

# High Density Polyethylene Smooth Liner™



## Product Data

| Property   | Test Method                              | Values   |           |            |            |            |
|--|--|--|-----------|------------|------------|------------|
| Thickness (min. ave.), mil (mm)  | ASTM D5199*                              | 30 (.75)   | 40 (1.0)  | 60 (1.5)   | 80 (2.0)   | 100 (2.5)  |
| Thickness (lowest indiv.), mil (mm)  | ASTM D5199*                              | 27 (.68)   | 36 (.90)  | 54 (1.35)  | 72 (1.80)  | 90 (2.25)  |
| <b>*The thickness values may be changed due to project specifications (i.e., absolute minimum thickness)</b> |  |  |           |            |            |            |
| Density, g/cc, minimum   | ASTM D792, Method B                      | 0.94   | 0.94      | 0.94       | 0.94       | 0.94       |
| Tensile Properties (ave. both directions)  | ASTM D6693, Type IV                      |  |           |            |            |            |
| Strength @ Yield (min. ave.), lb/in width (N/mm)   | 2 in/minute                              | 66 (11.6)  | 88 (15.4) | 132 (23.1) | 176 (30.8) | 220 (38.5) |
| Elongation @ Yield (min. ave.), % (GL=1.3in)   | 5 specimens in each direction            | 13   | 13        | 13         | 13         | 13         |
| Strength @ Break (min. ave.), lb/in width (N/mm)   |  | 120 (21)   | 160 (28)  | 240 (42)   | 320 (56)   | 400 (70)   |
| Elongation @ Break (min. ave.), % (GL=2.0in)   |  | 700  | 700       | 700        | 700        | 700        |
| Tear Resistance (min. ave.), lbs. (N)  | ASTM D1004                               | 23 (102)   | 30 (133)  | 45 (200)   | 60 (267)   | 72 (320)   |
| Puncture Resistance (min. ave.), lbs. (N)  | ASTM D4833                               | 60 (267)   | 80 (356)  | 120 (534)  | 160 (712)  | 190 (845)  |
| Carbon Black Content (range in %)  | ASTM D4218                               | 2 - 3  | 2 - 3     | 2 - 3      | 2 - 3      | 2 - 3      |
| Carbon Black Dispersion (Category)   | ASTM D5596                               | Only near spherical agglomerates<br>for 10 views: 9 views in Cat. 1 or 2, and 1 view in Cat. 3 |           |            |            |            |
| Stress Crack Resistance (Single Point NCTL), hours   | ASTM D5397, Appendix                     | 300  | 300       | 300        | 300        | 300        |
| Oxidative Induction Time, minutes  | ASTM D3895, 200°C, 1 atm O <sub>2</sub>  | ≥100   | ≥100      | ≥100       | ≥100       | ≥100       |
| Melt Flow Index, g/10 minutes  | ASTM D1238, 190°C, 2.16kg                | ≤1.0   | ≤1.0      | ≤1.0       | ≤1.0       | ≤1.0       |
| Oven Aging   | ASTM D5721                               | 80   | 80        | 80         | 80         | 80         |
| with HP OIT, (% retained after 90 days)  | ASTM D5885, 150°C, 500psi O <sub>2</sub> |  |           |            |            |            |
| UV Resistance  | GRI GM11                                 | 20hr. Cycle @ 75°C/4 hr. dark condensation @ 60°C  |           |            |            |            |
| with HP OIT, (% retained after 1600 hours)   | ASTM D5885, 150°C, 500psi O <sub>2</sub> | 50   | 50        | 50         | 50         | 50         |

These product specifications meet or exceed GRI's GM13

## Supply Information (Standard Roll Dimensions)

| Thickness |     | Width |      | Length |     | Area (approx.)  |                | Weight (average) |       |
|-----------|-----|-------|------|--------|-----|-----------------|----------------|------------------|-------|
| mil       | mm  | ft    | m    | ft     | m   | ft <sup>2</sup> | m <sup>2</sup> | lbs              | kg    |
| 30        | .75 | 22.5  | 6.86 | 839.9  | 256 | 18,904          | 1,756          | 3,218            | 1,459 |
| 40        | 1.0 | 22.5  | 6.86 | 649.6  | 198 | 14,621          | 1,358          | 3,113            | 1,412 |
| 60        | 1.5 | 22.5  | 6.86 | 419.9  | 128 | 9,452           | 878            | 3,006            | 1,363 |
| 80        | 2.0 | 22.5  | 6.86 | 321.5  | 98  | 7,237           | 672            | 3,067            | 1,391 |
| 100       | 2.5 | 22.5  | 6.86 | 249.4  | 76  | 5,612           | 521            | 2,995            | 1,313 |

### Notes:

All rolls are supplied with two slings. All rolls are wound on a 6 inch core. Special roll lengths are available on request.

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