

# Bayblend® FR3050 BBS320

Designation according to ISO 1043: PC+ABS FR(40)



## Product description

(PC+ABS) blend; flame retardant; V-0 at 2.0 mm (UL 94); high heat resistance; good chemical resistance

## Applications

Injection molding; Medical devices

## Typical Values

### Rheological properties

| Property                    | Test Condition                | Value       | Unit                    | Standard          |
|-----------------------------|-------------------------------|-------------|-------------------------|-------------------|
| Melt Volume-flow Rate (MVR) | 260 °C/5 kg                   | 18          | cm <sup>3</sup> /10 min | ISO 1133-1        |
| Melt Viscosity              | 260 °C; 1,000 s <sup>-1</sup> | 480         | Pa·s                    | b. o. ISO 11443-A |
| Molding Shrinkage, parallel | 150×105×3 mm                  | 0.50 - 0.70 | %                       | b. o. ISO 2577    |
| Molding Shrinkage, normal   | 150×105×3 mm                  | 0.50 - 0.70 | %                       | b. o. ISO 2577    |

### Mechanical properties (23 °C; 50 % r. h.)

| Property                     | Test Condition | Value | Unit              | Standard     |
|------------------------------|----------------|-------|-------------------|--------------|
| Tensile Modulus              | 1 mm/min       | 2,400 | MPa               | ISO 527-1,-2 |
| Yield Stress                 | 50 mm/min      | 65    | MPa               | ISO 527-1,-2 |
| Yield Strain                 | 50 mm/min      | 5     | %                 | ISO 527-1,-2 |
| Stress at Break              | 50 mm/min      | 60    | MPa               | ISO 527-1,-2 |
| Strain at Break              | 50 mm/min      | > 50  | %                 | ISO 527-1,-2 |
| Izod Impact Strength         | 23 °C          | N     | kJ/m <sup>2</sup> | ISO 180/U    |
| Izod Notched Impact Strength | 23 °C          | 55    | kJ/m <sup>2</sup> | ISO 180/A    |
| Izod Notched Impact Strength | -30 °C         | 15    | kJ/m <sup>2</sup> | ISO 180/A    |

Impact properties: N = non-break, P = partial break, C = complete break

### Thermal properties

| Property                                                 | Test Condition | Value | Unit                | Standard       |
|----------------------------------------------------------|----------------|-------|---------------------|----------------|
| Temperature of Deflection under Load (HDT)               | 1.80 MPa       | 115   | °C                  | ISO 75-1,-2    |
| Temperature of Deflection under Load (HDT)               | 0.45 MPa       | 126   | °C                  | ISO 75-1,-2    |
| Vicat Softening Temperature                              | 50 N; 50 °C/h  | 134   | °C                  | ISO 306        |
| Vicat Softening Temperature                              | 50 N; 120 °C/h | 136   | °C                  | ISO 306        |
| Coefficient of Linear Thermal Expansion (CLTE), parallel | 23 to 55 °C    | 0.68  | 10 <sup>-4</sup> /K | ISO 11359-1,-2 |

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| Property                                               | Test Condition | Value | Unit                | Standard       |
|--------------------------------------------------------|----------------|-------|---------------------|----------------|
| Coefficient of Linear Thermal Expansion (CLTE), normal | 23 to 55 °C    | 0.68  | 10 <sup>-4</sup> /K | ISO 11359-1,-2 |
| Burning Behavior                                       | 1.5 mm         | V-1   |                     | UL 94          |
| Burning Behavior                                       | 2.0 mm         | V-0   |                     | UL 94          |

## Electrical properties (23 °C; 50 % r. h.)

| Property                         | Test Condition | Value | Unit  | Standard      |
|----------------------------------|----------------|-------|-------|---------------|
| Volume Resistivity               |                | 1E15  | Ω·m   | IEC 62631-3-1 |
| Surface Resistivity              |                | 1E17  | Ω     | IEC 62631-3-2 |
| Electric Strength                | 1 mm           | 35    | kV/mm | IEC 60243-1   |
| Comparative Tracking Index (CTI) | Solution A     | 300   | V     | IEC 60112     |

## Other properties (23 °C)

| Property                             | Test Condition    | Value | Unit              | Standard   |
|--------------------------------------|-------------------|-------|-------------------|------------|
| Water Absorption (Saturation Value)  | Water at 23 °C    | 0.5   | %                 | ISO 62     |
| Water Absorption (Equilibrium Value) | 23 °C; 50 % r. h. | 0.2   | %                 | ISO 62     |
| Density                              |                   | 1,190 | kg/m <sup>3</sup> | ISO 1183-1 |

## Processing conditions for test specimens

| Property                               | Test Condition | Value | Unit | Standard  |
|----------------------------------------|----------------|-------|------|-----------|
| Injection Molding - Melt Temperature   |                | 260   | °C   | ISO 294-1 |
| Injection Molding - Mold Temperature   |                | 80    | °C   | ISO 294-1 |
| Injection Molding - Injection Velocity |                | 240   | mm/s | ISO 294-1 |

## Recommended processing and drying conditions

| Property                                | Test Condition | Value      | Unit | Standard |
|-----------------------------------------|----------------|------------|------|----------|
| Dry Air Drying Temperature              |                | 110        | °C   |          |
| Dry Air Drying Time                     |                | 4          | h    |          |
| Moisture Content max. (%)               |                | ≤ 0.02     | %    |          |
| Melt Temperatures                       |                | 240 - 280  | °C   |          |
| Barrel Temperatures                     | Rear           | 240 - 260  | °C   |          |
| Barrel Temperatures                     | Middle         | 250 - 270  | °C   |          |
| Barrel Temperatures                     | Front          | 260 - 280  | °C   |          |
| Barrel Temperatures                     | Nozzle         | 250 - 270  | °C   |          |
| Mold Temperatures                       |                | 65 - 100   | °C   |          |
| Hold Pressure (% of Injection Pressure) |                | 50 - 75    | %    |          |
| Plastic Back Pressure (specific)        |                | 50 - 150   | bar  |          |
| Peripheral Screw Speed                  |                | 0.05 - 0.2 | m/s  |          |
| Shot-to-Cylinder Size                   |                | 30 - 70    | %    |          |



| Property   | Test Condition | Value         | Unit | Standard |
|------------|----------------|---------------|------|----------|
| Vent Depth |                | 0.025 - 0.075 | mm   |          |

Health and Safety Information

Before working with this product, you must read and become familiar with the available information regarding its risks, proper use, and safe handling. This information is provided in various formats, including the current Safety Data Sheet (SDS) and product label. SDS can be accessed via the following link:

[Safety Data Sheets \(SDS\) for Covestro products | Covestro](#)

For further questions, please use the contact information provided on this technical data sheet.

Please note that for products manufactured in different colors, safety data may vary depending on the color variant.

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<https://order.covestro.com/covestrostorefront/saleConditions>

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Typical Value

These values are provided as typical data only and do not constitute binding specifications or warranted performance, unless explicitly agreed by Covestro in writing. Performance may vary depending on factors including, but not limited to, mold/die, processing conditions and coloring/pigmentation. Unless otherwise stated, values are based on standardized test specimens at room temperature.

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## Sample

Samples provided by Covestro are intended solely for evaluation and testing purposes by the customer and may not be used in commercial applications, resold, transferred to third parties (except qualified testing service providers acting on behalf of the customer), reverse engineered, modified, or used in any manner not explicitly authorized in writing by Covestro. Samples are provided 'as-is' without any warranties, express or implied, including fitness for a particular purpose. Customers are solely responsible for ensuring safe handling, regulatory compliance, and suitability of the material for their intended evaluations. Covestro disclaims all liability for damages or losses arising from the use of samples.

## Shrinkage

Shrinkage data is provided for reference only and is based on plaques molded under specific, controlled processing conditions. Actual shrinkage values in production parts may vary due to numerous factors, including but not limited to part design (e.g., size, thickness, geometry), mold design (e.g., gate type and location, runner design, mold materials, cooling system), and molding conditions (e.g., processing temperature, mold temperature, packing time and pressure, injection speed).

The determination and application of shrinkage values are the sole responsibility of the customer and must be based on their own testing and experience under actual production conditions. To the maximum extent permitted by law, Covestro shall not be liable for any damages, losses, or claims arising from the use of, or reliance on, the shrinkage data provided.

## Recommended Processing and Drying Conditions

The recommended processing and drying conditions are provided for reference only and do not constitute binding specifications or warranted values. Barrel temperatures are based on a standard 3-zone barrel; other configurations may require different settings. Values for hold pressure as a percentage of injection pressure may vary depending on part geometry, injection molding machine, and injection mold. Drying conditions are specified for dry air dryers only; drying times and temperatures may differ depending on the dryer type.

Processors are solely responsible for validating and optimizing processing parameters for their specific equipment and applications. To the maximum extent permitted by law, Covestro disclaims all liability for performance outcomes or damages resulting from reliance on these recommended conditions.

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## Contact Information

Please use our [contact form](#) or contact us directly by sending an e-mail to [technical-datasheets@cx.covestro.com](mailto:technical-datasheets@cx.covestro.com).

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