KRAIBURG TPE

Datasheet

FC/HE/tl Series

THERMOLAST® K

The FC/HE/tl Series is your material solution for applications with food contact, providing excellent resilience properties. The series is available in translucent colors.

Typical applications

- Closures
- Flexible Connections
- Household articles
- Membranes
- Packaging (for food and careproducts)
- Seals
- Valves

Material advantages

- Applications with food contact
- Easy coloring (compounds in natural colors)
- EN71/3
- Excellent mechanical properties
- FDA - Code of Federal Regulations (CFR), Title 21
- Halogen-free
- High resilience
- Perfect adhesion to PP
- Regulation (EU) No 10/2011

Processing Method: Extrusion, Injection Molding

	Color / RAL DESIGN	Hardness DIN ISO 7619-1 ShoreA	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 %
TF4AAB	translucent	40	0.890	8.0	700	29.0	23	80	90
TF5AAC	translucent	50	0.890	13.0	750	16.0	16	31	50
TF6AAF	translucent	58	0.890	14.0	750	17.0	21	32	55
TF7AAC	translucent	67	0.890	16.0	750	21.0	24	38	61
TF8AAB	translucent	75	0.890	18.5	750	27.0	28	41	60
TF9AAA	transparent	83	0.890	20.5	700	30.0	29	41	70
TF9AAB	translucent	95	0.900	22.0	650	66.0	-	-	-

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

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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.

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Processing Guideline Extrusion	
Cylinder temperature	160 - 180 - 200 °C, max. 250 °C (320 - 360 - 390 °F; max. 480 °F)
Screw geometry	Standard three-zone screw (e.g. polyolefin screw). The screw must be able to provide sufficient shearing.
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 mm (<= 0,12 in.)
Extruder Head	Ca. 200 °C (390 °F)
Die temperature	Ca. 200 - 230 °C (390 - 450 °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).
Calibration	Generally not necessary; support elements may be required when extruding THERMOLAST® compounds with high hardness or when coextruding with standard thermoplastics.
Cleaning recommendation	For cleaning and purging of the machine it is appropriate to use polypropylene or polyethylene. Machine must be PVC-free.