

Product Texts

NAS® ECO 21 BC70 is a styrene acrylic copolymer that can be used in a variety of applications demanding a strong, stiff water-clear plastic resin with excellent thermal stability. NAS® ECO 21 BC70 is a ISCC compliant product leading to a substitution of fossil source styrene with ISCC certified bio-circular or bio-attributed styrene respectively.

Carbon Footprint Reduction vs Fossil-Based (3rd party validated): 93 % (ISO 14044)

Attributed Content of ISCC-certified Bio-Circular Sources (min.): 70 %

| Processing/Physical Characteristics | Value | Unit | Test Standard |
|---|-------------|------------------------|---------------|
| ISO Data | | | |
| ^[C] Melt volume-flow rate, MVR | 24 | cm ³ /10min | ISO 1133 |
| Temperature | 220 | °C | - |
| Load | 10 | kg | - |
| ^[C] Thermal conductivity of melt | 0.21 | W/(m K) | - |
| ^[C] Spec. heat capacity of melt | 2300 | J/(kg K) | - |

[C]: CAMPUS

| Mechanical properties | Value | Unit | Test Standard |
|--|-------------|-------------------|---------------|
| ISO Data | | | |
| ^[C] Tensile Modulus | 3300 | MPa | ISO 527 |
| ^[C] Stress at break | 60 | MPa | ISO 527 |
| ^[C] Strain at break | 2.5 | % | ISO 527 |
| Flexural modulus, 23°C | 3400 | MPa | ISO 178 |
| Flexural strength | 100 | MPa | ISO 178 |
| ^[C] Charpy impact strength, +23°C | 12 | kJ/m ² | ISO 179/1eU |
| ^[C] Charpy notched impact strength, +23°C | 1.5 | kJ/m ² | ISO 179/1eA |
| Izod notched impact strength, +23°C | 2.5 | kJ/m ² | ISO 180/1A |
| Ball indentation hardness | 168 | MPa | ISO 2039-1 |

[C]: CAMPUS

| Thermal properties | Value | Unit | Test Standard |
|---|-----------|------|---------------|
| ISO Data | | | |
| ^[C] Temp. of deflection under load, 1.80 MPa | 80 | °C | ISO 75-1/-2 |
| ^[C] Temp. of deflection under load, 0.45 MPa | 90 | °C | ISO 75-1/-2 |
| ^[C] Vicat softening temperature, B | 98 | °C | ISO 306 |

[C]: CAMPUS

| Optical properties | Value | Unit | Test Standard |
|--------------------------------------|-------------|------|---------------|
| ASTM Data | | | |
| Haze | 0.3 | % | ASTM D 1003 |
| Light Transmittance | 91.3 | % | ASTM D 1003 |
| Other Standards^[S] | | | |
| Index of Refraction | 1.57 | - | ISO 489 |

S: These properties are reported by the producer according standards that are different to our defaults.

| Other properties | Value | Unit | Test Standard |
|------------------------------------|-------------|-------------------|----------------|
| ^[C] Humidity absorption | 0.1 | % | Sim. to ISO 62 |
| ^[C] Density | 1080 | kg/m ³ | ISO 1183 |

[C]: CAMPUS

| Processing Recommendation Injection Molding | Value | Unit | Test Standard |
|---|------------------|------|---------------|
| Pre-drying - Temperature | 80 | °C | - |
| Pre-drying - Time | 2 | h | - |
| Melt temperature | 200 - 240 | °C | - |
| Mold temperature | 30 - 50 | °C | - |

Characteristics

Processing

Injection Molding

Delivery form

Pellets

Special Characteristics

Transparent, Sterilizable, Ethylene Oxide (EtO) Sterilization, Gamma irradiation sterilization

Features

High Gloss, Thermal Stability, Copolymer

Chemical Resistance

Radiation Resistance

Certifications

Contains renewable resources, Food contact, ISCC Plus

Applications

Medical, Packaging

Regional Availability

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

Other text information

Injection molding

PREPROCESSING

Pre-drying, Temperature: 80°C

Pre-drying, Time: 2h

PROCESSING

Melt temperature, range: 200 - 240°C

Mold temperature, range: 30 - 50°C