



## Bayblend® FR3010

(PC+ABS) FR(40)

Covestro Deutschland AG

- (PC+ABS)-Blend
- flame retardant
- Vicat/B 120 temperature = 110 °C
- increased heat resistance
- UL recognition 94 V-0 at 1.5 mm
- glow wire temperature (GWFI): 960 °C at 2.0 mm
- improved chemical resistance and stress cracking behavior
- successor to FR2010

| Rheological properties     | Value | Unit                   | Test Standard |
|----------------------------|-------|------------------------|---------------|
| <b>ISO Data</b>            |       |                        |               |
| Melt volume-flow rate, MVR | 15    | cm <sup>3</sup> /10min | ISO 1133      |
| Temperature                | 240   | °C                     | -             |
| Load                       | 5     | kg                     | -             |

| Mechanical Properties | Value | Unit | Test Standard |
|-----------------------|-------|------|---------------|
| <b>ISO Data</b>       |       |      |               |
| Tensile Modulus       | 2700  | MPa  | ISO 527       |
| Yield stress          | 60    | MPa  | ISO 527       |
| Yield strain          | 4     | %    | ISO 527       |

| Thermal Properties                          | Value | Unit  | Test Standard   |
|---------------------------------------------|-------|-------|-----------------|
| <b>ISO Data</b>                             |       |       |                 |
| Temp. of deflection under load (1.80 MPa)   | 90    | °C    | ISO 75-1/-2     |
| Temp. of deflection under load (0.45 MPa)   | 100   | °C    | ISO 75-1/-2     |
| Vicat softening temperature, 50°C/h 50N     | 108   | °C    | ISO 306         |
| Coeff. of Linear Therm. Expansion, parallel | 76    | E-6/K | ISO 11359-1/-2  |
| Coeff. of Linear Therm. Expansion, normal   | 80    | E-6/K | ISO 11359-1/-2  |
| Burning Behav. at 1.5 mm Nom. Thickn.       | V-0   | class | UL 94           |
| Thickness tested                            | 1.5   | mm    | -               |
| Burning Behav. 5V at Thickness h            | 5VB   | class | IEC 60695-11-20 |
| Thickness tested                            | 2.0   | mm    | -               |
| Oxygen index                                | 32    | %     | ISO 4589-1/-2   |

| Electrical Properties        | Value | Unit  | Test Standard |
|------------------------------|-------|-------|---------------|
| <b>ISO Data</b>              |       |       |               |
| Relative permittivity, 100Hz | 3.2   | -     | IEC 62631-2-1 |
| Relative permittivity, 1MHz  | 3.1   | -     | IEC 62631-2-1 |
| Dissipation Factor, 100Hz    | 50    | E-4   | IEC 62631-2-1 |
| Dissipation Factor, 1MHz     | 70    | E-4   | IEC 62631-2-1 |
| Volume Resistivity           | >1E13 | Ohm*m | IEC 62631-3-1 |
| Surface Resistivity          | >1E15 | Ohm   | IEC 62631-3-2 |
| Electric Strength            | 35    | kV/mm | IEC 60243-1   |
| Comparative tracking index   | 350   | -     | IEC 60112     |

| Other Properties    | Value | Unit              | Test Standard  |
|---------------------|-------|-------------------|----------------|
| <b>ISO Data</b>     |       |                   |                |
| Water Absorption    | 0.5   | %                 | Sim. to ISO 62 |
| Humidity absorption | 0.2   | %                 | Sim. to ISO 62 |
| Density             | 1180  | kg/m <sup>3</sup> | ISO 1183       |

| Test specimen production              | Value | Unit | Test Standard |
|---------------------------------------|-------|------|---------------|
| <b>ISO Data</b>                       |       |      |               |
| Injection Molding, melt temperature   | 240   | °C   | ISO 294       |
| Injection Molding, mold temperature   | 80    | °C   | ISO 294       |
| Injection Molding, injection velocity | 240   | mm/s | ISO 294       |

| Processing Recommendation Injection Molding | Value    | Unit | Test Standard |
|---------------------------------------------|----------|------|---------------|
| Pre-drying - Temperature                    | 75 - 100 | °C   | -             |
| Pre-drying - Time                           | 2 - 4    | h    | -             |
| Processing humidity                         | ≤0.02    | %    | -             |

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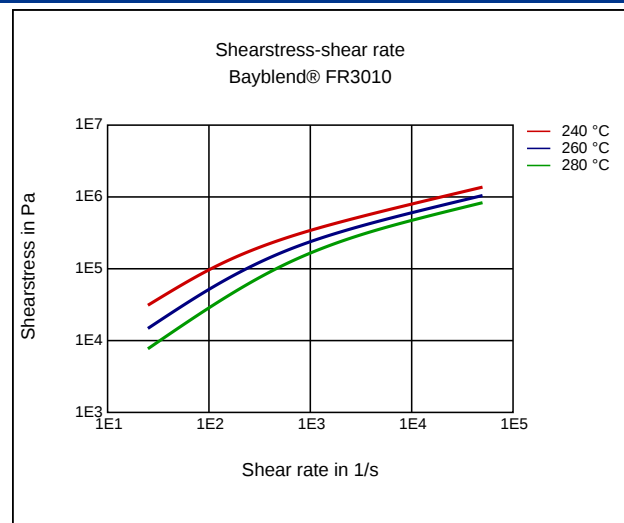
|                  |           |    |   |
|------------------|-----------|----|---|
| Melt temperature | 240 - 280 | °C | - |
| Mold temperature | 70 - 100  | °C | - |

### Diagrams

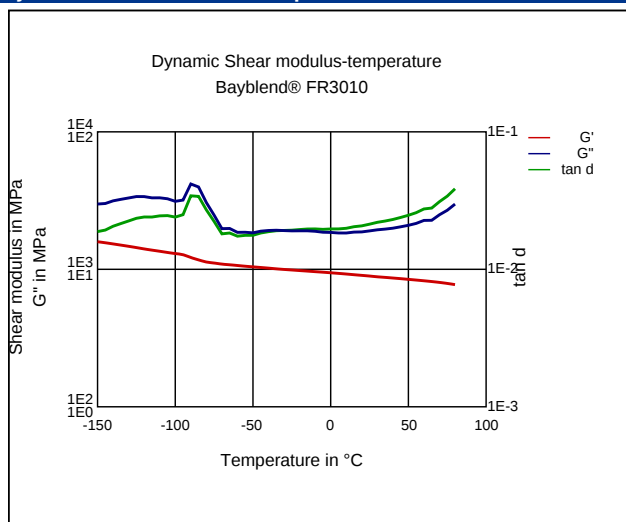
#### Viscosity-shear rate



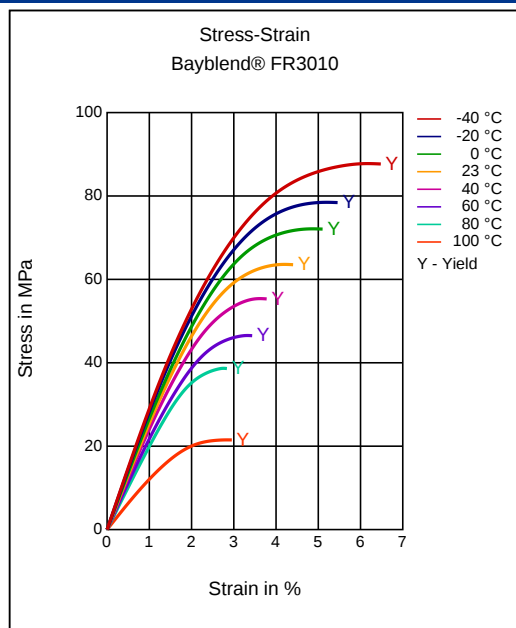
#### Shearstress-shear rate



#### Dynamic Shear modulus-temperature



#### Stress-strain

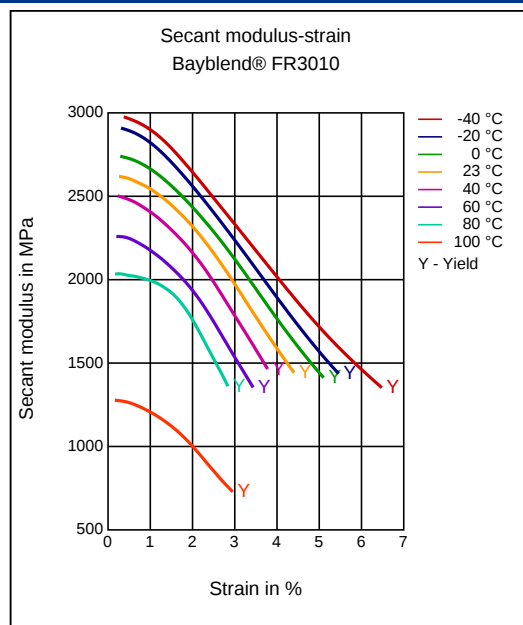


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### Secant modulus-strain



### Characteristics

#### Processing

Injection Molding

#### Additives

Release agent

#### Delivery form

Pellets

#### Special Characteristics

Flame retardant

### Injection Molding

#### PREPROCESSING

Max. Water content: 0.02 %

Drying temperature: 75 - 100 °C

(depending on the grade 10 °C below the Vicat VST/B120 temperature, but not higher as the recommended values).

Drying time:

Circulating air drying oven (50 % fresh air) 4-8 h

Fresh air dryer (high speed dryer) 2-4 h

Dry air dryer 2-4 h

#### PROCESSING

Melt temperature: 240-280 °C

Mold temperature: 70-100 °C

Use open nozzle.