

RILSAN® CLEAR G170

PA,,MT,C12-020

Rilsan® Clear G170 is a high performance transparent polyamide resin with outstanding thermal resistance. This grade has been designed for injection molding applications.

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
RHEOLOGICAL PROPERTIES			
Melt Volume-Flow Rate	2 / *	cm ³ /10min	ISO 1133
Temperature	275 / *	°C	-
	527 / *	°F	
Load	2.16 / *	kg	-
	4.76 / *	lb	
Molding Shrinkage, parallel	0.7 / *	%	ISO 294-4, 2577
Molding Shrinkage, normal	0.7 / *	%	ISO 294-4, 2577
MECHANICAL PROPERTIES			
Tensile Modulus	2100 / 2020 305000 / 293000	MPa psi	ISO 527-1/-2
Yield stress	76 / 74 11000 / 10700	MPa psi	ISO 527-1/-2
Yield strain	8 / 9	%	ISO 527-1/-2
Nominal Strain at Break	>50 / >50	%	ISO 527-1/-2
Shore D Hardness	79 / *	-	ISO 868
Charpy Impact Strength, +23°C	- / No Break	kJ/m ²	ISO 179/1eU
Charpy Impact Strength, -30°C	No Break / No Break	kJ/m ²	ISO 179/1eU
Charpy Notched Impact Strength, +23°C	- / 13 - / 6.18	kJ/m ² ftlb/in ²	ISO 179/1eA
Charpy Notched Impact Strength, -30°C	- / 13 - / 6.18	kJ/m ² ftlb/in ²	ISO 179/1eA
THERMAL PROPERTIES			
Glass Transition Temperature, 10°C/min	168 / * 334 / *	°C °F	ISO 11357-1/-2
Temp. of Deflection Under Load, 1.80 MPa	136 / * 277 / *	°C °F	ISO 75-1/-2
Temp. of Deflection Under Load, 0.45 MPa	150 / * 302 / *	°C °F	ISO 75-1/-2

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 Source: automatically generated TDS from Material Database on 25-04-2023

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Vicat Softening Temperature, 50°C/h 50N	160 / *	°C	ISO 306
	320 / *	°F	
Coeff. of Linear Thermal Expansion, parallel	70 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nominal Thickness	V-2 / *	class	IEC 60695-11-10
Thickness Tested	1.6 / *	mm	-
	0.0630 / *	in	
Yellow Card available	yes / *	-	-
Oxygen Index	26 / *	%	ISO 4589-1/-2
ELECTRICAL PROPERTIES			
Volume Resistivity	- / 1E11	Ohm*m	IEC 60093
Surface Resistivity	* / 1E12	Ohm	IEC 60093
Dielectric (Electric) Strength	- / 50	kV/mm	IEC 60243-1
	- / 1270	kV/in	
Comparative Tracking Index	* / 600	-	IEC 60112
OTHER PROPERTIES			
Water Absorption	3.8 / *	%	Sim. to ISO 62
Humidity Absorption	1.7 / *	%	Sim. to ISO 62
Density	1050 / 1050	kg/m ³	ISO 1183
	1.05 / 1.05	g/cm ³	
OPTICAL PROPERTIES			
Luminous Transmittance	91	%	ISO 13468-1, -2

MAIN APPLICATIONS:

- Coffee machine, Fuel filter container, Inner layer of fiber optic, Copper telephone cables resistant to rodents, power cables resistant to rodents.
- Note: This grade is not recommended by Arkema for usage in medical applications. For such applications Rilsan® Clear G170 MED should be used.

PACKAGING:

This grade is delivered dried in sealed packaging (25 kg bags) ready to be processed.

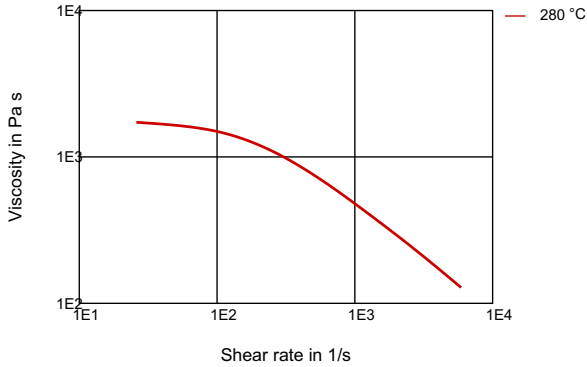
SHELF LIFE:

Two years from the delivery. For any use above this limit, please refer to our technical services.

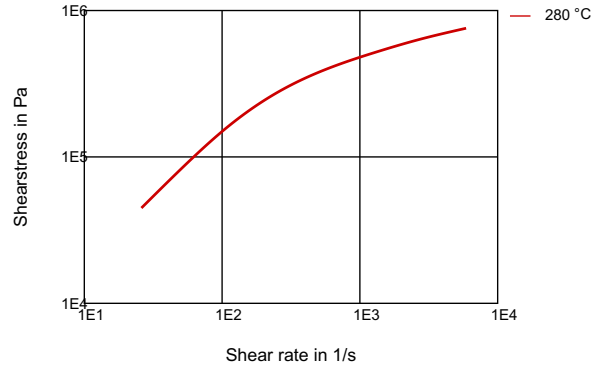
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DIAGRAMS

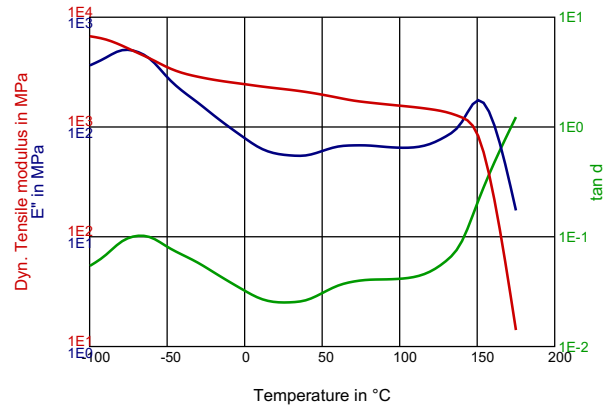
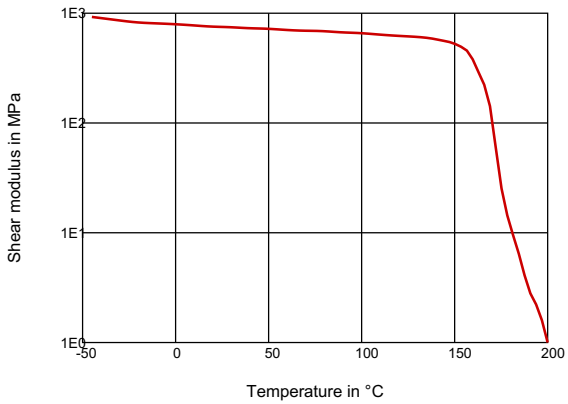
VISCOSITY-SHEAR RATE



SHEARSTRESS-SHEAR RATE



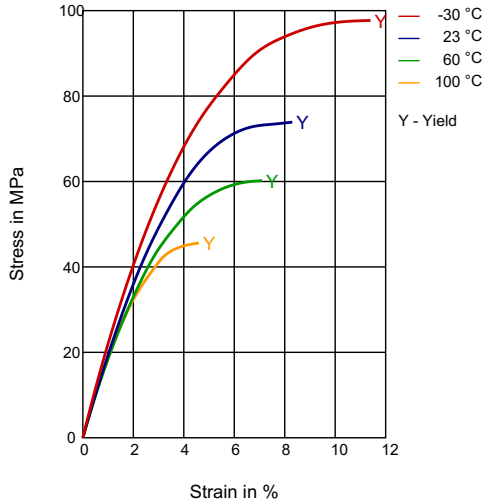
DYNAMIC SHEAR MODULUS-TEMPERATURE DYNAMIC TENSILE MODULUS-TEMPERATURE



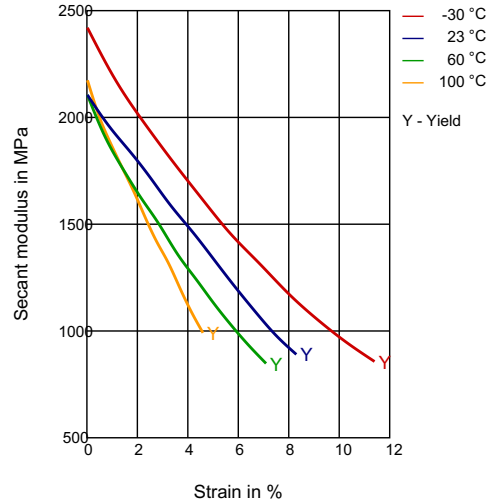
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STRESS-STRAIN



SECANT MODULUS-STRAIN



Injection molding conditions:

- Typical melt temperature (Min / Recommended / Max) : 270°C / 290°C / 310°C
- Typical mold temperature : 40 - 80 °C
- Drying time and temperature (only for bags opened for more than two hours): 4 - 6 hours at 90°C

Extrusion conditions:

- Typical melt temperature (Min / Recommended / Max) : 270°C / 280°C / 290°C
- Drying time and temperature (only for bags opened for more than two hours): 4 - 6 hours at 90°C

PROCESSING Injection Molding, Other Extrusion	Headquarters: Arkema France 420 rue d'Estienne d'Orves 92705 Colombes Cedex France T +33 (0)1 49 00 80 80 hpp.arkema.com Arkema Inc. – High Performance Polymers 900 First Avenue King of Prussia, PA 19406 Tel.: +1 610 205 7000 hpp.arkema.com
DELIVERY FORM Pellets	
SPECIAL CHARACTERISTICS Transparent	
REGIONAL AVAILABILITY North America, Europe, Asia Pacific, South and Central America, Near East/Africa	

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