

# 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
<b>RHEOLOGICAL PROPERTIES</b>			
Melt Volume-Flow Rate	2 / *	cm <sup>3</sup> /10 min	ISO 1133
Temperature	275 / *	°C	-
	527 / *	°F	-
Load	2.16 / *	kg	-
	4.76 / *	lb	-
Molding Shrinkage, parallel	1.1 / *	%	ISO 294-4, 2577
Molding Shrinkage, normal	1.1 / *	%	ISO 294-4, 2577
<b>MECHANICAL PROPERTIES</b>			
Tensile Modulus	2100 / 2020	MPa	ISO 527-1/-2
	305000 / 293000	psi	
Yield Stress	76 / 74	MPa	ISO 527-1/-2
	11000 / 10700	psi	
Yield Strain	8 / 9	%	ISO 527-1/-2
Nominal Strain at Break	>50 / >50	%	ISO 527-1/-2
Shore D Hardness, after 15 s	79 / *	-	ISO 868
Charpy Impact Strength, +23°C	- / No Break	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy Impact Strength, -30°C	No Break / No Break	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy Notched Impact Strength, +23°C	- / 13	kJ/m <sup>2</sup>	ISO 179/1eA
	- / 6.18	ftlb/in <sup>2</sup>	
Charpy Notched Impact Strength, -30°C	- / 13	kJ/m <sup>2</sup>	ISO 179/1eA
	- / 6.18	ftlb/in <sup>2</sup>	
<b>THERMAL PROPERTIES</b>			
Glass Transition Temperature, 10°C/min	168 / *	°C	ISO 11357-1/-2
	334 / *	°F	
Temp. of Deflection Under Load, 1.80 MPa	136 / *	°C	ISO 75-1/-2
	277 / *	°F	
Temp. of Deflection Under Load, 0.45 MPa	150 / *	°C	ISO 75-1/-2
	302 / *	°F	
Vicat Softening Temperature, 50°C/h 50N	160 / *	°C	ISO 306
	320 / *	°F	

Arkema France - A French "société anonyme", registered in the Nanterre (France) Trade and Companies Register under the number 319 632 790 SDC/11-2018  
Source: automatically generated TDS from Material Database on 12-08-2024

# RILSAN<sup>®</sup> CLEAR G170

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
<b>ELECTRICAL PROPERTIES</b>			
Volume Resistivity	- / 1E11	Ohm* m	IEC 62631-3-1
Surface Resistivity	* / 1E12	Ohm	IEC 62631-3-2
Dielectric (Electric) Strength	- / 50	kV/mm	IEC 60243-1
	- / 1270	kV/in	
Comparative Tracking Index	* / 600	-	IEC 60112
<b>OTHER PROPERTIES</b>			
Water Absorption, 23°C, immersion, equilibrium	3.8 / *	%	ISO 62
Humidity Absorption, 23°C, RH50%, equilibrium	1.7 / *	%	ISO 62
Density	1050 / 1050	kg/m <sup>3</sup>	ISO 1183
	1.05 / 1.05	g/cm <sup>3</sup>	
<b>OPTICAL PROPERTIES</b>			
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<sup>®</sup> Clear G170 MED should be used.

## PACKAGING:

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

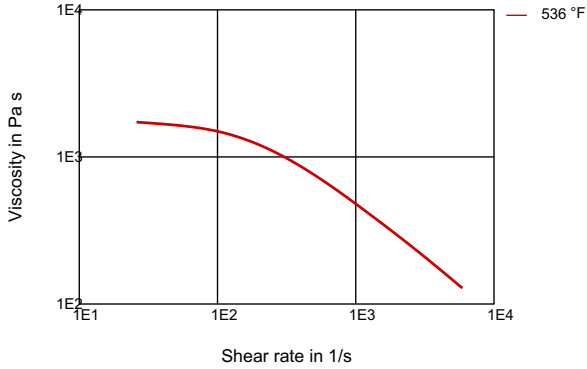
## SHELF LIFE:

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

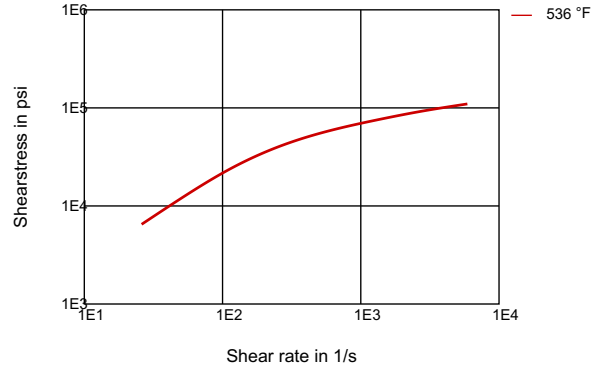
# RILSAN® CLEAR G170

## DIAGRAMS

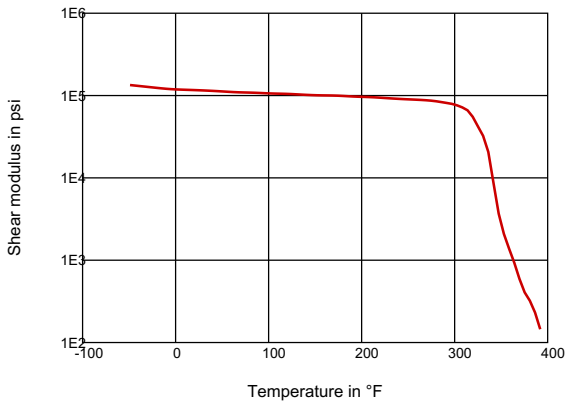
### VISCOSITY-SHEAR RATE



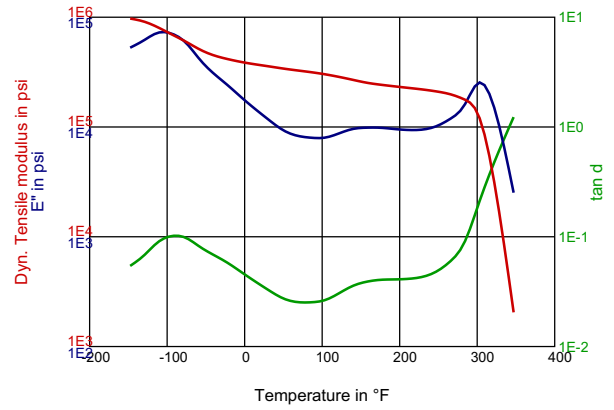
### SHEARSTRESS-SHEAR RATE



### DYN. SHEAR MODULUS-TEMPERATURE



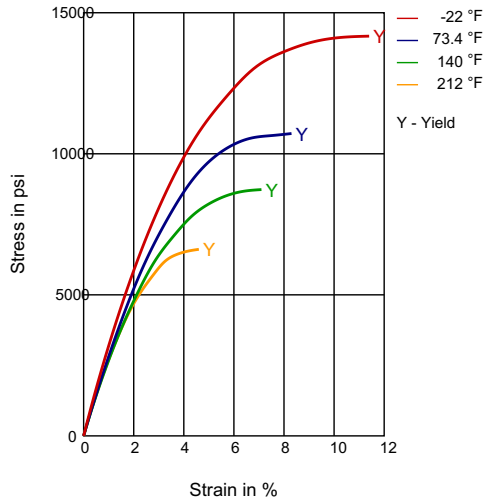
### DYN. TENSILE MODULUS-TEMPERATURE



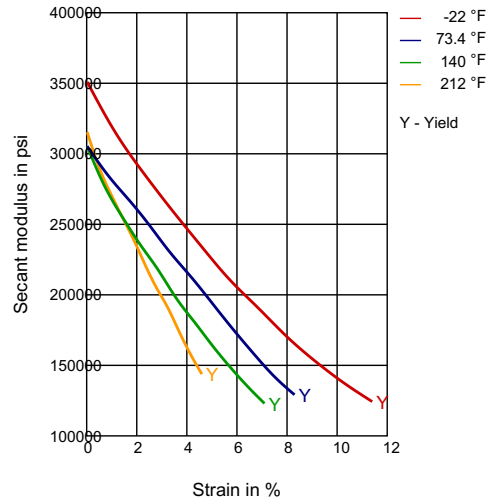
Arkema France - A French "société anonyme", registered in the Nanterre (France) Trade and Companies Register under the number 319 632 790 SDC/11-2018  
Source: automatically generated TDS from Material Database on 12-08-2024

# RILSAN® CLEAR G170

## 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

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

Arkema France - A French "société anonyme", registered in the Nanterre (France) Trade and Companies Register under the number 319 632 790 SDC/11-2018  
 Source: automatically generated TDS from Material Database on 12-08-2024

# RILSAN<sup>®</sup>

## CLEAR G170

---

The statements, technical information and recommendations contained herein are believed to be accurate as of the date hereof. Since the conditions and methods of use of the product and of the information referred to herein are beyond our control, ARKEMA expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information; NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE GOODS DESCRIBED OR THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be applicable when such product is used in combination with other materials or in any process. The user should thoroughly test any application before commercialization. Nothing contained herein constitutes a license to practice under any patent and it should not be construed as an inducement to infringe any patent and the user is advised to take appropriate steps to be sure that any proposed use of the product will not result in patent infringement.