KRAIBURG TPE

# Datasheet

## FC Series

THERMOLAST® K

**The FC Series is your natural-colored and translucent material solution for applications with food contact. The series is characterized, among other things, by its excellent adhesion to PP.**

### Typical applications

- Function and design elements
- Grip applications
- Household articles
- Packaging (for food and careproducts)
- Razors
- Seals
- Toothbrushes
- Toys

### Material advantages

- Adhesion to PP
- Applications with food contact
- Easy coloring
- EN71/3
- Excellent mechanical properties
- Excellent processing behavior
- FDA compliant
- Halogen-free
- In natural or translucent available
- Pleasant surface feel (Soft touch)
- Recyclable
- Regulation (EU) 10/2011

**Processing Method:** Injection Molding

| | Color | Hardness Shore A DIN ISO 7619 ShoreA | Density DIN EN ISO 1183-1 g/cm3 | Tensile Strength [1] DIN 53504/ISO 37 MPa | Elong. at Break S2 [1] DIN 53504 / ISO 37 % | Tear Resistance DIN ISO 34-1 N/mm | Compr. Set 72h/RT DIN ISO 815 % | Compr. Set 24h/70°C DIN ISO 815 % | Compr. Set 24h/100°C DIN ISO 815 % |
|---|---|---|---|---|---|---|---|---|---|
| **TF2CGN** | natural | 21 | 1.100 | 3.5 | 700 | 10.0 | 11 | 34 | 69 |
| **TF2CGT** | translucent | 18 | 0.880 | 5.0 | 800 | 10.0 | 12 | 30 | 58 |
| **TF3CGN** | natural | 29 | 1.100 | 5.0 | 800 | 10.0 | 14 | 25 | 60 |
| **TF3CGT** | translucent | 30 | 0.880 | 6.0 | 900 | 10.0 | 15 | 35 | 61 |
| **TF4CGN** | natural | 39 | 1.100 | 5.5 | 850 | 11.0 | 15 | 30 | 65 |
| **TF4CGT** | translucent | 38 | 0.880 | 7.0 | 850 | 10.0 | 19 | 35 | 64 |
| **TF5CGN** | natural | 49 | 1.100 | 6.0 | 850 | 14.0 | 19 | 37 | 68 |
| **TF5CGT** | translucent | 50 | 0.880 | 7.5 | 800 | 13.0 | 21 | 42 | 65 |
| **TF6CGN** | natural | 60 | 1.100 | 6.5 | 750 | 16.0 | 25 | 44 | 71 |

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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|---|---|---|---|---|---|---|---|---|---|
| **TF6CGT** | translucent | 60 | 0.880 | 6.5 | 750 | 16.0 | 29 | 47 | 75 |
| **TF7CGN** | natural | 70 | 1.100 | 6.5 | 700 | 20.0 | 32 | 50 | 75 |
| **TF7CGT** | translucent | 68 | 0.880 | 7.5 | 650 | 18.0 | 29 | 52 | 81 |
| **TF8CGN** | natural | 78 | 1.100 | 6.0 | 600 | 22.0 | 37 | 53 | 78 |
| **TF8CGT** | translucent | 79 | 0.880 | 7.0 | 550 | 23.0 | 36 | 51 | 76 |
| **TF9CGN** | natural | 88 | 1.100 | 5.0 | 400 | 26.0 | 48 | 69 | 81 |
| **TF9CGT** | translucent | 88 | 0.880 | 5.5 | 300 | 28.0 | 43 | 67 | 78 |

[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.

## FC Series

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| Processing Guideline Injection Molding | |
|---|---|
| Cylinder temperature | 240 - 210 - 180 °C max. 250 °C (464 - 410 - 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. |
| 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. |