

# RILSAN® CLEAR G170 MED

PA,,MT,C12-020

**Rilsan® Clear G170 MED** is a high performance transparent polyamide resin with outstanding thermal resistance. This grade offers the highest quality and is specifically designed to meet the stringent requirements of the medical applications. Upon request letters regarding USP class VI compliance can be provided.

| 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                      |                 |

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Source: automatically generated TDS from Material Database on 12-08-2024

# RILSAN®

## CLEAR G170 MED

|                                                |             |           |                 |
|------------------------------------------------|-------------|-----------|-----------------|
| 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        |                 |
| Burning Behav. at Thickness h                  | HB / *      | class     | IEC 60695-11-10 |
| Thickness Tested                               | 0.8 / *     | mm        | -               |
|                                                | 0.0315 / *  | in        |                 |
| Oxygen Index                                   | 26 / *      | %         | ISO 4589-1/-2   |
| ELECTRICAL PROPERTIES                          |             |           |                 |
| Volume Resistivity                             | - / 1E11    | Ohm*<br>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       |
| OTHER PROPERTIES                               |             |           |                 |
| Water Absorption, 23°C, immersion, equilibrium | 3.8 / *     | %         | ISO 62          |
| Humidity Absorption, 23°C, RH50%, equilibrium  | 1.7 / *     | %         | ISO 62          |
| Density                                        | 1050 / 1050 | kg/m³     | ISO 1183        |
|                                                | 1.05 / 1.05 | g/cm³     |                 |
| OPTICAL PROPERTIES                             |             |           |                 |
| Luminous Transmittance                         | 91          | %         | ISO 13468-1, -2 |

### MAIN APPLICATIONS:

- Medical perfusion tube accessories
- Breathing mask

### PACKAGING:

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

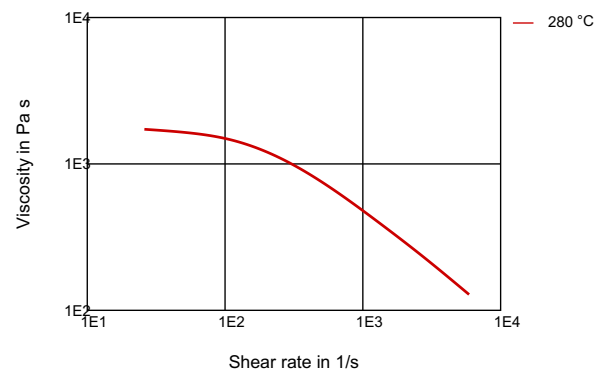
### SHELF LIFE:

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

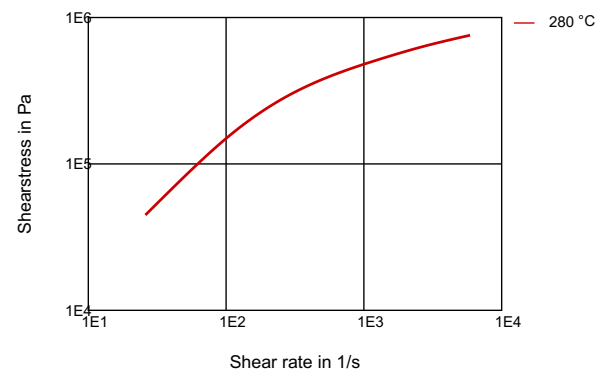
# RILSAN® CLEAR G170 MED

## DIAGRAMS

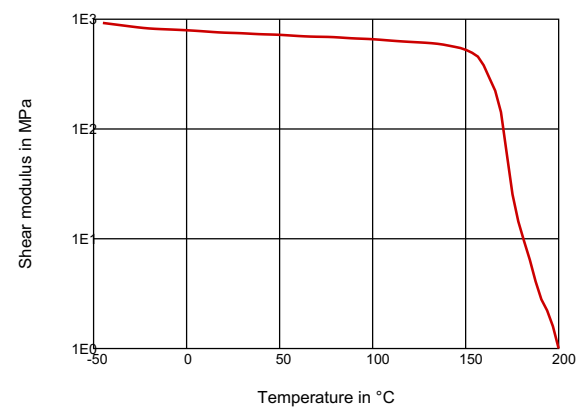
### VISCOSITY-SHEAR RATE



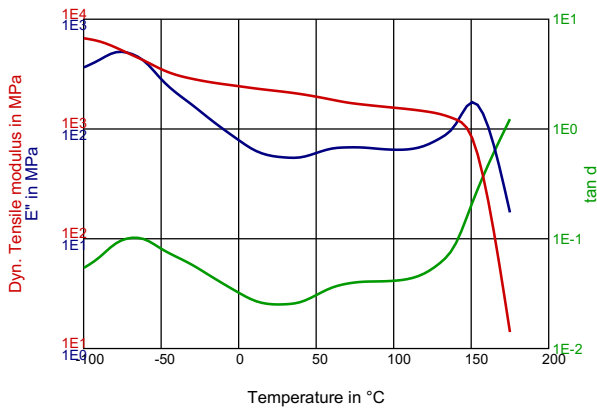
### SHEARSTRESS-SHEAR RATE



### DYN. SHEAR MODULUS-TEMPERATURE

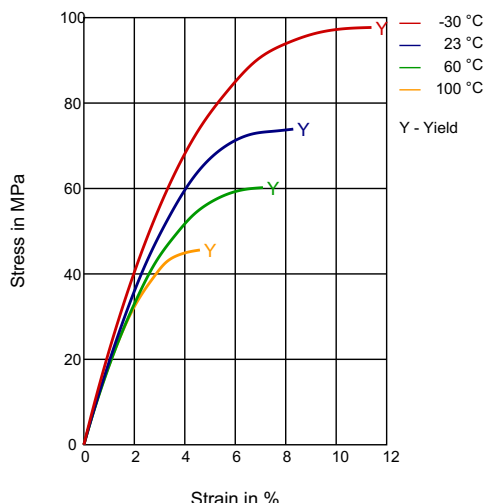


### DYN. TENSILE MODULUS-TEMPERATURE

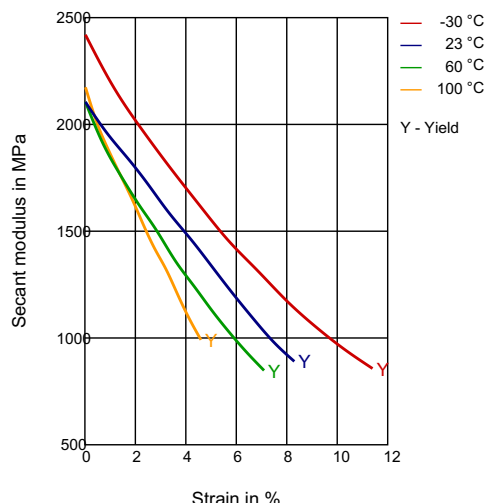


# RILSAN® CLEAR G170 MED

## 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.

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

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