

# Bayblend® FR411 MT

Polycarbonate + ABS

Covestro - Polycarbonates

## Message:

Rubber modified PC blend; flame retardant; mineral filled ; Vicat/B 120 temperature = 99 °C; extrusion grade for European railway interiors requiring EN45545; the classifications according to the respective rail standards are communicated with email inquiry under [plastics@covestro.com](mailto:plastics@covestro.com)

| General Information                        |                  |                        |              |
|--------------------------------------------|------------------|------------------------|--------------|
| Filler / Reinforcement                     | Mineral filler   |                        |              |
| Additive                                   | Flame retardancy |                        |              |
| Features                                   | Flame retardancy |                        |              |
| Agency Ratings                             | EN 45545         |                        |              |
| RoHS Compliance                            | RoHS compliance  |                        |              |
| Processing Method                          | Extrusion        |                        |              |
| Physical                                   | Nominal Value    | Unit                   | Test Method  |
| Density (23°C)                             | 1.36             | g/cm <sup>3</sup>      | ISO 1183     |
| Melt Volume-Flow Rate (MVR) (260°C/5.0 kg) | 15.0             | cm <sup>3</sup> /10min | ISO 1133     |
| Molding Shrinkage <sup>1</sup>             |                  |                        | ISO 2577     |
| Lateral flow: 3.00mm                       | 0.20 - 0.40      | %                      | ISO 2577     |
| Traffic: 3.00mm                            | 0.30 - 0.50      | %                      | ISO 2577     |
| Water Absorption                           |                  |                        | ISO 62       |
| Saturated, 23°C                            | 0.40             | %                      | ISO 62       |
| Equilibrium, 23°C, 50% RH                  | 0.10             | %                      | ISO 62       |
| Mechanical                                 | Nominal Value    | Unit                   | Test Method  |
| Tensile Modulus (23°C)                     | 5250             | MPa                    | ISO 527-2/1  |
| Tensile Stress                             |                  |                        | ISO 527-2/50 |
| Yield, 23°C                                | 67.0             | MPa                    | ISO 527-2/50 |
| Fracture, 23°C                             | 59.0             | MPa                    | ISO 527-2/50 |
| Tensile Strain                             |                  |                        | ISO 527-2/50 |
| Yield, 23°C                                | 3.0              | %                      | ISO 527-2/50 |
| Fracture, 23°C                             | 5.0              | %                      | ISO 527-2/50 |
| Impact                                     | Nominal Value    | Unit                   | Test Method  |
| Notched Izod Impact (23°C)                 | 6.0              | kJ/m <sup>2</sup>      | ISO 180/A    |
| Unnotched Izod Impact Strength (23°C)      | 43               | kJ/m <sup>2</sup>      | ISO 180      |
| Thermal                                    | Nominal Value    | Unit                   | Test Method  |
| Heat Deflection Temperature                |                  |                        |              |
| 0.45 MPa, not annealed                     | 93.0             | °C                     | ISO 75-2/B   |
| 1.8 MPa, not annealed                      | 87.0             | °C                     | ISO 75-2/A   |
| Vicat Softening Temperature                |                  |                        |              |
| --                                         | 97.0             | °C                     | ISO 306/B50  |

| --                                      | 99.0          | °C       | ISO 306/B120 |
|-----------------------------------------|---------------|----------|--------------|
| Linear thermal expansion coefficient    |               |          | ISO 11359-2  |
| Flow: 23 to 55°C                        | 4.0E-5        | cm/cm/°C | ISO 11359-2  |
| Lateral: 23 to 55°C                     | 6.0E-5        | cm/cm/°C | ISO 11359-2  |
| Electrical                              | Nominal Value | Unit     | Test Method  |
| Surface Resistivity                     | 5.0E+16       | ohms     | IEC 60093    |
| Volume Resistivity (23°C)               | 4.0E+17       | ohms·cm  | IEC 60093    |
| Dielectric Strength (23°C, 1.00 mm)     | 39            | kV/mm    | IEC 60243-1  |
| Relative Permittivity                   |               |          | IEC 60250    |
| 23°C, 100 Hz                            | 3.20          |          | IEC 60250    |
| 23°C, 1 MHz                             | 3.10          |          | IEC 60250    |
| Dissipation Factor                      |               |          | IEC 60250    |
| 23°C, 100 Hz                            | 6.1E-5        |          | IEC 60250    |
| 23°C, 1 MHz                             | 7.6E-3        |          | IEC 60250    |
| Comparative Tracking Index (Solution A) | 225           | V        | IEC 60112    |
| Flammability                            | Nominal Value | Unit     | Test Method  |
| Flame Rating                            |               |          | UL 94        |
| 0.75 mm, Bayer Test                     | V-0           |          | UL 94        |
| 1.5 mm, Bayer Test                      | V-0           |          | UL 94        |
| 3.0 mm, Bayer Test                      | 5VB           |          | UL 94        |
| Fill Analysis                           | Nominal Value | Unit     | Test Method  |
| Melt Viscosity <sup>2</sup>             | 240           | Pa·s     | ISO 11443-A  |
| NOTE                                    |               |          |              |
| 1.                                      | 150x105x3 mm  |          |              |
| 2.                                      | 1000/s        |          |              |

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