

# PEBAX<sup>®</sup>

## 7033 SP 01

Polyether block amide **Pebax<sup>®</sup> 7033 SP 01 resin** is a thermoplastic elastomer made of flexible polyether and rigid polyamide. This SP grade has been developed to be heat and UV resistant.

| PROPERTIES                                   | DRY / COND    | UNIT                 | TEST STANDARD   |
|----------------------------------------------|---------------|----------------------|-----------------|
| RHEOLOGICAL PROPERTIES                       |               |                      |                 |
| Molding Shrinkage, parallel                  | 0.9 / *       | %                    | ISO 294-4, 2577 |
| Molding Shrinkage, normal                    | 1.1 / *       | %                    | ISO 294-4, 2577 |
| MECHANICAL PROPERTIES                        |               |                      |                 |
| Tensile Modulus                              | 414 / 384     | MPa                  | ISO 527-1/-2    |
|                                              | 60000 / 55700 | psi                  |                 |
| Yield Stress                                 | 23 / 22       | MPa                  | ISO 527-1/-2    |
|                                              | 3340 / 3190   | psi                  |                 |
| Yield Strain                                 | 22 / 20       | %                    | ISO 527-1/-2    |
| Nominal Strain at Break                      | >50 / >50     | %                    | ISO 527-1/-2    |
| Stress at 10% Elongation                     | 22 / *        | MPa                  | ISO 527-1/-2    |
|                                              | 3190 / *      | psi                  |                 |
| Stress at 100% Elongation                    | 21 / *        | MPa                  | ISO 527-1/-2    |
|                                              | 3050 / *      | psi                  |                 |
| Strain at Break TPE                          | >300 / *      | %                    | ISO 527-1/-2    |
| Stress at Break TPE                          | 54 / *        | MPa                  | ISO 527-1/-2    |
|                                              | 7830 / *      | psi                  |                 |
| Tear Strength                                | 149 / *       | kN/m                 | ISO 34-1        |
| Shore D Hardness, after 15 s                 | 61 / *        | -                    | ISO 868         |
| Charpy Impact Strength, +23°C                | - / No Break  | kJ/m <sup>2</sup>    | ISO 179/1eU     |
| Charpy Impact Strength, -30°C                | - / No Break  | kJ/m <sup>2</sup>    | ISO 179/1eU     |
| Charpy Notched Impact Strength, +23°C        | - / 120       | kJ/m <sup>2</sup>    | ISO 179/1eA     |
|                                              | - / 57.1      | ftlb/in <sup>2</sup> |                 |
| Charpy Notched Impact Strength, -30°C        | - / 20        | kJ/m <sup>2</sup>    | ISO 179/1eA     |
|                                              | - / 9.51      | ftlb/in <sup>2</sup> |                 |
| THERMAL PROPERTIES                           |               |                      |                 |
| Melting Temperature, 10°C/min                | 172 / *       | °C                   | ISO 11357-1/-3  |
| Temp. of Deflection Under Load, 0.45 MPa     | 99 / *        | °C                   | ISO 75-1/-2     |
|                                              | 210 / *       | °F                   |                 |
| Vicat Softening Temperature, 50°C/h 50N      | 106 / *       | °C                   | ISO 306         |
|                                              | 223 / *       | °F                   |                 |
| Coeff. of Linear Thermal Expansion, parallel | 160 / *       | E-6/K                | ISO 11359-1/-2  |
| ELECTRICAL PROPERTIES                        |               |                      |                 |

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

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|                                                |          |                    |               |
|------------------------------------------------|----------|--------------------|---------------|
| Surface Resistivity                            | * / 4E13 | Ohm                | IEC 62631-3-2 |
| Comparative Tracking Index                     | * / 600  | -                  | IEC 60112     |
| OTHER PROPERTIES                               |          |                    |               |
| Water Absorption, 23°C, immersion, equilibrium | 1.1 / *  | %                  | ISO 62        |
| Humidity Absorption, 23°C, RH50%, equilibrium  | 0.7 / *  | %                  | ISO 62        |
| Density                                        | 1010 / - | kg/m <sup>3</sup>  | ISO 1183      |
|                                                | 1.01 / - | g/cm <sup>3</sup>  |               |
| Spec. heat capacity of melt                    | 2700     | J/(kg K)           | -             |
| Thermal conductivity of melt                   | 0.2      | W/(m K)            | -             |
| Density of melt                                | 830      | kg/m <sup>3</sup>  | -             |
|                                                | 51.8     | lb/ft <sup>3</sup> |               |

**MAIN APPLICATIONS:**

- Athletic foot wear components
- Zip fasteners
- Ski shoes
- Tennis racket bumpers

### PACKAGING:

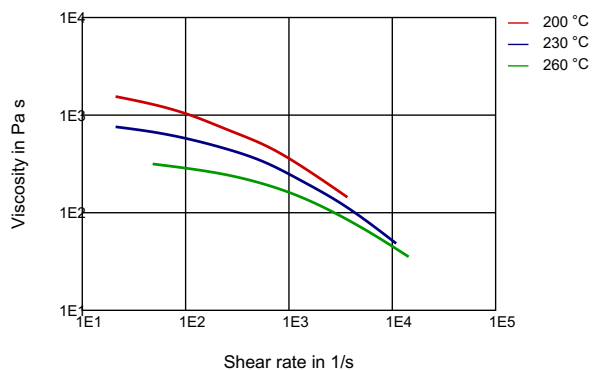
This grade is delivered dried in sealed packaging (20 or 25 kg bags) ready to be processed.

### SHELF LIFE:

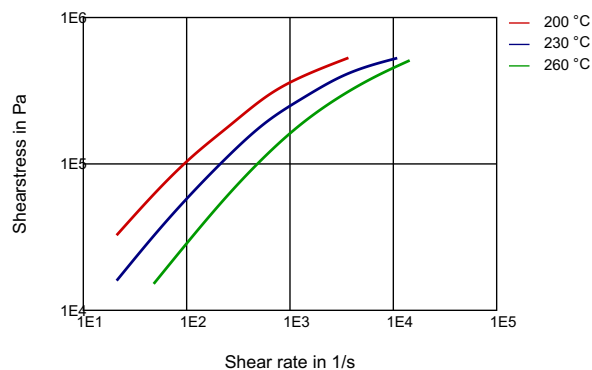
Two years from the delivery. For any use above this limit, please refer to our technical services.

## DIAGRAMS

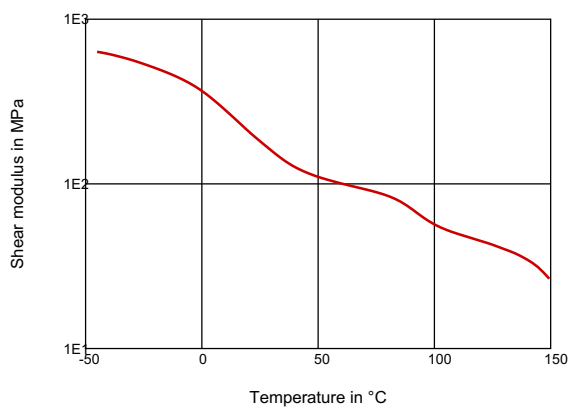
### VISCOSITY-SHEAR RATE



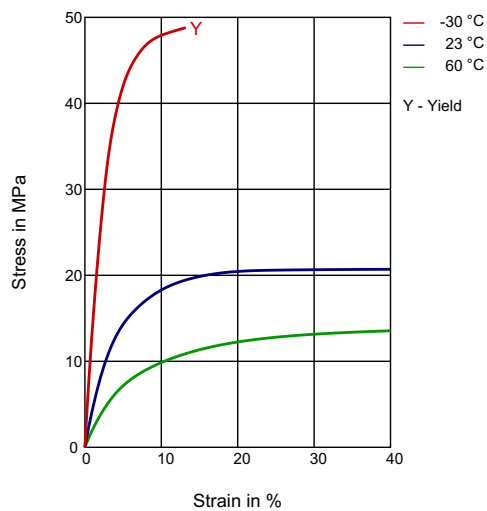
### SHEARSTRESS-SHEAR RATE



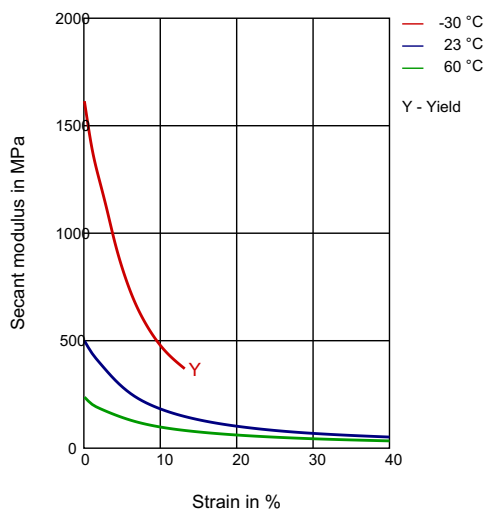
### DYN. SHEAR MODULUS-TEMPERATURE



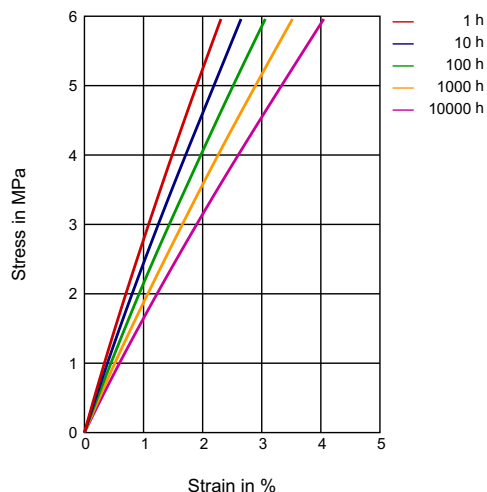
### STRESS-STRAIN



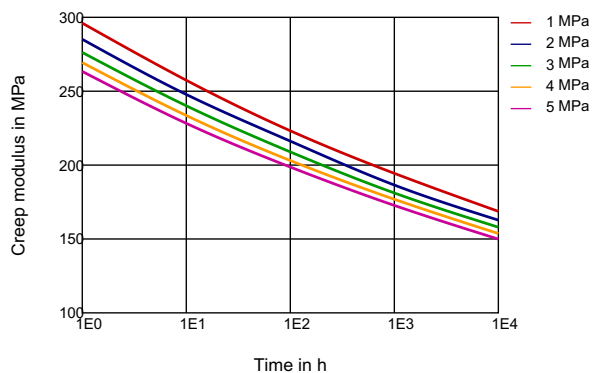
## SECANT MODULUS-STRAIN



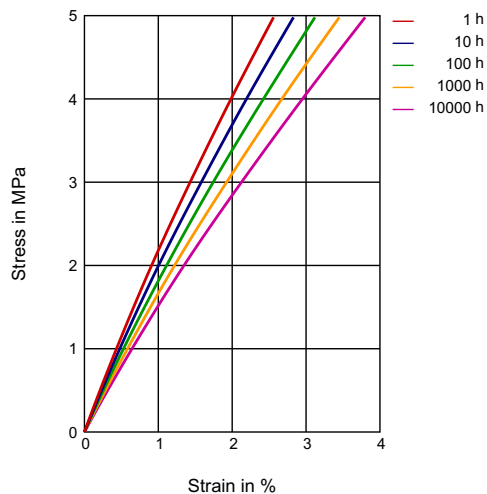
## STRESS-STRAIN (ISOCHRONOUS) 73°F



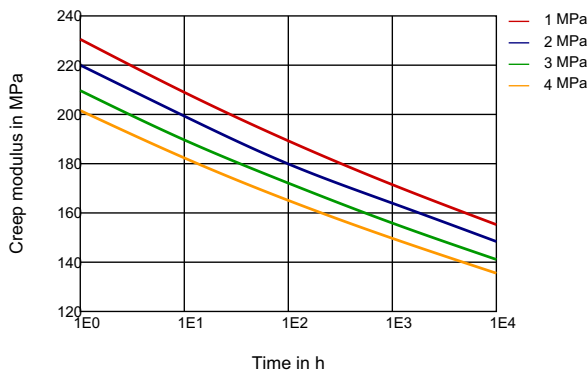
## CREEP MODULUS-TIME 73°F



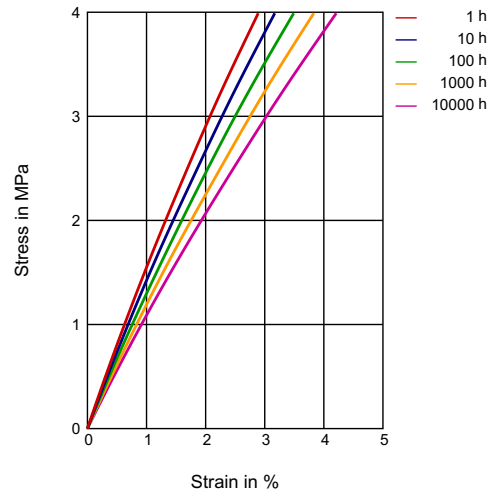
## STRESS-STRAIN (ISOCHRONOUS) 104°F



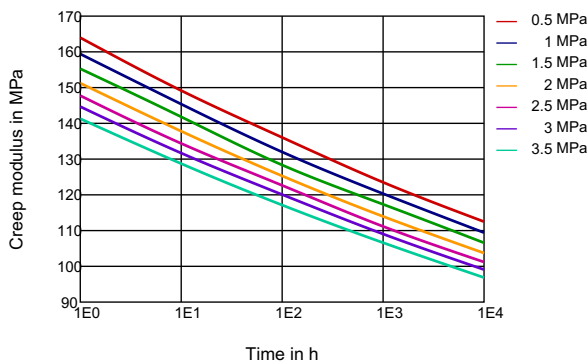
## CREEP MODULUS-TIME 104°F



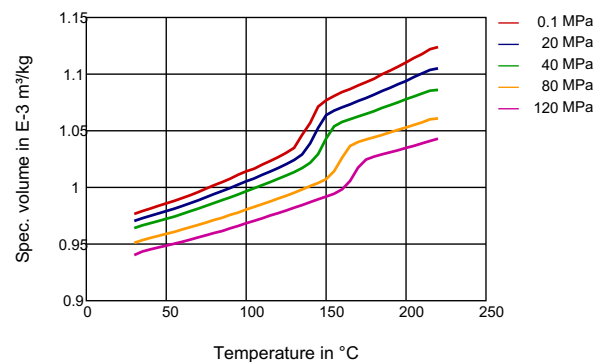
## STRESS-STRAIN (ISOCRONOUS) 176°F



## CREEP MODULUS-TIME 176°F



## SPECIFIC VOLUME-TEMPERATURE (PVT)



### Processing conditions:

- Typical melt temperature (Min / Recommended / Max) : 230°C / 260°C / 290°C
- Typical mold temperature : 25 – 60°C
- Drying time and temperature (only necessary for bags opened for more than two hours) : 5-7 hours at 70-80°C

### Processing conditions:

- Typical melt temperature (Min / Recommended / Max) : 220°C / 235°C / 250°C.
- Drying time and temperature (only necessary for bags opened for more than two hours) : 5-7 hours at 70-80°C.

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|                                                                                                                                      |                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PROCESSING</b><br>Injection Molding, Film Extrusion, Profile Extrusion, Other Extrusion, Transfer Molding, Casting, Thermoforming | <b>Headquarters:</b><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<br><br>Arkema Inc. – High Performance Polymers<br>900 First Avenue<br>King of Prussia, PA 19406<br>Tel.: +1 610 205 7000<br>hpp.arkema.com |
| <b>DELIVERY FORM</b><br>Pellets                                                                                                      |                                                                                                                                                                                                                                                                                           |
| <b>SPECIAL CHARACTERISTICS</b><br>Heat Stabilized, Light Stabilized                                                                  |                                                                                                                                                                                                                                                                                           |
| <b>REGIONAL AVAILABILITY</b><br>North America, Europe, Asia Pacific, South and Central America, Near East/Africa                     |                                                                                                                                                                                                                                                                                           |

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