

TECHNICAL DATA SHEET

[English Units]



TOPAS® 5013F-04

Cyclic Olefin Copolymer (COC)

Extrusion grade with good flowability and high temperature resistance for application in coextruded films as a discrete layer or in blends with PE. Provides excellent clarity, high stiffness/modulus, high water vapor barrier properties and good thermoformability.

| Property | Value | Unit | Test Standard |
|---|-------|--|-------------------|
| Physical Properties | | | |
| Density | 1020 | kg/m ³ | ISO 1183 |
| Melt volume rate (MVR) (230°C, 2.16kg) | 9 | cm ³ /10min | ISO 1133 |
| Melt volume rate (MVR) (190°C, 2.16kg) | <0.1 | cm ³ /10min | ISO 1133 |
| Melt flow rate (MFR) (230°C, 2.16kg) | 8 | g/10min | calculated |
| Melt flow rate (MFR) (190°C, 2.16kg) | <0.1 | g/10min | calculated |
| Water absorption (23°C-sat) | 0,01 | % | ISO 62 |
| Thermal Properties | | | |
| Glass transition temperature (10°C/min) | 273 | °F | ISO 11357-1,-2,-3 |
| Mechanical Properties (Film) | | | |
| Tensile modulus (machine direction) | 380 | kpsi | ISO 527-3 |
| Tensile modulus (transverse direction) | 360 | kpsi | ISO 527-3 |
| Tensile strength @ break (machine direction) | 5100 | psi | ISO 527-3 |
| Tensile strength @ break (transverse direction) | 3600 | psi | ISO 527-3 |
| Elongation at break (machine direction) | 1,4 | % | ISO 527-3 |
| Elongation at break (transverse direction) | 1,1 | % | ISO 527-3 |
| Elmendorf tear strength (machine direction) | 11 | g | ISO 6383-2 |
| Elmendorf tear strength (transverse direction) | 11 | g | ISO 6383-2 |
| Dart Drop Impact Strength, F50 | <36 | g | ISO 7765-1 |
| Optical Properties (Film) | | | |
| Gloss, 60° | >100 | % | ISO 2813 |
| Haze | <1 | % | ISO 14782 |
| Barrier Properties (Film) | | | |
| Water vapor permeability @ 38°C, 90% RH | 0,25 | g×mil/100in ² ×day | ISO 15106-3 |
| Oxygen permeability @ 23°C, 50% RH | 60 | cm ³ ×mil/100in ² ×day | ASTM D3985 |
| Test Specimen Production (Film) | | | |
| Type of extrusion | cast | | |
| Thickness of specimen | 2,76 | mil | |

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