

**UV/HF/SF Series**
**THERMOLAST® K**

The UV/HF/SF Series is your material solution for applications requiring high UV resistance, perfect surface finish and high flow ability. It is particularly appropriate for automotive exterior components.

**Typical applications**

- Static window encapsulations
- Water deflectors
- Window encapsulations

**Material advantages**

- Easy flowing
- Excellent processing behavior
- 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	Density DIN EN ISO 1183-1 g/cm <sup>3</sup>	Tensile Strength <sup>1</sup> DIN 53504/ISO 37 MPa	Elongation at Break <sup>1</sup> DIN 53504/ISO 37 %	Tear Resistance ISO 34-1 Methode B (b)(Graves) N/mm	Flow Spiral [760 bar, 200 °C] DSOP Lab 2032 cm
<b>TC5HFZ</b>	black	49	1.030	5.0	550	12.0	120.0
<b>TC6HFZ</b>	black	60	1.030	5.0	550	14.0	115.0
<b>TC7HFZ</b>	black	72	1.020	5.0	550	19.0	105.0
<b>TC8HFZ</b>	black	77	1.020	5.0	500	19.0	90.0
<b>TC9HFZ</b>	black	86	1.000	7.0	500	25.0	85.0

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

Weathering resistance according to Volkswagen standard PV 3929 and PV 3930 for 1 and 2 year cycle. A detailed suitability test of the component design is required for use in sealing applications.

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



UV/HF/SF Series

THERMOLAST® K

## Weathering Resistance

• VW PV3930 artificial weathering in moist hot climate like Florida

One year cycle	
Test Duration	1600 h
Chamber Temperature	35 - 45 °C
Black Standard Temperature	65 °C
Intensity	0,5 W/m <sup>2</sup> (340 nm)
Radiation Dose	2,900 MJ/m <sup>2</sup>
Rain Cycle	102 : 18

• VW PV3929 artificial weathering in dry heat like Kalahari

One year cycle	
Test Duration	1500 h
Chamber Temperature	50 °C
Black Standard Temperature	90 °C
Intensity	0,6 W/m <sup>2</sup> (340 nm)
Radiation Dose	3,200 MJ/m <sup>2</sup>

## Flow Spiral



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



**UV/HF/SF 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.

