

**EX Series**
**THERMOLAST® K**

The EX Series is your material solution for extrusion applications such as door seals and window gaskets. The compounds are available in natural and black colors.

**Typical applications**

- Edge guards
- Profiles for furniture
- Seals for windows and doors

**Material advantages**

- Alternative material to PVC-P
- Easy coloring
- Easy to extrude
- Excellent mechanical properties
- 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 <sup>3</sup>	Tensile Strength <sup>1</sup> DIN 53504/ISO 37 MPa	Elong. at Break S <sub>2</sub> <sup>1</sup> DIN 53504 / ISO 37 %	Tear Resistance DIN ISO 34-1 N/mm	Compr. Set 24h/-25°C DIN ISO 815 %	Compr. Set 72h/RT DIN ISO 815 %	Compr. Set 24h/70°C DIN ISO 815 %	Compr. Set 24h/100°C DIN ISO 815 %
TP3CDB	natural	26	1.140	3.5	500	9.0	70	12	48	83
TP3CDZ	black	26	1.150	3.5	500	9.0	70	10	40	70
TP4CDB	natural	39	1.200	4.0	500	14.0	70	15	35	70
TP4CDZ	black	41	1.200	4.0	500	14.0	70	10	40	70
TP5CDB	natural	50	1.190	4.0	550	15.0	75	15	45	75
TP5CDE	natural	49	1.160	5.1	727	20.0	60	10	35	
TP5CDZ	black	52	1.190	4.0	550	15.0	70	15	40	70
TP6CDB	natural	57	1.170	4.5	530	16.0	80	20	45	75
TP6CDE	natural	55	1.160	5.9	754	24.0	70	15	35	
TP6CDZ	black	60	1.180	4.5	500	16.0	75	20	45	75

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 <sup>3</sup>	Tensile Strength <sup>1</sup> DIN 53504/ISO 37 MPa	Elong. at Break S2 <sup>1</sup> DIN 53504 / ISO 37 %	Tear Resistance DIN ISO 34-1 N/mm	Compr. Set 24h/-25°C DIN ISO 815 %	Compr. Set 72h/RT DIN ISO 815 %	Compr. Set 24h/70°C DIN ISO 815 %	Compr. Set 24h/100°C DIN ISO 815 %
<b>TP7CDB</b>	natural	67	1.170	5.0	500	17.0	85	30	50	85
<b>TP7CDZ</b>	black	69	1.170	5.0	500	17.0	85	25	55	85
<b>TP8CDB</b>	natural	77	1.170	5.5	500	22.0	85	30	70	85
<b>TP8CDZ</b>	black	77	1.180	5.5	500	22.0	85	30	70	85
<b>TP9CDB</b>	natural	88	1.160	6.0	500	22.0	90	35	85	90
<b>TP9CDZ</b>	black	86	1.160	6.0	500	22.0	90	35	85	90

<sup>1</sup> 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**

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. 170 °C (340 °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.
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).
Calibration	Generally not necessary; support elements may be required when extruding THERMOLAST® compounds with high hardness or when coextruding with standard thermoplastics.
Cylinder temperature	140 - 150 - 160 °C; max. 210° C (285 - 300 - 320 °F; max. 410 °F).

**Processing Guideline Injection Molding**

Cylinder temperature	200 - 190 - 180 °C, max. 225 °C (390 - 374 - 356 °F, max. 437 °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°C (140° F).
Needle shut-off	With materials < 50 Shore the use of a needle seal nozzle is advisable.
Screw geometry	Standard 3-zone polyolefine screw.
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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