Eastman Cadence™ GS1 Copolyester for film calendering

Category : Polymer , Film , Thermoplastic , Polyester, TP , Polyester Film

Material Notes:

Eastman Cadence™ copolyester, for calendered films, is a specialty plastic developed to meet the demand for an environmentally responsible material for the calendering industry. Available in different grades, it features ease of processing, high-melt strength, aesthetics, clarity and gloss.BenefitsCan be used on existing calendering lines with no or minimal modification.No drying is needed prior to the calendering process.Good thermal stability during normal calendering process conditions.No corrosive degradation products are normally formed.Easy to emboss for added texture and dimensions with standard engraved rolls. Easy to decorate using offset lithography, flexographic, and screen-printing processes.Thermoforms easily and is compatible with commercial adhesives used in lamination processesEnvironmentally responsible material.Product description: Eastman Cadence GS5 is an amorphous copolyester with improved processability for film calendering. Calendered films made of Eastman Cadence copolyesters are non-crystallizing, are halogen-free, offer wide calendering and thermoforming windows and have good low-temperature toughness. They are cooperative in secondary operations such as solvent-bonding, lamination, decoration, cold-forming, punching/cutting and embossment.Eastman Cadence resins require no pre-drying or additional stabilizers.Application/UsesAppliance filmsArchitectural laminatesAutomotive filmsBagsDecorative laminatesElectronic laminatesFloor coveringsFurniture/Furniture trimLabelsOutdoor filmsPackagingPrintable filmsShrink filmTransaction cardsTransportation laminatesWall coveringsReported typical properties are preliminary. Information was provided by Eastman.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Eastman-Cadence-GS1-Copolyester-for-film-calendering.php

Physical Properties	Metric	English	Comments
Density	1.28 g/cc	0.0462 lb/in³	ASTM D1505
Water Absorption	0.16 % @Time 86400 sec	0.16 % @Time 24.0 hour	Immersion; ASTM D570
Water Vapor Transmission	7.00 g/m²/day	0.451 g/100 in²/day	ASTM F372
Oxygen Transmission	7.00 cc-mm/m²-24hr-atm	17.8 cc-mil/100 in²-24hr-atm	ASTM D3985
Viscosity Measurement	0.71	0.71	Inherent Viscosity; EMN-A-AC-G-V-1
Thickness	170 microns	6.69 mil	Thickness of film tested; ASTM D374

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Yield, MD	49.0 MPa	7110 psi	ASTM D882
Film Tensile Strength at Yield, TD	49.0 MPa	7110 psi	ASTM D882
Film Elongation at Break, MD	420 %	420 %	ASTM D882
Film Elongation at Break, TD	300 %	300 %	ASTM D882
Film Elongation at Yield, MD	5.0 %	5.0 %	ASTM D882

Mechanical Properties	Metric	English	Comments
Film Elongation at Yield, TD	5.0 %	5.0 %	ASTM D882
Secant Modulus, MD	1.60 GPa	232 ksi	ASTM D882
Secant Modulus, TD	1.60 GPa	232 ksi	ASTM D882
Puncture Energy	0.700 J @Temperature -20.0 °C	0.516 ft-lb @Temperature -4.00 °F	Energy @ Max. Load; ASTM D3763
	1.20 J @Temperature 0.000 °C	0.885 ft-lb @Temperature 32.0 °F	Energy @ Max. Load; ASTM D3763
	1.60 J @Temperature 23.0 °C	1.18 ft-lb @Temperature 73.4 °F	Energy @ Max. Load; ASTM D3763
Elmendorf Tear Strength MD	724 g	724 g	ASTM D1922
Elmendorf Tear Strength TD	897 g	897 g	ASTM D1922
Elmendorf Tear Strength, MD	4.30 g/micron	109 g/mil	ASTM D1922
Elmendorf Tear Strength, TD	5.30 g/micron	135 g/mil	ASTM D1922
Film Tensile Strength at Break, MD	63.0 MPa	9140 psi	ASTM D882
Film Tensile Strength at Break, TD	46.0 MPa	6670 psi	ASTM D882

Thermal Properties	Metric	English	Comments
CTE, linear	76.6 µm/m-°C @Temperature -30.0 - 30.0 °C	42.6 µin/in-°F @Temperature -22.0 - 86.0 °F	ASTM D696
Specific Heat Capacity	1.30 J/g-°C @Temperature 60.0 °C	0.310 BTU/lb-°F @Temperature 140 °F	DSC
	1.72 J/g-°C @Temperature 100 °C	0.410 BTU/lb-°F @Temperature 212 °F	DSC
	1.84 J/g-°C @Temperature 150 °C	0.440 BTU/lb-°F @Temperature 302 °F	DSC
	1.97 J/g-°C @Temperature 200 °C	0.470 BTU/lb-°F @Temperature 392 °F	DSC
	2.05 J/g-°C @Temperature 250 °C	0.490 BTU/lb-°F @Temperature 482 °F	DSC

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	70.0 °C	158 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	62.0 °C	144 °F	ASTM D648
Vicat Softening Point	81.0 °C	178 °F	ASTM D1525
Glass Transition Temp, Tg	81.0 °C	178 °F	DSC
Oxygen Index	23.5 %	23.5 %	ASTM D2863

Optical Properties	Metric	English	Comments
Haze	2.7 %	2.7 %	ASTM D1003
Gloss	107 %	107 %	@ 60°; ASTM D2457
Transmission, Visible	90 %	90 %	ASTM D1003 modified

Electrical Properties	Metric	English	Comments
Volume Resistivity	3.87e+16 ohm-cm	3.87e+16 ohm-cm	ASTM D257
Surface Resistivity per Square	1.19e+16 ohm	1.19e+16 ohm	ASTM D257
Dielectric Constant	2.68 @Frequency 1.00e+6 Hz	2.68 @Frequency 1.00e+6 Hz	ASTM D150
	2.88 @Frequency 1000 Hz	2.88 @Frequency 1000 Hz	ASTM D150
Dielectric Strength	14.6 kV/mm	371 kV/in	Short time, 500 V/sec rate-of-rise; ASTM D149
Dissipation Factor	0.021 @Frequency 1.00e+6 Hz	0.021 @Frequency 1.00e+6 Hz	ASTM D150
	0.022 @Frequency 1000 Hz	0.022 @Frequency 1000 Hz	ASTM D150
Arc Resistance	131 sec	131 sec	ASTM D495

Descriptive Properties	Value	Comments
Greenguard Indoor Air Quality Certified	yes	

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