# Rynite® 415HP BK503

PET-I-GF15 Celanese

## Product Texts

Common features of Rynite® thermoplastic polyester include mechanical and physical properties such as excellent balance of strength and stiffness, dimensional stability, creep resistance, heat resistance, high surface gloss and good inherent electrical properties at elevated temperature. It can be processed over a broad temperature range and has excellent flow properties.

Rynite® thermoplastic polyester resins are typically used in demanding applications in the automotive, electrical and electronics, appliances where they successfully replace metals and thermosets, as well as other thermoplastic polymers.

**Rynite® 415HP BK503 is a 15% glass reinforced, toughened modified polyethylene terephthalate resin improved for easy, fast processing over a broad molding range.**

| Processing/Physical Characteristics | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Ejection temperature | **170** | °C | - |

[C]: CAMPUS

| Mechanical properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Tensile Modulus | **4500** | MPa | ISO 527 |
| [C] Stress at break | **80** | MPa | ISO 527 |
| [C] Strain at break | **5** | % | ISO 527 |
| [C] Charpy impact strength, +23°C | **55** | kJ/m² | ISO 179/1eU |
| [C] Charpy notched impact strength, +23°C | **11** | kJ/m² | ISO 179/1eA |

[C]: CAMPUS

| Thermal properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Melting temperature, 10°C/min | **250** | °C | ISO 11357-1/-3 |
| [C] Temp. of deflection under load, 1.80 MPa | **190** | °C | ISO 75-1/-2 |
| [C] Burning Behav. at 1.5 mm nom. thickn. | **HB** | class | IEC 60695-11-10 |
| Thickness tested | **1.5** | mm | - |
| Yellow Card available | **yes** | - | - |
| [C] Burning Behav. at thickness h | **HB** | class | IEC 60695-11-10 |
| Thickness tested | **0.8** | mm | - |
| Yellow Card available | **yes** | - | - |

[C]: CAMPUS

| Electrical properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Relative permittivity, 100Hz | **4.4** | - | IEC 62631-2-1 |
| [C] Relative permittivity, 1MHz | **3.9** | - | IEC 62631-2-1 |
| [C] Dissipation factor, 100Hz | **423** | E-4 | IEC 62631-2-1 |
| [C] Dissipation factor, 1MHz | **225** | E-4 | IEC 62631-2-1 |
| [C] Volume resistivity | **1E12** | Ohm*m | IEC 62631-3-1 |
| [C] Surface resistivity | **1E14** | Ohm | IEC 62631-3-2 |
| [C] Electric strength | **34** | kV/mm | IEC 60243-1 |
| [C] Comparative tracking index | **350** | - | IEC 60112 |

[C]: CAMPUS

| Other properties | Value | Unit | Test Standard |
|---|---|---|---|
| [C] Density | **1390** | kg/m³ | ISO 1183 |

[C]: CAMPUS

## Characteristics

| Processing | Special Characteristics |
|---|---|
| Injection Molding | High impact or impact modified |
| **Delivery form** | **Regional Availability** |
| Black | North America, Europe, Asia Pacific, South and Central America |

**Other text information**

**Injection molding**

**PREPROCESSING**

Drying recommended = Yes
Drying temperature = 120°C
Drying time, dehumidified dryer = 4 h

Processing moisture content ≤ 0.02 %
At levels above 0.02%, strength and toughness will decrease, even though parts may not exhibit surface defects.

**PROCESSING**

Melt temperature optimum = 285°C
Melt temperature range = 280-300°C

Mold temperature range = 75-95 °C (6mm - 1mm thickness)
When lower mold temperatures are used, the initial shrinkage and warpage will be lower, but the surface appearance may be poorer and the dimensional change may be greater when the parts are subsequently heated.