

# Bayblend FR 2001

## FR grades / Non reinforced

Injection molding grade; easy-flow grade; Vicat/B 120 temperature = 95 °C; UL-listing 94 V-0 (1.5 mm); antimony-, chlorine- and bromine-free flame retardant; glow wire test: 960 °C (2.0 mm); optimized processability; good light stability.

## ISO Shortname

| Property                                                 | Test Condition                               | Unit               | Standard       | Value       |
|----------------------------------------------------------|----------------------------------------------|--------------------|----------------|-------------|
| <b>Rheological properties</b>                            |                                              |                    |                |             |
| Spiral flow length                                       | 0.100 in, 490 °F melt temperature            | in                 | Bayer test     | 30          |
| Melt mass-flow rate                                      | 240 °C; 5 kg                                 | g/(10 min)         | ASTM D 1238    | 26          |
| Molding shrinkage, parallel                              | 500 bar                                      | in/in              | ASTM D 955     | 0.005-0.007 |
| Molding shrinkage, normal                                | 500 bar                                      | in/in              | ASTM D 955     | 0.005-0.007 |
| <b>Mechanical properties (23 °C/50 % r. h.)</b>          |                                              |                    |                |             |
| Tensile modulus                                          | 1 mm/min                                     | lb/in <sup>2</sup> | ASTM D 638     | 392000      |
| Tensile stress at yield                                  | 73 °F, 0.2 in/min                            | lb/in <sup>2</sup> | ASTM D 638     | 8700        |
| Tensile elongation at yield                              | 73 °F, 0.2 in/min                            | %                  | ASTM D 638     | 4           |
| Tensile stress at break                                  | 73 °F, 0.2 in/min                            | lb/in <sup>2</sup> | ASTM D 638     | 6500        |
| Tensile elongation at break                              | 73 °F, 0.2 in/min                            | %                  | ASTM D 638     | > 50        |
| Unnotched impact strength                                | 73 °F, 0.125 in                              | ft-lb/in           | ASTM D 4812    | no break    |
| Izod notched impact strength                             | 73 °F, 0.125 in                              | ft-lb/in           | ASTM D 256     | 8           |
| Flexural modulus                                         | -                                            | lb/in <sup>2</sup> | ASTM D 790     | 390000      |
| Flexural stress at 5 % strain                            | -                                            | lb/in <sup>2</sup> | ASTM D 790     | 13800       |
| <b>Thermal properties</b>                                |                                              |                    |                |             |
| Deflection temperature under load, Unannealed            | 264 psi; 0.250 in                            | °F                 | ASTM D 648     | 180         |
| Vicat softening temperature                              | Rate B; 5 kg; 120 °C/h                       | °F                 | ASTM D 1525    | 203         |
| Coefficient of linear thermal expansion, flow/cross-flow |                                              | in/in/°F           | ISO 11359-1,-2 | 4.3E-5      |
| UL94 Flame Class 5V [UL recognition]                     | Thickness tested: 2.0 mm                     | Class              | UL 94          | 5VB         |
| UL94 Flame Class 5V [UL recognition]                     | Thickness tested: 3.0 mm                     | Class              | UL 94          | 5VA         |
| Relative temperature index (Electric strength)           | Thickness tested: 1.5 mm                     | °C                 | UL 746B        | 90          |
| Relative temperature index (Tensile impact strength)     | Thickness tested: 1.5 mm                     | °C                 | UL 746B        | 75          |
| Relative temperature index (Tensile strength)            | Thickness tested: 1.5 mm                     | °C                 | UL 746B        | 85          |
| <b>Electrical properties (23 °C/50 % r. h.)</b>          |                                              |                    |                |             |
| Relative permittivity                                    | 100 Hz                                       | -                  | IEC 60250      | 3.2         |
| Relative permittivity                                    | 1 MHz                                        | -                  | IEC 60250      | 3.1         |
| Dissipation factor                                       | 100 Hz                                       | 10 <sup>-4</sup>   | IEC 60250      | 50          |
| Dissipation factor                                       | 1 MHz                                        | 10 <sup>-4</sup>   | IEC 60250      | 70          |
| Volume resistivity                                       |                                              | Ohm·m              | IEC 60093      | 1.0 E14     |
| Surface resistivity                                      |                                              | Ohm                | IEC 60093      | 1.0 E16     |
| Dielectric strength                                      |                                              | kV/mm              | IEC 60243-1    | 30          |
| Comparative tracking index CTI                           | Solution A                                   | Rating             | IEC 60112      | 400         |
| <b>Other properties (23 °C)</b>                          |                                              |                    |                |             |
| Water absorption                                         | 73 °F; immersion to saturation; 0.125 in     | %                  | ISO 62         | 0.5         |
| Water absorption                                         | 73 °F, 50% RH in air to saturation, 0.125-in | %                  | ISO 62         | 0.2         |
| Density                                                  |                                              | kg/m <sup>3</sup>  | ASTM D 792     | 1180        |
| <b>Processing conditions for test specimens</b>          |                                              |                    |                |             |
| C Injection molding-Melt temperature                     |                                              | °C                 | ISO 294        | 240         |
| C Injection molding-Mold temperature                     |                                              | °C                 | ISO 294        | 80          |
| C Injection molding-Injection velocity                   |                                              | mm/s               | ISO 294        | 240         |