

TECHNICAL DATA SHEET

RILSAN® CLEAR G170

AMORPHOUS POLYAMIDE PELLETT

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

DESIGNATION

PA*

MAIN APPLICATIONS

- Frames
- Health - Consumable - Others
- Accessories
- Laptop / Desktop
- Smartphone / Tablet
- Others
- Home Appliance
- Industry - Others
- Industry - Distribution

DELIVERY FORM

- Pellets

TRANSFORMATION PROCESSES

- Injection Molding

ADDITIVES

- Heat Stabilized

RHEOLOGICAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Shrinkage, Parallel (t+24h)	1.1 %	ISO 294-4
Shrinkage, Normal (t+24h)	1.1 %	ISO 294-4
Melt volume flow rate (MVR), 275°C / 2.16 kg (527°F / 4.4 lb)	2 cm ³ /10min	ISO 1133

MECHANICAL PROPERTIES

PROPERTIES	DRY / COND VALUE*	TEST STANDARD
Hardness, Shore D, 15 s	- / 79	ISO 868
Charpy unnotched impact strength, 23°C (73°F)	- / No Break	ISO 179 1eU
Charpy unnotched impact strength, -30°C (-22°F)	No Break / No Break	ISO 179 1eU
Nominal strain at break, 23°C (73°F), 50 mm/min	30 / > 50 %	ISO 527-1/-2
Yield strain, 23°C (73°F), 50 mm/min	8 / 9 %	ISO 527-1/-2
Yield stress, 23°C (73°F), 50 mm/min	76 / 74 MPa	ISO 527-1/-2
Tensile modulus, 23°C (73°F), 1 mm/min	2100 / 2020 MPa	ISO 527-1/-2
Charpy notched impact strength, 23°C (73°F)	- / 13 kJ/m ²	ISO 179 1eA
Charpy notched impact strength, -30°C (-22°F)	- / 13 kJ/m ²	ISO 179 1eA
Flexural modulus, 23°C (73°F)	- / 1980 MPa	ISO 178

*DRY: Dry As Molded (DAM) if pellet / Dry if powder.
COND: Conditioned.

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THERMAL PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Glass transition temperature, 10°C/min	168 °C	ISO 11357-1/-2
Vicat softening temperature, 50N at 50°C/h	160 °C	ISO 306
Yellow card available	yes	
Heat deflection temperature, 0.45 MPa	150 °C	ISO 75-1/-2
Heat deflection temperature, 1.8 MPa	136 °C	ISO 75-1/-2

ELECTRICAL PROPERTIES

PROPERTIES	DRY / COND VALUE*	TEST STANDARD
Surface resistivity, 23°C (73,4°F)	- / 1.0E+12 ohm/sq	IEC 62631-3-2
Volumic (transversal) resistivity, 23°C (73,4°F)	- / 1.0E+11 ohm/m	IEC 62631-3-1
Comparative tracking index, 23°C (73,4°F)	- / 600	IEC 60112
Dielectric stress, 23°C (73,4°F)	- / 50	IEC 60243-1

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COND: Conditionned.

OTHER PROPERTIES

PROPERTIES	VALUE	TEST STANDARD
Moisture absorption, At equilibrium at 23°C (73°F) / 50%HR	1.7 %	ISO 62
Water absorption, 23°C (73°F), immersion, equilibrium	3.8 %	ISO 62
Specific gravity, 23°C (73°F)	1.05 g/cm ³	ISO 1183-1

PACKAGING

This grade is delivered dried in sealed packaging ready to be processed. Available packaging:

- 25 kg / 55 lb bags

SHELF LIFE

Two years from the date of delivery, when stored properly (sealed bags, appropriate moisture, UV protection and temperature). For any use above this limit, please refer to our technical services.

PROCESSING CONDITIONS:

- Typical melt temperature (Min / Recommended / Max) - Injection Molding: 270°C / 290°C / 310°C (520°F / 555°F / 590°F)
- Typical mold temperature - Injection molding: 20-80°C (70-175°F)
- Drying time and temperature: 90°C (195°F) / 4-6 hours

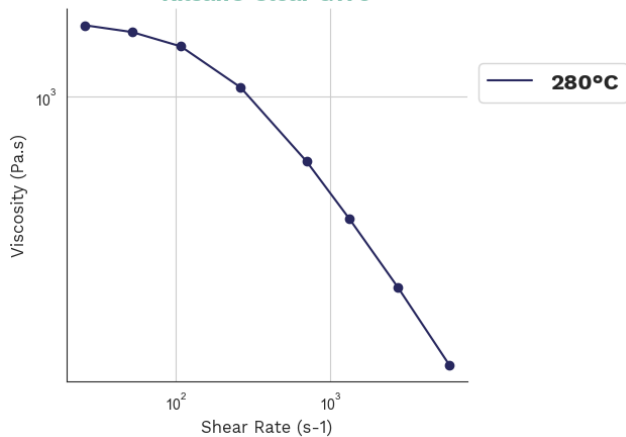
SPECIAL CHARACTERISTICS

- Transparent

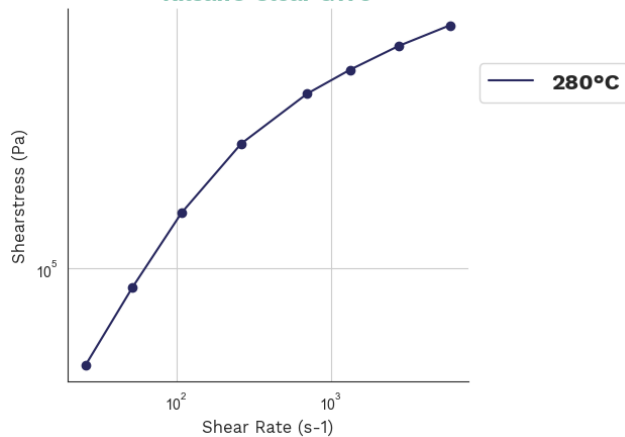
RILSAN® CLEAR G170

DIAGRAMS

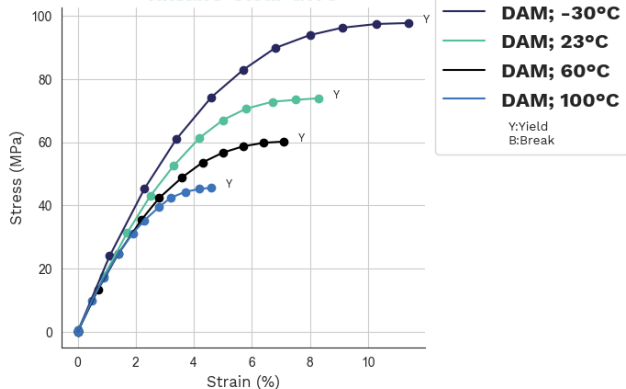
Viscosity-shear rate
Rilsan® Clear G170



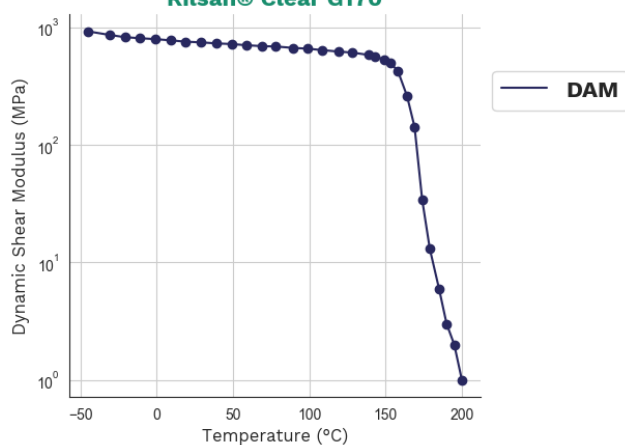
Shearstress-shear rate
Rilsan® Clear G170



Stress-strain
Rilsan® Clear G170



Dynamic Shear modulus-temperature
Rilsan® Clear G170



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