

UV/FG Series

THERMOLAST® K

The UV/FG Series is your material solution for applications requiring high UV resistance. It is particularly appropriate for automotive exterior components.

Typical applications

- Cowls gaskets
- Roof rims
- Water deflectors
- Window encapsulations

Material advantages

- Easy flowing
- Excellent mechanical properties
- Perfect adhesion to PP
- Perfect surface finish
- Tested according PV3930 for outdoor use

Processing Method: Injection Molding

| | Color / RAL DESIGN | Hardness DIN ISO 7619-1 ShoreA | Hardness DIN ISO 7619-1 ShoreD | Density DIN EN ISO 1183-1 g/cm ³ | Tensile Strength ¹ DIN 53504/ISO 37 MPa | Elongation at Break ¹ DIN 53504/ISO 37 % | Tear Resistance ISO 34-1 Methode B (b)(Graves) N/mm | CS 72 h/23 °C DIN ISO 815-1 Method A % | CS 24 h/70 °C DIN ISO 815-1 Method A % | CS 24 h/100 °C DIN ISO 815-1 Method A % | Flow Spiral [760 bar, 200 °C] DSOP Lab 2032 cm |
|--------|--------------------|--------------------------------------|--------------------------------------|---|--|---|---|--|--|---|--|
| TC3LEZ | black | 33 | | 0.980 | 6.0 | 800 | 8.0 | 19 | 34 | 68 | 107.0 |
| TC4LEZ | black | 42 | | 0.980 | 6.0 | 800 | 12.0 | 16 | 34 | 61 | 98.0 |
| TC5LEZ | black | 55 | | 0.980 | 7.0 | 800 | 15.0 | 29 | 41 | 73 | 95.0 |
| TC6LEZ | black | 63 | | 0.980 | 9.0 | 750 | 17.0 | 34 | 45 | 72 | 86.0 |
| TC7LEZ | black | 70 | | 0.980 | 10.0 | 700 | 21.0 | 35 | 47 | 74 | 79.0 |
| TC8LEZ | black | 80 | | 0.980 | 11.0 | 700 | 28.0 | 34 | 55 | 78 | 76.0 |
| TC9LEZ | black | 89 | | 0.980 | 14.0 | 650 | 39.0 | 44 | 59 | 75 | 60.0 |
| TC0LEZ | black | | 35 | 0.980 | 20.0 | 600 | 55.0 | 53 | 65 | 82 | 45.0 |

¹ Deviating from ISO 37 standard test piece S2 is tested with a traverse speed of 200 mm/min.

Tested on 2 mm sample plaque, under artificial weathering according to PV3930 with two year cycles, the color change is > 4 on greyscale VW3930 weathering for warm and humid conditions: Test time 1600 h / Rel. moisture 60 to 80 % / Temperature of sample compartment 35 °C to 45 °C /



UV/FG Series

THERMOLAST® K

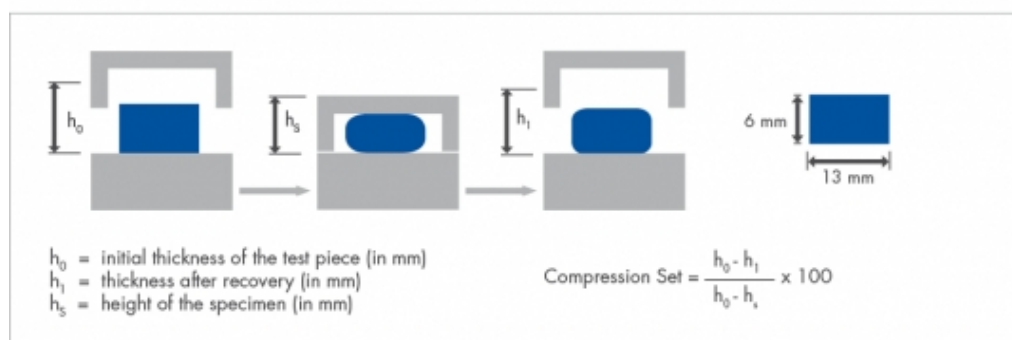
Radiation dosage 350 MJ/m²

All values published in this data sheet are rounded average values.

Compression Set

Compression Set (acc. DIN ISO 815)

For the compression set testing the following specimen is used:
The specimen is a cylindrical disk shaped 6 mm thick and 13 mm in diameter.



The specimen is compressed by 25%. The compressed specimen is heated to the test temperature. DIN ISO 815 describes two methods.

Method A: The specimen is allowed to recover immediately after its aging in the oven and then cooled down to room temperature. After 30 minutes the thickness of the specimen is measured and the compression set calculated.

Method B: The specimen is cooled down to room temperature after its aging in the oven and then allowed to recover.

Test results gained from method B are in general higher than from method A.



UV/FG Series

THERMOLAST® K

Flow Spiral



Test conditions:
760 bar (specific pressure) / 200 °C
Flow Spiral Dimensions 2 mm x 5 mm



UV/FG Series
THERMOLAST® K
Processing Guideline Injection Molding

| | |
|-------------------------|--|
| Cylinder temperature | 180 - 200 - 220 °C, max. 250 °C (360 - 390 - 430 °F, max. 480 °F) |
| Hotrunner | Hot runner temperatures: 200 -250 °C (390 - 480 °F). The runner should be empty after a maximum of 2 - 3 shots. |
| Injection pressure | 200 - 1000 bar (2900 - 14504 psi) (depending on the size and weight of the part). |
| Injection rate | In general, the fill time should not be more than 1–2 seconds. |
| Hold pressure | We recommend to derive the optimum hold pressure from determining the solidification point, starting with 40 % - 60 % of the required injection pressure. |
| Back pressure | 20 - 100 bar; if color batches are used, higher back pressure is necessary. |
| Screw retraction | If an open nozzle is used processing with screw retraction is advisable. |
| Mold temperature | 25 - 40 °C (77 - 104 °F) |
| Predrying | Pre drying of the material is not necessary; if surface moisture forms as a result of changes in temperature, the material should be dried for 2 - 4 hours at 60 - 80 °C (140 - 175 °F). |
| Needle valve | With materials < 50 Shore A the use of a needle valve is advisable. |
| Screw geometry | Standard 3-zone polyolefine screw. |
| Residence time | The residence time is to be set as short as possible with a maximum of 10 minutes. |
| Cleaning recommendation | For cleaning and purging of the machine it is appropriate to use polypropylene or polyethylene. Machine must be PVC-free. |

