KRAIBURG TPE

Datasheet

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/cm3	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 /

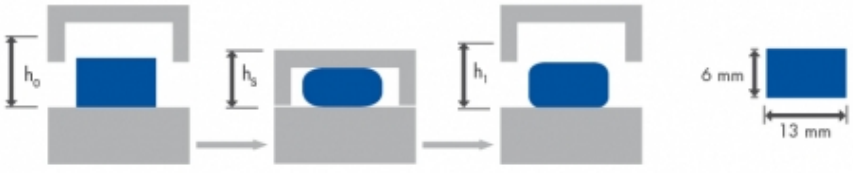
Radiation dosage 350 MJ/m²

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.



h_0 = initial thickness of the test piece (in mm)
h_1 = thickness after recovery (in mm)
h_s = height of the specimen (in mm)

$$\text{Compression Set} = \frac{h_0 - h_1}{h_0 - h_s} \times 100$$

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

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Flow Spiral

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

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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.