

EX/UV Series
THERMOLAST® K

The EX/UV Series is your material solution for applications requiring high UV resistance. The compounds are both RAL GZ 716 and CSTB/DER/BV-PEM approved.

Typical applications

- Distance profiles
- Edge guards
- Molded parts (solar equipment)
- Seals

Material advantages

- Adhesion to PP
- Alternative to EPDM and PVC-P
- Easy coloring
- Excellent mechanical properties
- Excellent UV- and weather resistance
- Excellent weldability
- Halogen-free
- No interaction with other materials (e.g. PVC-U, PP, PS, ABS, POM, PA, PC, PMMA)
- Recyclable
- Resistant to acrylic paints

Processing Method: Extrusion, Injection Molding

	Color	Hardness Shore A DIN ISO 7619 ShoreA	Density DIN EN ISO 1183-1 g/cm ³	Tensile Strength ¹ DIN 53504/ISO 37 MPa	Elong. at Break S ₂ ¹ DIN 53504 / ISO 37 %	Compr. Set 24h/-25°C DIN ISO 815 %	Compr. Set 72h/RT DIN ISO 815 %	Compr. Set 24h/70°C DIN ISO 815 %
TP5HPG	grey	44	1.150	7.0	750	75	15	35
TP5HPN	natural	49	1.130	8.0	750	80	9	35
TP5SKZ	black	48	1.140	7.0	750	50	10	40
TP6HPG	grey	55	1.130	9.0	800	75	20	45
TP6HPN	natural	58	1.150	10.0	750	80	12	45
TP6SKZ	black	59	1.150	9.5	750	55	11	40
TP7HPG	grey	68	1.140	11.0	750	65	10	45
TP7HPN	natural	68	1.140	11.0	750	80	20	45
TP7SKZ	black	68	1.130	12.0	750	55	14	40

This datasheet is an extract of the KRAIBURG TPE program. Please contact KRAIBURG TPE to select the compound suitable for the requirements.

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	Color	Hardness Shore A DIN ISO 7619 ShoreA	Density DIN EN ISO 1183-1 g/cm ³	Tensile Strength ¹ DIN 53504/ISO 37 MPa	Elong. at Break S2 ¹ DIN 53504 / ISO 37 %	Compr. Set 24h/-25°C DIN ISO 815 %	Compr. Set 72h/RT DIN ISO 815 %	Compr. Set 24h/70°C DIN ISO 815 %
TP8HPN	natural	77	1.130	11.5	700	80	30	50
TP9HPN	natural	87	1.100	13.0	700	80	40	60

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

All values published in this data sheet are rounded average values.
Specification limits are based on three-fold standard deviation from the average value.

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Processing Guideline Extrusion

Cylinder temperature	160 - 180 - 200 °C; max. 230 °C (320 - 356 - 392 °F; max. 446 °F).
L/D ratio	At least 25
Compression ratio	At least 3.5 : 1
Screens / breaker plate	A breaker plate and a screen pack are generally recommended in the extruder configuration in order to increase pressure.
Die land	3 - 5 mm (0,12 - 0,16 in.)
Extruder Head	Ca. 180 °C (355 °F)
Die temperature	Ca. 190 - 180 °C (374 - 410 °F)
Screw geometry	Standard three-zone screw (e.g. polyolefin screw). The screw must be able to provide sufficient shearing.
Calibration	Generally not necessary; support elements may be required when extruding THERMOLAST® compounds with high hardness or when coextruding with standard thermoplastics.
Pre drying	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).

Processing Guideline Injection Molding

Cylinder temperature	220 - 200 - 180 °C max. 250 °C (428 - 392 - 356 °F, max. 482 °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.

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Processing Guideline Injection Molding

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 - 50 bar (285 - 710 psi); if colour 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)
Pre drying	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 shut-off	With materials < 50 Shore the use of a needle seal nozzle 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.

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