



HDPE Geomembrane : Black Double-Sided Textured

Product Specifications / Data Sheet

GPF's HDPE Double-Sided Textured Geomembrane is a high quality, black coloured product that is manufactured in our state of the art Saudi Arabian facility. GPF uses 97.5% pure high density polyethylene virgin polymer and 2.5% carbon black with trace amounts of antioxidants and heat stabilizers.

GPF's HDPE Double-Sided Textured Geomembrane is UV stabilized, highly resistant to chemicals, dimensionally stable with exceptional durability including high puncture and stress crack resistance.

GPF's HDPE Double-Sided Textured Geomembrane exceeds the industry standard GRI GM13, as regularly tested in our full laboratory integrated into our factory and also as certified by multiple international independent expert plastics and polymer laboratories including TRI Environmental and Excelplas.

| Test Property | Unit | Test Method | Minimum Average Value (per GRI GM13) | | | | |
|---|-------------------|---|--------------------------------------|--------|--------|--------|--------|
| Thickness ⁽¹⁾ | mm | ASTM D 5199 | 0.75 | 1.0 | 1.5 | 2.0 | 2.5 |
| Lowest individual (-10%) | mils | | 30 | 40 | 60 | 80 | 100 |
| Density | g/cm ³ | ASTM D 792 | ≥ 0.94 | ≥ 0.94 | ≥ 0.94 | ≥ 0.94 | ≥ 0.94 |
| Strength at Yield (Both Directions) | N/mm | ASTM D 6693 | 11 | 15 | 22 | 29 | 37 |
| Strength at Break (Both Directions) | N/mm | Type IV Dumbbell, 50mm/min | 8 | 10 | 16 | 21 | 26 |
| Elongation at Yield (Both Directions) | % | Gage length 33 mm for Yield Elongation | 12 | 12 | 12 | 12 | 12 |
| Elongation at Break (Both Directions) | % | Gage length 50mm for Break Elongation | 100 | 100 | 100 | 100 | 100 |
| Tear Resistance | N | ASTM D 1004 | 93 | 125 | 187 | 249 | 311 |
| Puncture Resistance | N | ASTM D 4833 | 200 | 267 | 400 | 534 | 667 |
| Carbon Black Content | % | ASTM D 1603 | 2.0% - 3.0% | | | | |
| Carbon Black Dispersion | Category | ASTM D 5596 | Note (2) | | | | |
| Dimensional Stability | % | ASTM D 1204 (120 °C / 1 h) | ± 2 | ± 2 | ± 2 | ± 2 | ± 2 |
| Melt Flow Index ⁽³⁾ | g/10 min | ASTM D 1238 (190 °C / 2.16 kg) | ≤ 1 | ≤ 1 | ≤ 1 | ≤ 1 | ≤ 1 |
| Low Temperature Brittleness | °C | ASTM D 746 | -77 | -77 | -77 | -77 | -77 |
| Stress Crack Resistance (NCTL) | hr. | ASTM D 5397 | ≥ 500 | ≥ 500 | ≥ 500 | ≥ 500 | ≥ 500 |
| Oxidative Induction Time (Standard; S-OIT) | min | ASTM D 3895 | 100 | 100 | 100 | 100 | 100 |
| Oxidative Induction Time (High Pressure; HP-OIT) | min | ASTM D 5885 | 400 | 400 | 400 | 400 | 400 |

Roll dimensions

Size A)

| | | | | | | | |
|-------------------------------------|----------------|-------|-------|-------|-----|-----|-----|
| Roll Width (approx.) ⁽⁴⁾ | m | ----- | 7 | 7 | 7 | 7 | 7 |
| Roll Length (approx.) | m | ----- | 245 | 185 | 120 | 90 | 70 |
| Roll Area (approx.) | m ² | ----- | 1,715 | 1,295 | 840 | 630 | 490 |

Size B)

| | | | | | | | |
|-------------------------------------|----------------|-------|-------|-------|-----|-----|-----|
| Roll Width (approx.) ⁽⁴⁾ | m | ----- | 8 | 8 | 8 | 8 | 8 |
| Roll Length (approx.) | m | ----- | 215 | 160 | 105 | 80 | 65 |
| Roll Area (approx.) | m ² | ----- | 1,720 | 1,280 | 840 | 640 | 520 |

Notes:

(1) One (1) measurement taken every 1 meter along roll width - 10% lowest individual of 10 values.

(2) Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in Categories 1 or 2 and 1 in Category 3.

(3) Standard test conditions: 190 °C / 2.16 kg.

(4) Roll Width and Length have a tolerance of ± 1%.

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