# Makrolon® AX2477

PC — Covestro Deutschland AG

## Product Texts

- MVR (300 °C/1.2 kg) 19 cm³/10 min
- low viscosity
- UV stabilized
- easy release
- developed for high-gloss surfaces with highest requirements
- for the use in combination with hard coatings

| Processing/Physical Characteristics | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Melt volume-flow rate, MVR | **19** | cm³/10min | ISO 1133 |
| Temperature | **300** | °C | - |
| Load | **1.2** | kg | - |
| Melt flow index, MFI | **20** | g/10min | ISO 1133 |
| Temperature | **300** | °C | - |
| Load | **1.2** | kg | - |
| [C] Molding shrinkage, parallel | **0.7** | % | ISO 294-4, 2577 |
| [C] Molding shrinkage, normal | **0.7** | % | ISO 294-4, 2577 |

[C]: CAMPUS

| Mechanical properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Tensile Modulus | **2400** | MPa | ISO 527 |
| [C] Yield stress | **66** | MPa | ISO 527 |
| [C] Yield strain | **6** | % | ISO 527 |
| [C] Nominal strain at break | **>50** | % | ISO 527 |
| Flexural modulus, 23°C | **2350** | MPa | ISO 178 |
| Flexural strength | **98** | MPa | ISO 178 |
| [C] Tensile creep modulus, 1h | **2200** | MPa | ISO 899-1 |
| [C] Tensile creep modulus, 1000h | **1900** | MPa | ISO 899-1 |
| [C] Charpy impact strength, +23°C | **N** | kJ/m² | ISO 179/1eU |
| [C] Charpy impact strength, -30°C | **N** | kJ/m² | ISO 179/1eU |
| Charpy notched impact strength, +23°C, 3mm | **65** | kJ/m² | ISO 179/1eA |
| Type of failure | **P(C)** | - | - |
| Charpy notched impact strength, -30°C, 3mm | **14** | kJ/m² | ISO 179/1eA |
| Type of failure | **C** | - | - |
| Izod notched impact strength, +23°C | **75** | kJ/m² | ISO 180/1A |
| Izod notched impact strength | **12** | kJ/m² | ISO 180/1A |
| Temperature | **-30** | °C | - |
| [C] Puncture - maximum force, +23°C | **5100** | N | ISO 6603-2 |
| [C] Puncture - maximum force, -30°C | **6000** | N | ISO 6603-2 |
| [C] Puncture energy, +23°C | **55** | J | ISO 6603-2 |
| [C] Puncture energy, -30°C | **65** | J | ISO 6603-2 |
| Ball indentation hardness | **116** | MPa | ISO 2039-1 |

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| Thermal properties | Value | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Glass transition temperature, 10°C/min | **143** | °C | ISO 11357-1/-2 |
| [C] Temp. of deflection under load, 1.80 MPa | **124** | °C | ISO 75-1/-2 |
| [C] Temp. of deflection under load, 0.45 MPa | **136** | °C | ISO 75-1/-2 |
| [C] Vicat softening temperature, B | **143** | °C | ISO 306 |
| [C] Coeff. of linear therm. expansion, parallel | **65** | E-6/K | ISO 11359-1/-2 |
| [C] Coeff. of linear therm. expansion, normal | **65** | E-6/K | ISO 11359-1/-2 |
| [C] Burning Behav. at thickness h | **V-2** | class | IEC 60695-11-10 |
| Thickness tested | **0.8** | mm | - |
| [C] Oxygen index | **27** | % | ISO 4589-1/-2 |
| Glow Wire Flammability Index (GWFI) | **850** | °C | IEC 60695-2-12 |
| GWFI - thickness tested (1) | **0.75** | mm | - |

| | | | |
|---|---|---|---|
| Glow Wire Flammability Index (GWFI) | **875** | °C | IEC 60695-2-12 |
| GWFI - thickness tested (2) | **1.5** | mm | - |
| Glow Wire Flammability Index (GWFI) | **930** | °C | IEC 60695-2-12 |
| GWFI - thickness tested (3) | **3** | mm | - |
| Glow Wire Ignition Temperature (GWIT) | **875** | °C | IEC 60695-2-13 |
| GWIT - thickness tested (1) | **0.75** | mm | - |
| Glow Wire Ignition Temperature (GWIT) | **875** | °C | IEC 60695-2-13 |
| GWIT - thickness tested (2) | **1** | mm | - |
| Glow Wire Ignition Temperature (GWIT) | **875** | °C | IEC 60695-2-13 |
| GWIT - thickness tested (3) | **1.5** | mm | - |

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| **Electrical properties** | **Value** | **Unit** | **Test Standard** |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Relative permittivity, 100Hz | **3.1** | - | IEC 62631-2-1 |
| [C] Relative permittivity, 1MHz | **3** | - | IEC 62631-2-1 |
| [C] Dissipation factor, 100Hz | **5** | E-4 | IEC 62631-2-1 |
| [C] Dissipation factor, 1MHz | **90** | E-4 | IEC 62631-2-1 |
| [C] Volume resistivity | **>1E13** | Ohm*m | IEC 62631-3-1 |
| [C] Surface resistivity | **>1E15** | Ohm | IEC 62631-3-2 |
| [C] Electric strength | **34** | kV/mm | IEC 60243-1 |
| [C] Comparative tracking index | **250** | - | IEC 60112 |

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| **Other properties** | **Value** | **Unit** | **Test Standard** |
|---|---|---|---|
| [C] Water absorption | **0.3** | % | Sim. to ISO 62 |
| [C] Humidity absorption | **0.12** | % | Sim. to ISO 62 |
| [C] Density | **1200** | kg/m³ | ISO 1183 |
| Bulk density | **660** | kg/m³ | - |

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| **Film Properties** | **Value** | **Unit** | **Test Standard** |
|---|---|---|---|
| **ISO Data** | | | |
| WVTR, 23°C/85%r.h. | **15** | g/(m²*d) | ISO 15106-1/-2 |
| Thickness of specimen | **0.1** | mm | - |

| **Test specimen production** | **Value** | **Unit** | **Test Standard** |
|---|---|---|---|
| **ISO Data** | | | |
| [C] Injection Molding, melt temperature | **280** | °C | ISO 294 |
| Injection Molding, mold temperature | **80** | °C | ISO 294 |
| Injection Molding, injection velocity | **200** | mm/s | ISO 294 |

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| **Processing Recommendation Injection Molding** | **Value** | **Unit** | **Test Standard** |
|---|---|---|---|
| Pre-drying - Temperature | **120** | °C | - |
| Pre-drying - Time | **2 - 3** | h | - |
| Processing humidity | **≤0.02** | % | - |
| Melt temperature | **280 - 320** | °C | - |
| Mold temperature | **80 - 120** | °C | - |
| Zone 1 | **250 - 260** | °C | - |
| Zone 2 | **270 - 280** | °C | - |
| Zone 3 | **280 - 290** | °C | - |
| Nozzle temperature | **290 - 300** | °C | - |
| Back pressure | **5 - 15** | MPa | - |

## Characteristics

**Processing**
Injection Molding

**Delivery form**
Pellets

**Additives**
Release agent

**Special Characteristics**
U.V. stabilized or stable to weather

**Features**
High Gloss

**Regional Availability**
North America, Europe, Asia Pacific, South and Central America, Near East/Africa