



## Makrolon® 2665

PC

Covestro Deutschland AG

- MVR (300 °C/1.2 kg) 12 cm³/10 min
- flame retardant
- UL 94V-2/1.5 mm and 3.0 mm
- medium viscosity
- easy release

| Rheological properties      | Value | Unit      | Test Standard   |
|-----------------------------|-------|-----------|-----------------|
| <b>ISO Data</b>             |       |           |                 |
| Melt volume-flow rate, MVR  | 12    | cm³/10min | ISO 1133        |
| Temperature                 | 300   | °C        | -               |
| Load                        | 1.2   | kg        | -               |
| Molding shrinkage, parallel | 0.7   | %         | ISO 294-4, 2577 |
| Molding shrinkage, normal   | 0.8   | %         | ISO 294-4, 2577 |

| Mechanical Properties           | Value    | Unit  | Test Standard |
|---------------------------------|----------|-------|---------------|
| <b>ISO Data</b>                 |          |       |               |
| Tensile Modulus                 | 2400     | MPa   | ISO 527       |
| Yield stress                    | 66       | MPa   | ISO 527       |
| Yield strain                    | 6.1      | %     | ISO 527       |
| Nominal strain at break         | >50      | %     | ISO 527       |
| Tensile Creep Modulus, 1h       | 2200     | MPa   | ISO 899-1     |
| Tensile Creep Modulus, 1000h    | 1900     | MPa   | ISO 899-1     |
| Impact Strength (Charpy), +23°C | no break | kJ/m² | ISO 179/1eU   |
| Impact Strength (Charpy), -30°C | no break | kJ/m² | ISO 179/1eU   |
| Puncture - maximum force, +23°C | 5400     | N     | ISO 6603-2    |
| Puncture - maximum force, -30°C | 6300     | N     | ISO 6603-2    |
| Puncture energy, +23°C          | 60       | J     | ISO 6603-2    |
| Puncture energy, -30°C          | 65       | J     | ISO 6603-2    |

| Thermal Properties                          | Value | Unit  | Test Standard  |
|---------------------------------------------|-------|-------|----------------|
| <b>ISO Data</b>                             |       |       |                |
| Glass Transition Temperature (10°C/min)     | 144   | °C    | ISO 11357-1/-2 |
| Temp. of deflection under load (1.80 MPa)   | 124   | °C    | ISO 75-1/-2    |
| Temp. of deflection under load (0.45 MPa)   | 136   | °C    | ISO 75-1/-2    |
| Vicat softening temperature, 50°C/h 50N     | 143   | °C    | ISO 306        |
| Coeff. of Linear Therm. Expansion, parallel | 65    | E-6/K | ISO 11359-1/-2 |
| Coeff. of Linear Therm. Expansion, normal   | 65    | E-6/K | ISO 11359-1/-2 |
| Burning Behav. at thickness h               | V-2   | class | UL 94          |
| Thickness tested                            | 0.8   | mm    | -              |
| Oxygen index                                | 30    | %     | ISO 4589-1/-2  |

| Electrical Properties        | Value | Unit  | Test Standard |
|------------------------------|-------|-------|---------------|
| <b>ISO Data</b>              |       |       |               |
| Relative permittivity, 100Hz | 3.1   | -     | IEC 62631-2-1 |
| Relative permittivity, 1MHz  | 3     | -     | IEC 62631-2-1 |
| Dissipation Factor, 100Hz    | 5     | E-4   | IEC 62631-2-1 |
| Dissipation Factor, 1MHz     | 90    | E-4   | IEC 62631-2-1 |
| Volume Resistivity           | >1E13 | Ohm*m | IEC 62631-3-1 |
| Surface Resistivity          | >1E15 | Ohm   | IEC 62631-3-2 |
| Electric Strength            | 34    | kV/mm | IEC 60243-1   |
| Comparative tracking index   | 225   | -     | IEC 60112     |

| Other Properties    | Value | Unit  | Test Standard  |
|---------------------|-------|-------|----------------|
| <b>ISO Data</b>     |       |       |                |
| Water Absorption    | 0.3   | %     | Sim. to ISO 62 |
| Humidity absorption | 0.12  | %     | Sim. to ISO 62 |
| Density             | 1200  | kg/m³ | ISO 1183       |

| Material Specific Properties | Value | Unit | Test Standard   |
|------------------------------|-------|------|-----------------|
| <b>ISO Data</b>              |       |      |                 |
| Luminous transmittance       | 89    | %    | ISO 13468-1, -2 |

## Makrolon® 2665

PC

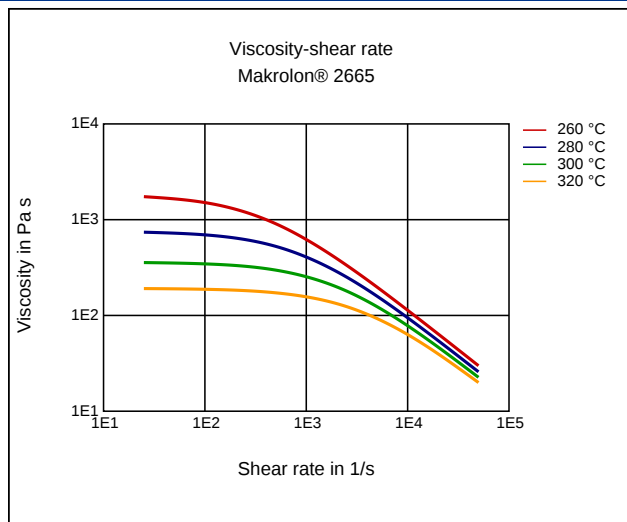
Covestro Deutschland AG

| Test specimen production              | Value | Unit | Test Standard |
|---------------------------------------|-------|------|---------------|
| <b>ISO Data</b>                       |       |      |               |
| Injection Molding, melt temperature   | 290   | °C   | ISO 294       |
| Injection Molding, mold temperature   | 80    | °C   | ISO 294       |
| Injection Molding, injection velocity | 200   | mm/s | ISO 294       |

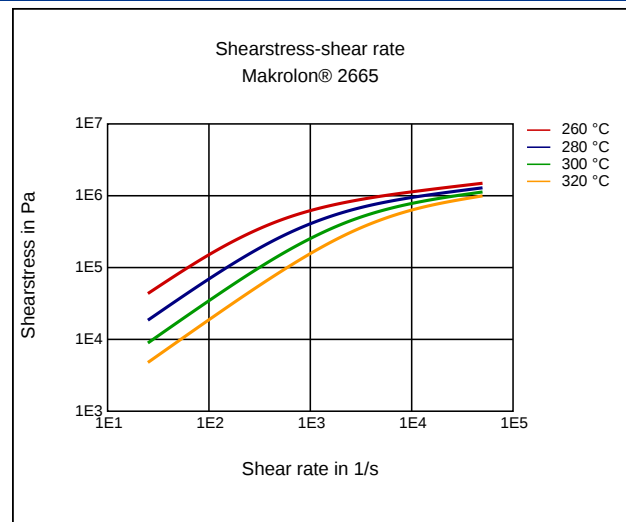
| Processing Recommendation Injection Molding | Value     | Unit | Test Standard |
|---------------------------------------------|-----------|------|---------------|
| Pre-drying - Temperature                    | 120       | °C   | -             |
| Pre-drying - Time                           | 2 - 3     | h    | -             |
| Processing humidity                         | ≤0.02     | %    | -             |
| Melt temperature                            | 280 - 320 | °C   | -             |
| Mold temperature                            | 80 - 100  | °C   | -             |

## Diagrams

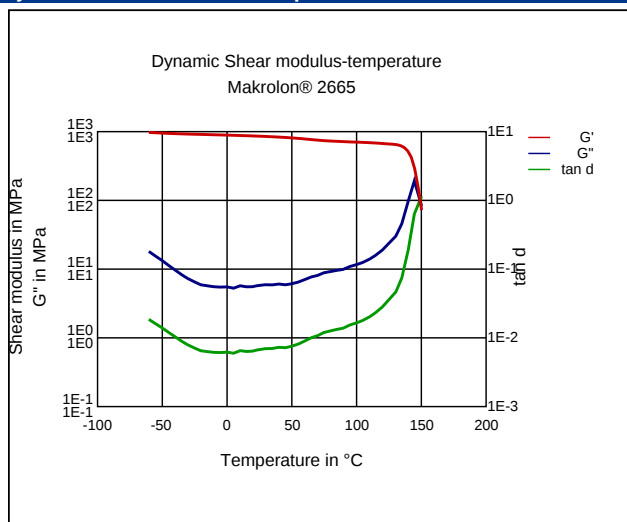
### Viscosity-shear rate



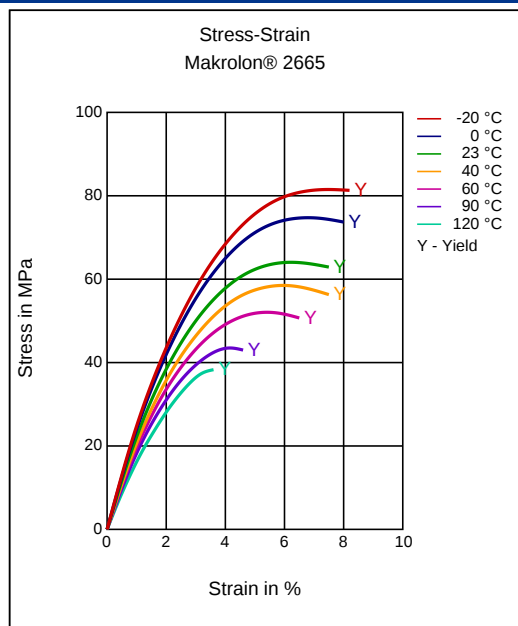
### Shearstress-shear rate



### Dynamic Shear modulus-temperature



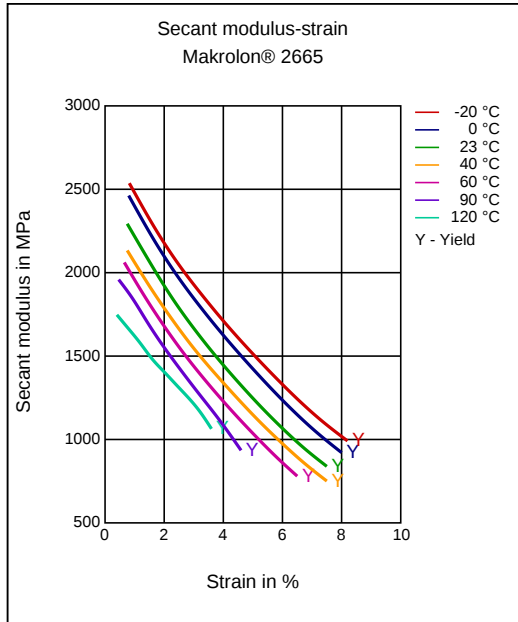
### Stress-strain



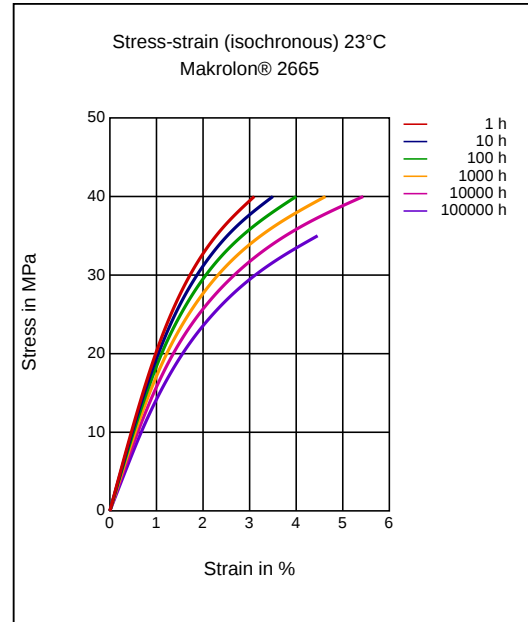
**Makrolon® 2665**  
PC

Covestro Deutschland AG

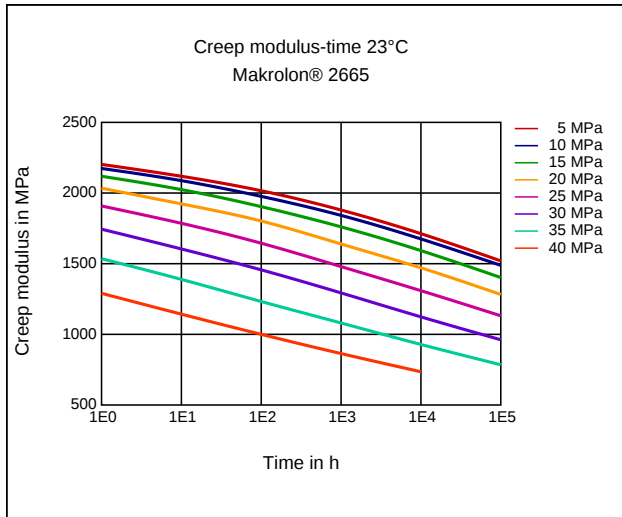
**Secant modulus-strain**



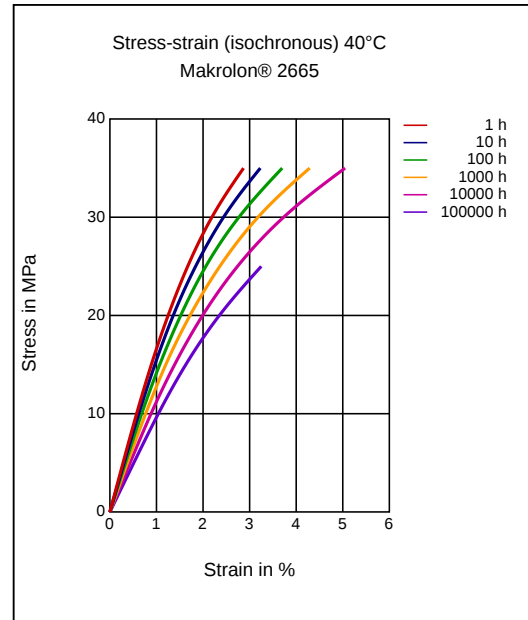
**Stress-strain (isochronous) 23 °C**



**Creep modulus-time 23 °C**



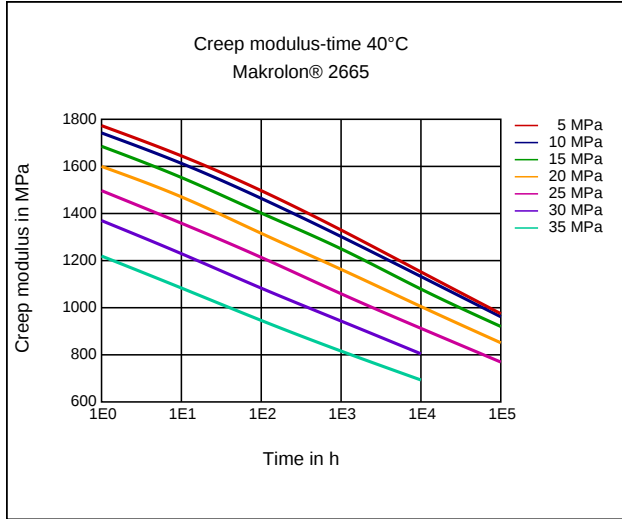
**Stress-strain (isochronous) 40 °C**



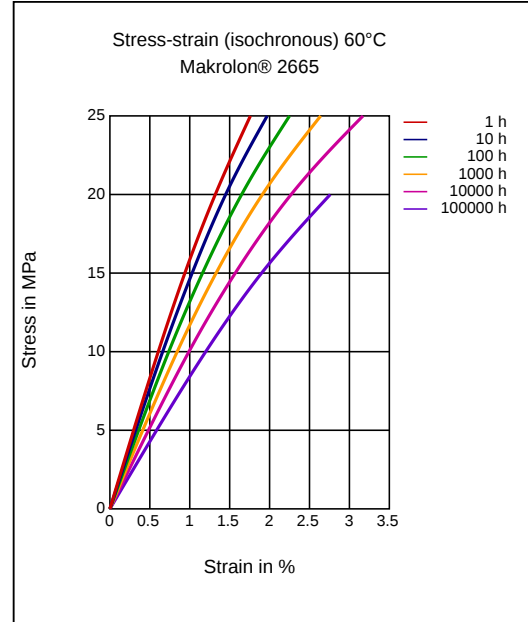
**Makrolon® 2665**  
PC

Covestro Deutschland AG

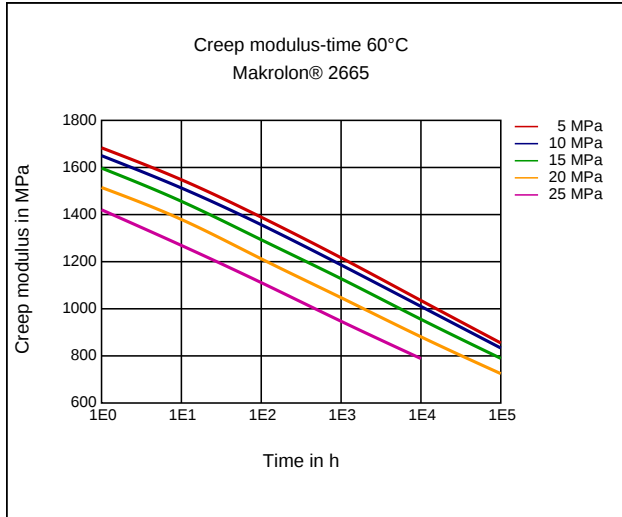
**Creep modulus-time 40°C**



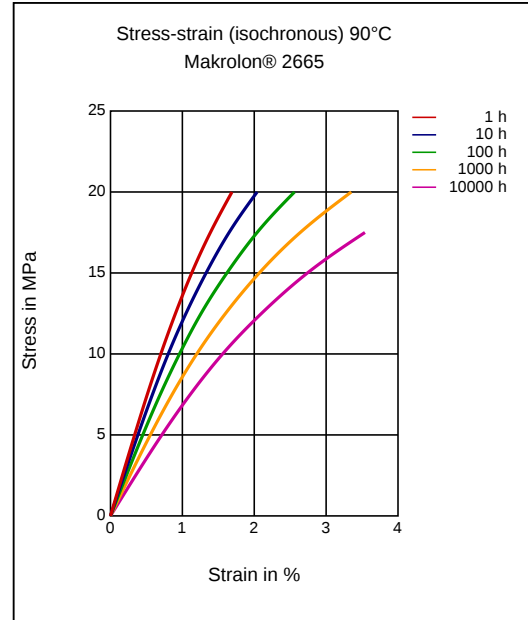
**Stress-strain (isochronous) 60°C**



**Creep modulus-time 60°C**



**Stress-strain (isochronous) 90°C**

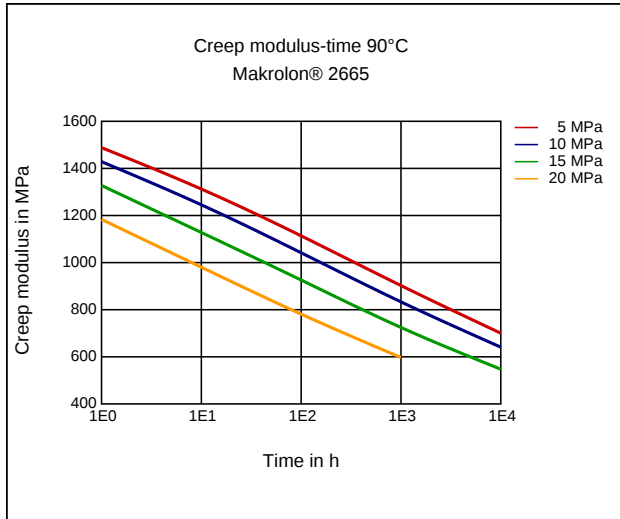


## Makrolon® 2665

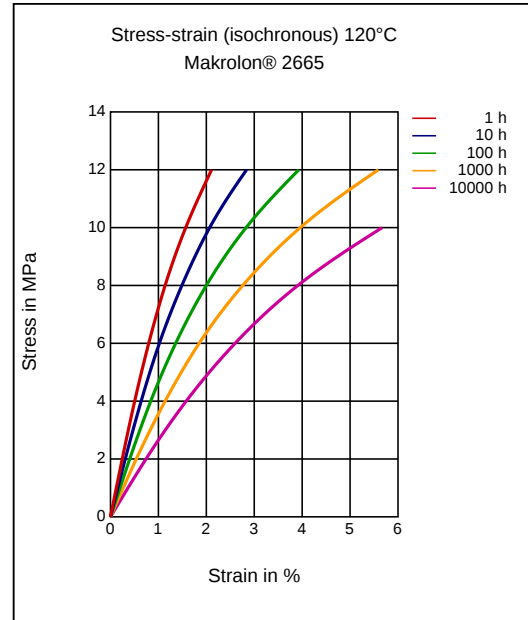
### PC

Covestro Deutschland AG

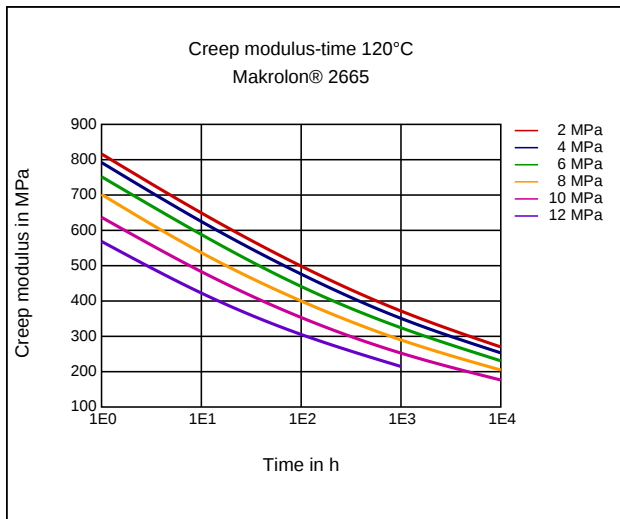
#### Creep modulus-time 90 °C



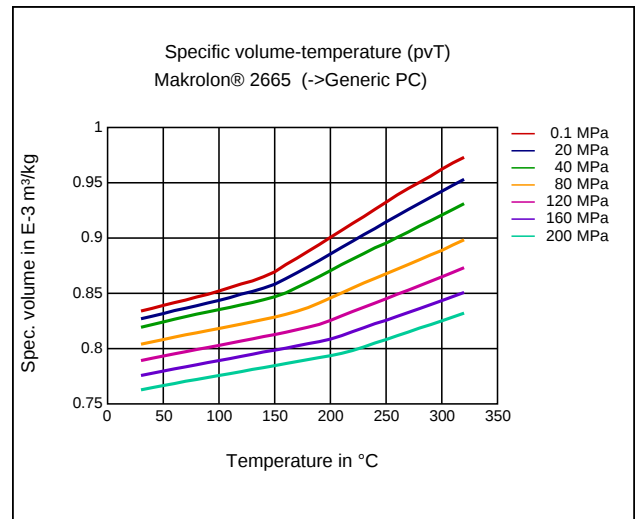
#### Stress-strain (isochronous) 120 °C



#### Creep modulus-time 120 °C



#### Specific volume-temperature (pvT)



### Characteristics

#### Processing

Injection Molding

#### Delivery form

Pellets

#### Additives

Release agent

#### Special Characteristics

Transparent

#### Injection Molding

##### PREPROCESSING

Max. Water content: 0.01 - 0.02 %

Drying temperature: 120 °C

Drying time:

Circulating air drying oven (50 % fresh air) 4-8 h

Fresh air dryer (high speed dryer) 2-4 h

## Makrolon® 2665

PC

Covestro Deutschland AG

Dry air dryer 2-3 h

### PROCESSING

Melt temperature: 280-320 °C

Mold temperature: 80-100 °C

Use open nozzle.

---