

## PLEXIGLAS® Softlight zk6BR df22

PMMA

Röhm GmbH

### Productprofil:

PLEXIGLAS® Softlight zk6BR df22, based on PLEXIGLAS® Resist zk6BR, is an impact modified molding compound characterized by diffuse scattering of light.

Typical properties of impact modified PLEXIGLAS® molding compound are

1. high break resistance and impact strength
2. improved resistance to stress cracking
3. good weather resistance
4. high surface hardness and mar resistance
5. the pleasant feel and sound of the moldings.

PLEXIGLAS® Softlight zk6BR df22 is characterized by the following special properties:

1. very good lightdiffusion combined with excellent light transmission
2. matte surfaces can be obtained by varying the extrusion parameters.

### Application:

Used for extruding profiles and sheets, but also for injection molding items for lighting engineering applications

### Example:

applications that call for light diffusion combined with optimum transmission

### Processing:

PLEXIGLAS® Softlight zk6BR df22 can be processed on extruders with 3-zone general purpose screws for engineering thermoplastics. The matte finish of profile surfaces depends very much on machine design (calibrating unit, polishing rolls) and cooling conditions. It can be enhanced by controlled temperature reduction.

### Physical Form / Packaging:

PLEXIGLAS® Softlight df molding compounds are supplied as pellets of uniform size, packaged in 25kg polyethylene bags; other packaging on request.

| Rheological properties                    | Value | Unit                   | Test Standard  |
|-------------------------------------------|-------|------------------------|----------------|
| <b>ISO Data</b>                           |       |                        |                |
| Melt volume-flow rate, MVR                | 1.4   | cm <sup>3</sup> /10min | ISO 1133       |
| Temperature                               | 230   | °C                     | -              |
| Load                                      | 3.8   | kg                     | -              |
| Mechanical Properties                     | Value | Unit                   | Test Standard  |
| <b>ISO Data</b>                           |       |                        |                |
| Tensile Modulus                           | 1800  | MPa                    | ISO 527        |
| Yield stress                              | 45    | MPa                    | ISO 527        |
| Yield strain                              | 5     | %                      | ISO 527        |
| Nominal strain at break                   | 40    | %                      | ISO 527        |
| Impact Strength (Charpy), +23°C           | 54    | kJ/m <sup>2</sup>      | ISO 179/1eU    |
| Thermal Properties                        | Value | Unit                   | Test Standard  |
| <b>ISO Data</b>                           |       |                        |                |
| Glass Transition Temperature (10°C/min)   | 109   | °C                     | ISO 11357-1/-2 |
| Temp. of deflection under load (1.80 MPa) | 93    | °C                     | ISO 75-1/-2    |

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|                                             |    |       |                |
|---------------------------------------------|----|-------|----------------|
| Temp. of deflection under load (0.45 MPa)   | 99 | °C    | ISO 75-1/-2    |
| Vicat softening temperature, 50°C/h 50N     | 98 | °C    | ISO 306        |
| Coeff. of Linear Therm. Expansion, parallel | 90 | E-6/K | ISO 11359-1/-2 |
| Burning Behav. at 1.5 mm Nom. Thickn.       | HB | class | UL 94          |

| Electrical Properties | Value | Unit  | Test Standard |
|-----------------------|-------|-------|---------------|
| <b>ISO Data</b>       |       |       |               |
| Volume Resistivity    | >1E13 | Ohm*m | IEC 62631-3-1 |
| Surface Resistivity   | 1E13  | Ohm   | IEC 62631-3-2 |

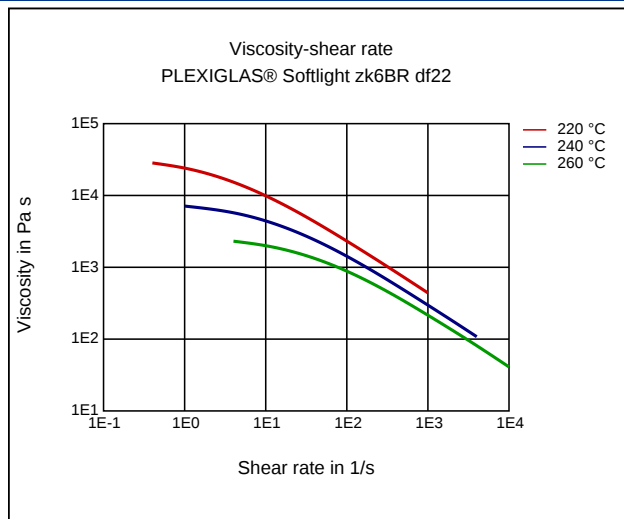
| Other Properties | Value | Unit  | Test Standard |
|------------------|-------|-------|---------------|
| <b>ISO Data</b>  |       |       |               |
| Density          | 1150  | kg/m³ | ISO 1183      |

| Material Specific Properties | Value | Unit | Test Standard   |
|------------------------------|-------|------|-----------------|
| <b>ISO Data</b>              |       |      |                 |
| Luminous transmittance       | 86    | %    | ISO 13468-1, -2 |

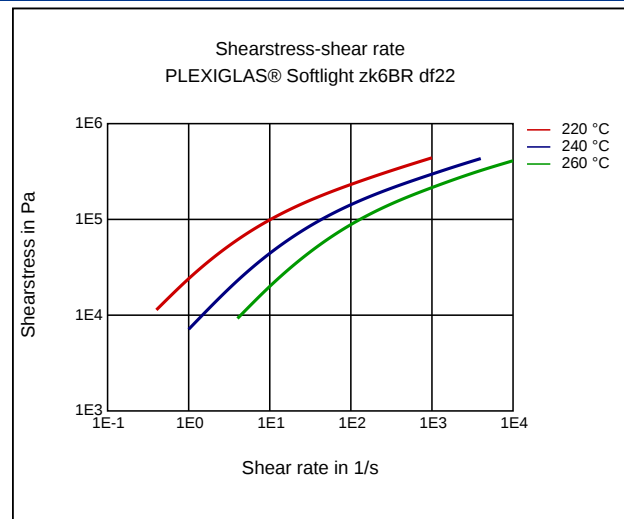
| Test specimen production              | Value | Unit | Test Standard |
|---------------------------------------|-------|------|---------------|
| <b>ISO Data</b>                       |       |      |               |
| Injection Molding, melt temperature   | 255   | °C   | ISO 294       |
| Injection Molding, mold temperature   | 58    | °C   | ISO 294       |
| Injection Molding, injection velocity | 195   | mm/s | ISO 294       |

## Diagrams

### Viscosity-shear rate



### Shearstress-shear rate

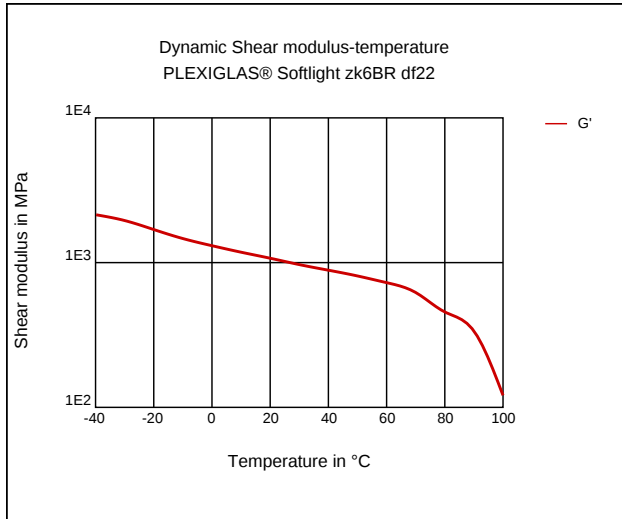


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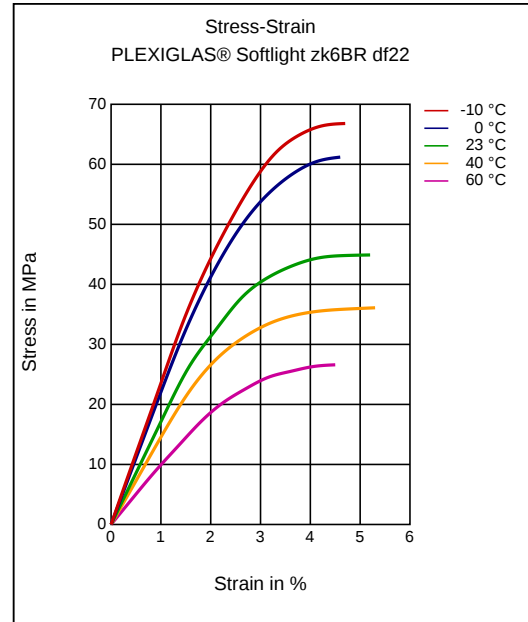
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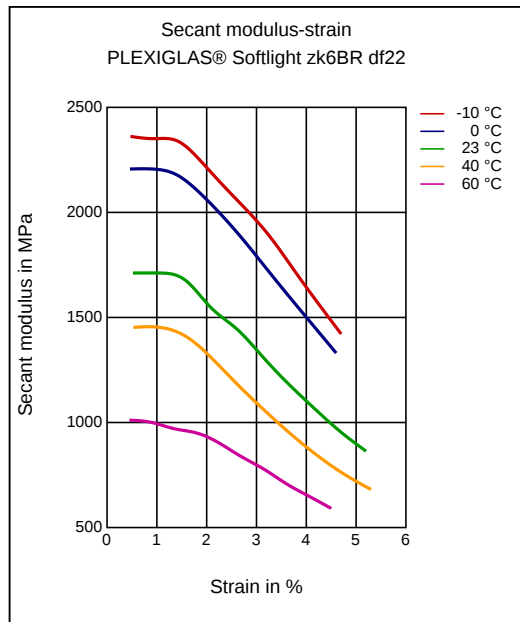
### Dynamic Shear modulus-temperature



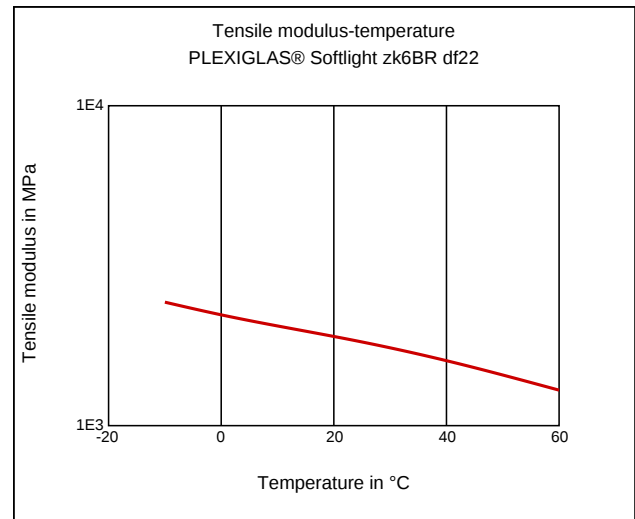
### Stress-strain



### Secant modulus-strain



### Tensile Modulus-Temperature



### Characteristics

#### Processing

Injection Molding, Profile Extrusion, Sheet Extrusion, Other Extrusion

#### Delivery form

Pellets

#### Additives

Release agent

#### Special Characteristics

Impact modified, Light stabilized or stable to light, UV stabilized

#### Features

Light Diffusing

#### Chemical Resistance

Environmental Stress Crack Resistance

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### Injection Molding

#### PREPROCESSING

Predrying temperature: max. 80 °C

Predrying time in a desiccant-type drier: 2 - 3 h

#### PROCESSING

Melt temperature: 220 - 260 °C

Mold temperature: 60 - 90 °C

### Profile extrusion

#### PREPROCESSING

Predrying temperature: max. 80 °C

Predrying time in a desiccant-type drier: 2 - 3 h

#### PROCESSING

Melt temperature: 230 - 260 °C

Die temperature: 230 - 260 °C

### Sheet Extrusion

#### PREPROCESSING

Predrying temperature: max. 80 °C

Predrying time in a desiccant-type drier: 2 - 3 h

#### PROCESSING

Melt temperature: 230 - 260 °C

Die temperature: 230 - 260 °C