

## Bayblend® FR3000 HI

Covestro - Polycarbonates - *Polycarbonate + ABS*

### General Information

#### Product Description

(PC+ABS)-Blend; flame retardant; Vicat/B 120 temperature = 97°C; compared to FR3000 improved chemical resistance and stress cracking behavior; UL recognition 94 V-0 at 1.5 mm

#### General

|                 |                                          |                             |                                    |
|-----------------|------------------------------------------|-----------------------------|------------------------------------|
| Material Status | • Commercial: Active                     |                             |                                    |
| Availability    | • Africa & Middle East<br>• Asia Pacific | • Europe<br>• Latin America | • North America                    |
| Additive        | • Flame Retardant                        |                             |                                    |
| Features        | • Chemical Resistant                     | • Flame Retardant           | • High ESCR (Stress Crack Resist.) |
| RoHS Compliance | • RoHS Compliant                         |                             |                                    |
| ISO Designation | • PC+ABS-FR(40)                          |                             |                                    |

### Properties <sup>1</sup>

| Physical                                                | Nominal Value | Unit                   | Test Method  |
|---------------------------------------------------------|---------------|------------------------|--------------|
| Density (73°F)                                          | 1.18          | g/cm <sup>3</sup>      | ISO 1183     |
| Melt Volume-Flow Rate (MVR) (240°C/5.0 kg)              | 20            | cm <sup>3</sup> /10min | ISO 1133     |
| Molding Shrinkage <sup>2</sup>                          |               |                        | ISO 2577     |
| Across Flow : 464°F, 0.118 in                           | 0.50 to 0.70  | %                      |              |
| Flow : 464°F, 0.118 in                                  | 0.50 to 0.70  | %                      |              |
| Water Absorption (Saturation, 73°F)                     | 0.50          | %                      | ISO 62       |
| Water Absorption (Equilibrium, 73°F, 50% RH)            | 0.20          | %                      | ISO 62       |
| Mechanical                                              | Nominal Value | Unit                   | Test Method  |
| Tensile Modulus (73°F)                                  | 392000        | psi                    | ISO 527-1/1  |
| Tensile Stress (Yield, 73°F)                            | 8700          | psi                    | ISO 527-2/50 |
| Tensile Stress (Break, 73°F)                            | 6530          | psi                    | ISO 527-2/50 |
| Tensile Strain (Yield, 73°F)                            | 4.0           | %                      | ISO 527-2/50 |
| Tensile Strain (Break, 73°F)                            | > 50          | %                      | ISO 527-2/50 |
| Impact                                                  | Nominal Value | Unit                   | Test Method  |
| Notched Izod Impact Strength                            |               |                        | ISO 180/A    |
| -22°F                                                   | 4.8           | ft·lb/in <sup>2</sup>  |              |
| 73°F                                                    | 17            | ft·lb/in <sup>2</sup>  |              |
| Unnotched Izod Impact Strength (73°F)                   | No Break      |                        | ISO 180      |
| Thermal                                                 | Nominal Value | Unit                   | Test Method  |
| Deflection Temperature Under Load (66 psi, Unannealed)  | 198           | °F                     | ISO 75-2/B   |
| Deflection Temperature Under Load (264 psi, Unannealed) | 180           | °F                     | ISO 75-2/A   |
| Vicat Softening Temperature                             |               |                        |              |
| --                                                      | 207           | °F                     | ISO 306/B120 |
| --                                                      | 203           | °F                     | ISO 306/B50  |
| CLTE - Flow (73 to 131°F)                               | 4.2E-5        | in/in/°F               | ISO 11359-2  |
| CLTE - Transverse (73 to 131°F)                         | 4.4E-5        | in/in/°F               | ISO 11359-2  |
| Electrical                                              | Nominal Value | Unit                   | Test Method  |
| Surface Resistivity                                     | 1.0E+16       | ohms                   | IEC 60093    |
| Volume Resistivity (73°F)                               | 1.0E+16       | ohms·cm                | IEC 60093    |
| Electric Strength (73°F, 0.0394 in)                     | 890           | V/mil                  | IEC 60243-1  |
| Relative Permittivity                                   |               |                        | IEC 60250    |
| 73°F, 100 Hz                                            | 3.20          |                        |              |



|                                         |                           |                    |
|-----------------------------------------|---------------------------|--------------------|
| 73°F, 1 MHz                             | 3.10                      |                    |
| Dissipation Factor                      |                           | IEC 60250          |
| 73°F, 100 Hz                            | 5.0E-3                    |                    |
| 73°F, 1 MHz                             | 6.0E-3                    |                    |
| Comparative Tracking Index (Solution A) | 350 V                     | IEC 60112          |
| <b>Flammability</b>                     | <b>Nominal Value Unit</b> | <b>Test Method</b> |
| Flame Rating                            |                           | UL 94              |
| 0.06 in                                 | V-0                       |                    |
| 0.08 in                                 | 5VB                       |                    |
| 0.12 in                                 | 5VA                       |                    |
| <b>Fill Analysis</b>                    | <b>Nominal Value Unit</b> | <b>Test Method</b> |
| Melt Viscosity <sup>3</sup> (500°F)     | 185 Pa·s                  | ISO 11443-A        |

### Processing Information

|                                                   |                           |
|---------------------------------------------------|---------------------------|
| <b>Injection</b>                                  | <b>Nominal Value Unit</b> |
| Drying Temperature - Dry Air Dryer                | 176 °F                    |
| Drying Time - Dry Air Dryer                       | 4.0 hr                    |
| Suggested Max Moisture                            | < 0.020 %                 |
| Suggested Shot Size                               | 30 to 70 %                |
| Rear Temperature                                  | 428 to 446 °F             |
| Middle Temperature                                | 437 to 455 °F             |
| Front Temperature                                 | 446 to 464 °F             |
| Nozzle Temperature                                | 491 to 509 °F             |
| Processing (Melt) Temp                            | 464 to 518 °F             |
| Mold Temperature                                  | 140 to 176 °F             |
| Back Pressure                                     | 725 to 2180 psi           |
| Vent Depth                                        | 9.8E-4 to 3.0E-3 in       |
| <b>Injection Notes</b>                            |                           |
| Standard Melt Temperature: 260°C                  |                           |
| Hold Pressure (% of Injection Pressure): 50 - 75% |                           |
| Peripheral Screw Speed: 0.05 - 0.2 m/s            |                           |

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 150x105x3mm., MT 80°C

<sup>3</sup> 1000s-1

