



## Makrolon® GF9417

### PC-GF10

Covestro Deutschland AG

- MVR (300 °C/1.2 kg) 6.0 cm³/10 min
- 10 % glass fiber reinforced
- flame retardant
- UL 94V-0/1.5 mm and 5VA/3.0 mm
- high viscosity
- UV stabilized
- easy release

| Rheological properties      | Value | Unit      | Test Standard   |
|-----------------------------|-------|-----------|-----------------|
| <b>ISO Data</b>             |       |           |                 |
| Melt volume-flow rate, MVR  | 6     | cm³/10min | ISO 1133        |
| Temperature                 | 300   | °C        | -               |
| Load                        | 1.2   | kg        | -               |
| Molding shrinkage, parallel | 0.6   | %         | ISO 294-4, 2577 |
| Molding shrinkage, normal   | 0.5   | %         | ISO 294-4, 2577 |

| Mechanical Properties           | Value | Unit  | Test Standard |
|---------------------------------|-------|-------|---------------|
| <b>ISO Data</b>                 |       |       |               |
| Tensile Modulus                 | 3800  | MPa   | ISO 527       |
| Stress at Break                 | 45    | MPa   | ISO 527       |
| Strain at Break                 | 15    | %     | ISO 527       |
| Impact Strength (Charpy), +23°C | 150   | kJ/m² | ISO 179/1eU   |
| Type of failure                 | C     | -     | -             |
| Puncture - maximum force, +23°C | 3900  | N     | ISO 6603-2    |
| Puncture - maximum force, -30°C | 3700  | N     | ISO 6603-2    |
| Puncture energy, +23°C          | 25    | J     | ISO 6603-2    |
| Puncture energy, -30°C          | 15    | J     | ISO 6603-2    |

| Thermal Properties                        | Value | Unit  | Test Standard   |
|-------------------------------------------|-------|-------|-----------------|
| <b>ISO Data</b>                           |       |       |                 |
| Temp. of deflection under load (1.80 MPa) | 137   | °C    | ISO 75-1/-2     |
| Temp. of deflection under load (0.45 MPa) | 144   | °C    | ISO 75-1/-2     |
| Vicat softening temperature, 50°C/h 50N   | 144   | °C    | ISO 306         |
| Burning Behav. at 1.5 mm Nom. Thickn.     | V-0   | class | UL 94           |
| Burning Behav. 5V at Thickness h          | 5VA   | class | IEC 60695-11-20 |
| Thickness tested                          | 3.0   | mm    | -               |
| Oxygen index                              | 36    | %     | ISO 4589-1/-2   |
| Glow Wire (GWFI, Flammability Index)      | 960   | °C    | IEC 60695-2-12  |
| GWFI - thickness tested (1)               | 0.75  | mm    | -               |
| Glow Wire (GWFI, Flammability Index)      | 960   | °C    | IEC 60695-2-12  |
| GWFI - thickness tested (2)               | 1.5   | mm    | -               |
| Glow Wire (GWFI, Flammability Index)      | 960   | °C    | IEC 60695-2-12  |
| GWFI - thickness tested (3)               | 3     | mm    | -               |
| Glow Wire Ignition Temperature)           | 825   | °C    | IEC 60695-2-13  |
| GWIT - thickness tested (1)               | 0.75  | mm    | -               |
| Glow Wire Ignition Temperature)           | 850   | °C    | IEC 60695-2-13  |
| GWIT - thickness tested (2)               | 1.5   | mm    | -               |
| Glow Wire Ignition Temperature)           | 850   | °C    | IEC 60695-2-13  |
| GWIT - thickness tested (3)               | 3     | mm    | -               |

| Electrical Properties      | Value | Unit  | Test Standard |
|----------------------------|-------|-------|---------------|
| <b>ISO Data</b>            |       |       |               |
| Volume Resistivity         | >1E13 | Ohm*m | IEC 62631-3-1 |
| Surface Resistivity        | >1E15 | Ohm   | IEC 62631-3-2 |
| Electric Strength          | 37    | kV/mm | IEC 60243-1   |
| Comparative tracking index | 175   | -     | IEC 60112     |
| Volume Resistivity         | 3E14  | Ohm*m | IEC 60093     |
| Surface Resistivity        | 8E15  | Ohm   | IEC 60093     |

| Other Properties | Value | Unit  | Test Standard |
|------------------|-------|-------|---------------|
| <b>ISO Data</b>  |       |       |               |
| Density          | 1270  | kg/m³ | ISO 1183      |

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| Test specimen production              | Value | Unit | Test Standard |
|---------------------------------------|-------|------|---------------|
| <b>ISO Data</b>                       |       |      |               |
| Injection Molding, melt temperature   | 300   | °C   | ISO 294       |
| Injection Molding, mold temperature   | 110   | °C   | ISO 294       |
| Injection Molding, injection velocity | 200   | mm/s | ISO 294       |

| Processing Recommendation Injection Molding | Value     | Unit | Test Standard |
|---------------------------------------------|-----------|------|---------------|
| Pre-drying - Temperature                    | 120       | °C   | -             |
| Pre-drying - Time                           | 2 - 3     | h    | -             |
| Melt temperature                            | 280 - 320 | °C   | -             |
| Mold temperature                            | 110       | °C   | -             |

### Characteristics

#### Processing

Injection Molding

#### Special Characteristics

Flame retardant, UV stabilized, Opaque

#### Additives

Release agent