

Cycolac* Resin GPB3800

Americas: LIMITED USE

Blowmoldable. High modulus, high impact, good toughness, excellent melt strength and regrind stability.

Property

| TYPICAL PROPERTIES ⁽¹⁾ | | | |
|--|-----------|-------|--------------|
| MECHANICAL | Value | Unit | Standard |
| Tensile Stress, yld, Type I, 5 mm/min | 42 | MPa | ASTM D 638 |
| Tensile Modulus, 5 mm/min | 2130 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 72 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2340 | MPa | ASTM D 790 |
| Hardness, Rockwell R | 105 | - | ASTM D 785 |
| IMPACT | Value | Unit | Standard |
| Izod Impact, notched, 23°C | 411 | J/m | ASTM D 256 |
| Izod Impact, notched, -40°C | 144 | J/m | ASTM D 256 |
| Falling Dart Impact, 23°C | 44 | J | SABIC Method |
| THERMAL | Value | Unit | Standard |
| HDT, 0.45 MPa, 6.4 mm, unannealed | 95 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 7.38E-05 | 1/°C | ASTM E 831 |
| Relative Temp Index, Elec | 60 | °C | UL 746B |
| Relative Temp Index, Mech w/impact | 60 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact | 60 | °C | UL 746B |
| PHYSICAL | Value | Unit | Standard |
| Specific Gravity | 1.04 | - | ASTM D 792 |
| Mold Shrinkage, flow, 3.2 mm | 0.5 - 0.8 | % | SABIC Method |
| Melt Viscosity, 232°C, 100 sec-1 | 16000 | poise | ASTM D 3825 |
| FLAME CHARACTERISTICS | Value | Unit | Standard |
| UL Recognized, 94HB Flame Class Rating (3) | 1.47 | mm | UL 94 |

Source GMD, last updated:12/29/1999

Processing

| Parameter | Value | Unit |
|------------------------------------|-------------|------|
| Extrusion Blow Molding | | |
| Drying Temperature | 80 - 90 | °C |
| Drying Time | 5 - 4 | hrs |
| Drying Time (Cumulative) | 24 | hrs |
| Maximum Moisture Content | 0.02 - 0.04 | % |
| Minimum Moisture Content | 0.04 | % |
| Melt Temperature (Parison) | 210 - 225 | °C |
| Barrel - Zone 1 Temperature | 190 - 220 | °C |
| Barrel - Zone 2 Temperature | 190 - 220 | °C |
| Barrel - Zone 3 Temperature | 190 - 220 | °C |
| Barrel - Zone 4 Temperature | 190 - 220 | °C |
| Adapter - Zone 5 Temperature | 195 - 220 | °C |
| Head - Zone 6 - Top Temperature | 195 - 220 | °C |
| Head - Zone 7 - Bottom Temperature | 195 - 220 | °C |

| | | |
|--------------------------------|-----------|-----|
| Screw Speed | 20 - 60 | rpm |
| Extruder Feed Zone Temperature | 60 - 80 | °C |
| Mold Temperature | 40 - 90 | °C |
| Die Temperature | 195 - 220 | °C |

Source GMD, last updated:12/29/1999

- Purge with HDPE prior to changing screw, head, or die tooling and/or machine shutdown.
- For extended downtime, lower barrel, head and die temperatures to 95°C (200°F).

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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