

General

Designation

Polycarbonate (Polyester Copolymer, High-heat)

Tradenames

Eastalloy

| | | | | |
|---------------------------|---------|---|-------|-------------------|
| Density | 1150 | - | 1200 | kg/m ³ |
| Price | * 3.431 | - | 4.117 | EUR/kg |
| Oxygen index | * 21 | - | 23 | % |
| Water absorption @ 24 hrs | 0.15 | - | 0.2 | % |

Composition

Composition (summary)

Blend of: PC + polyester copolymer (such as PETg)

| | | | | |
|---------------|---------------------------|--|--|---|
| Polymer class | Thermoplastic : Amorphous | | | |
| Polymer type | (PC+Polyester) | | | |
| % filler | 0 | | | % |
| Filler type | Unfilled | | | |

Mechanical

| | | | | |
|--|-----------|---|--------|----------------------|
| Compressive modulus | * 2.21 | - | 2.34 | GPa |
| Compressive strength | 75.5 | - | 83.3 | MPa |
| Elongation | 50 | - | 122 | % |
| Fatigue strength at 10 ⁷ cycles | * 25.15 | - | 32.7 | MPa |
| Flexural modulus | 2.02 | - | 2.34 | GPa |
| Fracture toughness | * 3.407 | - | 4.088 | MPa.m ^{1/2} |
| Hardness - Vickers | * 17.6 | - | 20.3 | HV |
| Hardness - Rockwell M | 74 | - | 92 | |
| Hardness - Rockwell R | * 111 | - | 123 | |
| Impact strength, notched 23 °C | 7.9 | - | 53 | kJ/m ² |
| Mechanical loss coefficient | * 0.01709 | - | 0.0181 | |
| Poisson's ratio | * 0.3923 | - | 0.4082 | |
| Shear modulus | * 0.7891 | - | 0.8356 | GPa |
| Tensile strength | 65.5 | - | 77.9 | MPa |
| Yield strength (elastic limit) | 58.6 | - | 67.6 | MPa |
| Young's modulus | 2.21 | - | 2.34 | GPa |

Thermal

| | | | | |
|-------------------------------------|--------|---|-------|------------|
| Glass temperature | 160 | - | 195 | °C |
| Heat deflection temperature 0.45MPa | 152 | - | 185 | °C |
| Heat deflection temperature 1.8MPa | 141 | - | 168 | °C |
| Maximum service temperature | * 124 | - | 140 | °C |
| Specific heat | * 1558 | - | 1620 | J/kg.K |
| Thermal conductivity | 0.197 | - | 0.209 | W/m.K |
| Thermal expansion coefficient | 126 | - | 165.6 | µstrain/°C |

Processing

| | | | | |
|------------------------|--------|---|-------|-------|
| Linear mold shrinkage | * 1e-3 | - | 0.01 | mm/mm |
| Melt temperature | 262 | - | 377 | °C |
| Molding pressure range | 34 | - | 137.5 | MPa |

Electrical

| | | | | |
|--|-----------|---|---------|---------|
| Dielectric strength (dielectric breakdown) | 20 | - | 20.5 | MV/m |
| Dielectric constant (relative permittivity) | * 6.5 | - | 7.2 | |
| Dissipation factor (dielectric loss tangent) | * 0.06236 | - | 0.07484 | |
| Electrical resistivity | * 1e18 | - | 1e20 | µohm.cm |

Optical

