

## Arkema Group Rilsan® Clear G380 Renew Polyamide

Category : Polymer , Thermoplastic , Nylon

### Material Notes:

Rilsan® Clear G830 Rnew is a high performance transparent polyamide partially based on renewable resources. This grade has been specially designed for injection molding applications, ideally suited for optics as high end eyewear frames. Information provided by Arkema Group

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Arkema-Group-Rilsan-Clear-G380-Renew-Polyamide.php](http://www.lookpolymers.com/polymer_Arkema-Group-Rilsan-Clear-G380-Renew-Polyamide.php)

Physical Properties	Metric	English	Comments
Density	1.01 g/cc	0.0365 lb/in <sup>3</sup>	ISO R 1183 D
Water Absorption	1.3 %	1.3 %	at equilibrium at 23°C and 50 % RH; ISO 62
	3.3 %	3.3 %	at equilibrium at 23°C in water; ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	83	83	instantaneous, conditioned 15 day, 23°C - 50 % R.H.; ISO 868
	81	81	conditioned 15 day, 23°C - 50 % R.H.; ISO 868
	@Time 15.0 sec	@Time 0.00417 hour	
Tensile Strength at Break	60.0 MPa	8700 psi	conditioned 15 days, 23°C - 50 % R.H.; ISO 527
Tensile Strength, Yield	55.0 MPa	7980 psi	conditioned 15 days, 23°C - 50 % R.H.; ISO 527
Elongation at Break	>= 150 %	>= 150 %	conditioned 15 days, 23°C - 50 % R.H.; ISO 527
Elongation at Yield	7.0 %	7.0 %	conditioned 15 days, 23°C - 50 % R.H.; ISO 527
Tensile Modulus	1.69 GPa	245 ksi	conditioned 15 days, 23°C - 50 % R.H.; ISO 527
Flexural Modulus	1.53 GPa	222 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	
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	100 J/cm <sup>2</sup>	476 ft-lb/in <sup>2</sup>	ISO 179/1eA

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	110 J/cm <sup>2</sup>	524 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	110 °C	230 °F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	95.0 °C	203 °F	ISO 75
Glass Transition Temp, Tg	135 °C	275 °F	ISO 11357
Shrinkage, MD	0.10 % @Thickness 2.00 mm	0.10 % @Thickness 0.0787 in	after 24h, mould at 40°C
Shrinkage, TD	0.50 % @Thickness 2.00 mm	0.50 % @Thickness 0.0787 in	after 24h, mould at 40°C

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

Component Elements Properties	Metric	English	Comments
Carbon, C	53 - 55 %	53 - 55 %	renewable; ASTM 6866

Processing Properties	Metric	English	Comments
Processing Temperature	240 - 300 °C	464 - 572 °F	Injection
	270 °C	518 °F	Injection, recommended
Mold Temperature	20.0 - 80.0 °C	68.0 - 176 °F	
Drying Temperature	70.0 - 80.0 °C	158 - 176 °F	
Dry Time	4.00 - 6.00 hour	4.00 - 6.00 hour	

Descriptive Properties	Value	Comments
Transparency	91.5%	560 nm, 2 mm; ISO 13168-1,2

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