

Arkema Group Rilsan® Clear G170 Polyamide

Category : Polymer , Thermoplastic , Nylon

Material Notes:

Rilsan® Clear G170 is a high performance transparent polyamide with outstanding thermal resistance. This grade has been designed for extrusion and injection molding applications and for medical uses. Information provided by Arkema Group

Order this product through the following link:

http://www.lookpolymers.com/polymer_Arkema-Group-Rilsan-Clear-G170-Polyamide.php

Physical Properties	Metric	English	Comments
Density	1.05 g/cc	0.0379 lb/in ³	ISO R 1183 D
Water Absorption	1.3 %	1.3 %	at equilibrium at 23°C and 50 % RH; ISO 62
	3.2 %	3.2 %	at equilibrium at 23°C in water; ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	84	84	instantaneous, conditioned 15 day, 23°C - 50 % R.H.; ISO 868
	79 @Time 15.0 sec	79 @Time 0.00417 hour	conditioned 15 day, 23°C - 50 % R.H.; ISO 868
Tensile Strength at Break	58.0 MPa	8410 psi	conditioned 15 days, 23°C - 50 % R.H.; ISO 527
Tensile Strength, Yield	74.0 MPa	10700 psi	conditioned 15 days, 23°C - 50 % R.H.; ISO 527
Elongation at Break	>= 100 %	>= 100 %	conditioned 15 days, 23°C - 50 % R.H.; ISO 527
Elongation at Yield	9.0 %	9.0 %	conditioned 15 days, 23°C - 50 % R.H.; ISO 527
Tensile Modulus	2.02 GPa	293 ksi	conditioned 15 days, 23°C - 50 % R.H.; ISO 527
Flexural Modulus	1.98 GPa	287 ksi	conditioned 15 days, 23°C - 50 % R.H.; ISO 178
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	130 J/cm ² @Temperature 23.0 °C	619 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA

Mechanical Properties	Metric ^{cm²}	English ^{lb/in²}	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 119/1eA

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	150 °C	302 °F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	136 °C	277 °F	ISO 75
Glass Transition Temp, Tg	168 °C	334 °F	ISO 11357

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	clear; thickness not quantified

Processing Properties	Metric	English	Comments
Processing Temperature	270 - 290 °C	518 - 554 °F	Extrusion
	280 °C	536 °F	Extrusion, recommended
	270 - 310 °C	518 - 590 °F	Injection
	290 °C	554 °F	Injection, recommended
Mold Temperature	40.0 - 80.0 °C	104 - 176 °F	
Drying Temperature	80.0 - 90.0 °C	176 - 194 °F	
Dry Time	4.00 - 6.00 hour	4.00 - 6.00 hour	

Descriptive Properties	Value	Comments
Transparency	90.8%	560 nm, 2 mm; ISO 13168-1,2

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