

**GEOMEMBRANE LINER
ENGINEERING SPECIFICATION GUIDE**



45 mil HYPALON® Black, Reinforced - Polyester 1,000d

Membrane is .045in nominal thickness, scrim-reinforced,
uncured (thermoset) black Hypalon

| PROPERTIES | TEST METHOD | MINIMUM VALUE | AVERAGE VALUE |
|---|---|---|---------------------------|
| Thickness 1) Overall (Mils) 2) Min over Scrim | ASTM D-751 Optical method | 41 15 | 45 nom. pass |
| Tensile Properties (each direction) Breaking Strength (lbs) Fabric Membrane Rupture Elongation at Break (%) Fabric Membrane Rupture | ASTM D-751 Grab Method | 250 150 15% 30% | 275 225 20% 110% |
| Breaking strength, minimum | ASTM D-751 Grab Method | 225 lbs | 275 lbs |
| Tear Strength, minimum | ASTM D-751 Tongue Tear | 90 lbs | 105 lbs |
| Low temperature bend, 1/8 in. mandrel | ASTM D-2136 | -40° F pass | Pass |
| Shore A hardness | ASTM D-2240 | 85 ± 5 | |
| Hydrostatic resistance, min. | ASTM D-751 Method A | 350 psi | 405 psi |
| Ozone resistance | ASTM D-1149, 3 ppm @ 300% Strain @ 105° F: 72 hrs. And 2500 hrs. | No effect | Pass |
| Emmaqva concentrated Natural sunlight, 3 million Langleys | ASTM E 838 | No visible surface pass cracking or stiffening | |
| Bonded Seam Strength | ASTM D 751 Modified (12 in./min.) | 160 | 200 |
| Dimensional stability | ASTM D-1204 24 hrs @ 129.2° F or 212°F 1 hr | Less than 2 | Less than 2 |
| Puncture resistance, min | FTMS 101C, Method 2031 | 250 lbs | 265 lbs |
| Ply Adhesion | ASTM D-512 | 10 lbs | 12 lbs |

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