

## TECHNICAL DATA SHEET

# RILSAN® CLEAR G170

## AMORPHOUS POLYAMIDE PELLET

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

### TYPE

PA\*

### MAIN APPLICATIONS

- Other Sport Equipment
- Health - Consumable - Others
- Accessories
- Laptop / Desktop
- Others
- Home Appliance
- Industry - Distribution

### DELIVERY FORM

- Pellets

### TRANSFORMATION PROCESSES

- Injection Molding

### ADDITIVES

- Heat Stabilized

## RHEOLOGICAL PROPERTIES

| PROPERTIES                                                    | VALUE | UNIT      | 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     | cm³/10min | ISO 1133      |

## MECHANICAL PROPERTIES

| PROPERTIES                                      | DRY / COND VALUE* | UNIT  | TEST STANDARD |
|-------------------------------------------------|-------------------|-------|---------------|
| Flexural modulus, 23°C (73°F)                   | - / 1980          | MPa   | ISO 178       |
| Tensile modulus, 23°C (73°F), 1 mm/min          | 2100 / 2020       | MPa   | ISO 527-1/-2  |
| Yield stress, 23°C (73°F), 50 mm/min            | 76 / 74           | MPa   | ISO 527-1/-2  |
| Yield strain, 23°C (73°F), 50 mm/min            | 8 / 9             | %     | ISO 527-1/-2  |
| Nominal strain at break, 23°C (73°F), 50 mm/min | 30 / > 50         | %     | ISO 527-1/-2  |
| Charpy unnotched impact strength, 23°C (73°F)   | - / No break      |       | ISO 179 1eU   |
| Charpy unnotched impact strength, -30°C (-22°F) | - / No break      |       | ISO 179 1eU   |
| Charpy notched impact strength, 23°C (73°F)     | - / 13            | kJ/m² | ISO 179 1eA   |
| Charpy notched impact strength, -30°C (-22°F)   | - / 13            | kJ/m² | ISO 179 1eA   |
| Hardness, Shore D, 15 s                         | - / 79            |       | ISO 868       |

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

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## THERMAL PROPERTIES

| PROPERTIES                                 | VALUE | UNIT | 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         |
| Heat deflection temperature, 0.45 MPa      | 150   | °C   | ISO 75-1/-2     |
| Heat deflection temperature, 1.8 MPa       | 136   | °C   | ISO 75-1/-2     |
| Burning behavior, minimum thickness 0.8 mm | HB    |      | IEC 60695-11-10 |
| Burning behavior, minimum thickness 1.5 mm | V-2   |      | IEC 60695-11-10 |
| Yellow card available                      | YES   |      |                 |

## ELECTRICAL PROPERTIES

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

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

## OTHER PROPERTIES

| PROPERTIES                                                 | VALUE | UNIT              | 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        |
| Density, 23°C (73°F)                                       | 1.05  | g/cm <sup>3</sup> | ISO 1183-1    |

## PACKAGING

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:

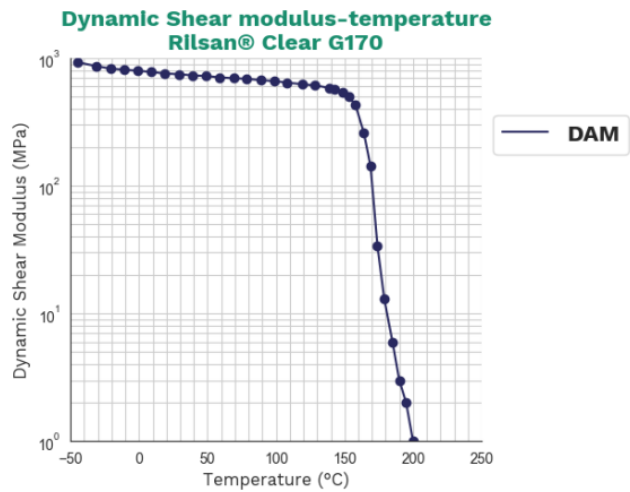
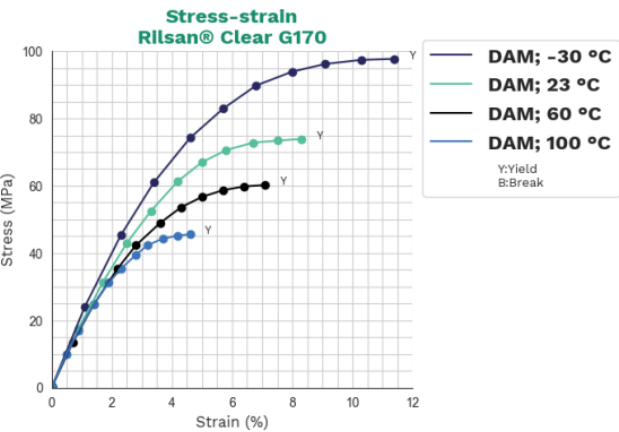
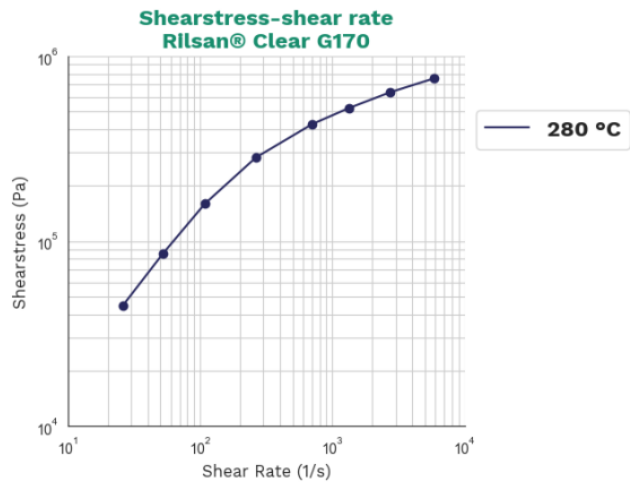
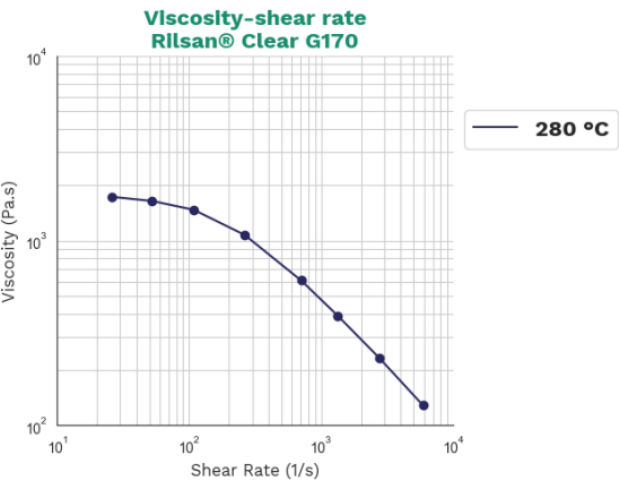
- Typical melt temperature (Min / Recommended / Max) - Injection Molding: 270°C / 290°C / 310°C (520°F / 555°F / 590°F)
- Typical mold temperature - Injection molding: 20-80°C (70-175°F)
- Drying time and temperature: 90°C (195°F) / 4-6 hours

## SPECIAL CHARACTERISTICS

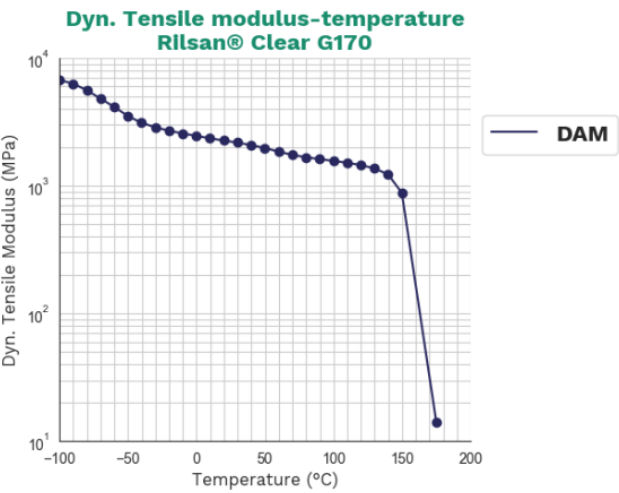
- Transparent

# RILSAN® CLEAR G170

## DIAGRAMS



# RILSAN® CLEAR G170



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