

Topas Advanced Polymers TOPAS® 5013F-04 Cyclic Olefin Copolymer (COC)

Category : Polymer , Thermoplastic , Cyclo Olefin Polymer

Material Notes:

TOPAS® 5013F-04 is a high temperature film extrusion grade for blends. It is a high clarity amorphous resin with high stiffness, moisture barrier, chemical resistance, thermoformability and purity for food and healthcare applications. It is used in monolayer cast blends, and in coextruded blends in both cast and blown processes, for a wide variety of film and sheet products requiring excellent optics in applications such as heat resistant blister, hot fill, and easy tear packaging. Key applications and attributes
 Pharmaceutical blisters: Clarity, forming, barrier, purity, halogen-free
 Decorative film and sheet: Gloss, hardness, chemical resistance, forming
 Food packaging: Hot-fill, easy or linear tear, purity and gloss
 Healthcare and food: Broad regulatory approval
 Information provided by TOPAS Advanced Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_Topas-Advanced-Polymers-TOPAS-5013F-04-Cyclic-Olefin-Copolymer-COC.php

| Physical Properties | Metric | English | Comments |
|--------------------------------|---|---|---------------------|
| Oxygen Permeability | 1038 cm ³ mil/(m ² day atm) | 66.97 cm ³ mil/(100 in ² day atm) | |
| Water Vapor Permeability | 5.9 g mil/ (m ² day) | 0.38 g mil/ (100 in ² day) | |
| Density | 1.02 g/cc | 0.0368 lb/in ³ | ISO 1183 |
| Water Absorption at Saturation | 0.010 % @Temperature 23.0 °C | 0.010 % @Temperature 73.4 °F | ISO 62 |
| Water Vapor Transmission | 0.000100 g/m ² /day @Temperature 38.0 °C | 0.00000644 g/100 in ² /day @Temperature 100 °F | 90% RH; ISO 15106-3 |
| Oxygen Transmission | 25.0 cc-mm/m ² -24hr-atm @Temperature 23.0 °C | 63.5 cc-mil/100 in ² -24hr-atm @Temperature 73.4 °F | 50% RH; ASTM D3985 |
| Thickness | 70.0 microns | 2.76 mil | Film |
| Melt Flow | <= 0.10 g/10 min @Load 2.16 kg, Temperature 190 °C | <= 0.10 g/10 min @Load 4.76 lb, Temperature 374 °F | ISO 1133 |
| | 8.3 g/10 min @Load 2.16 kg, Temperature 230 °C | 8.3 g/10 min @Load 4.76 lb, Temperature 446 °F | ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|------------------------------|--------|---------|-----------|
| Film Elongation at Break, MD | 1.4 % | 1.4 % | ISO 527-3 |

| Film Elongation at Break, TD Mechanical Properties | Metric | English | ISO 527-3 Comments |
|---|-----------|--------------|-----------------------|
| Tensile Modulus | 2.50 GPa | 363 ksi | Film, TD; ISO 527-3 |
| | 2.60 GPa | 377 ksi | Film, MD; ISO 527-3 |
| Elmendorf Tear Strength MD | 11 g | 11 g | ISO 6383-2 |
| Elmendorf Tear Strength TD | 11 g | 11 g | ISO 6383-2 |
| Dart Drop Test | <= 36.0 g | <= 0.0794 lb | F50; ISO 7765-1 |
| Film Tensile Strength at Break, MD | 35.0 MPa | 5080 psi | ISO 527-3 |
| Film Tensile Strength at Break, TD | 25.0 MPa | 3630 psi | ISO 527-3 |

| Thermal Properties | Metric | English | Comments |
|---------------------------|--------|---------|-----------------------------|
| Glass Transition Temp, Tg | 134 °C | 273 °F | 10°C/min; ISO 11357-1,-2,-3 |

| Optical Properties | Metric | English | Comments |
|--------------------|----------|----------|---------------------|
| Haze | <= 1.0 % | <= 1.0 % | Film; ISO 14782 |
| Gloss | >= 100 % | >= 100 % | 60°, Film; ISO 2813 |

| Descriptive Properties | Value | Comments |
|------------------------|-------|---------------|
| Type of film extrusion | Cast | Test specimen |

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