemical agents. All tests are conducted to ASTM D543 and ASTM D471. "S" denotes satisfactory resistance to the agent while "NS" denotes not satisfactory. Note that chemical compatibility is influenced by temperature, exposure time, concentration and chemical composition. The provided test data may not provide sufficient information where chemical compatibility is identified as a critical property. It is recommended that compatibility tests are conducted for specific conditions.