

FC/AD1/PS Series
THERMOLAST® K

The FC/AD1/PS Series is your material solution for applications with food contact providing excellent adhesion to polar thermoplastics such as ABS, PC, PC/ABS and PS.

Typical applications

- Function and design elements
- Grip applications
- Household articles
- Razors
- Toothbrushes
- Toys

Material advantages

- Code of Federal Regulations, Title 21 (CFR 21) "FDA"
- Easy coloring (compounds in natural colors)
- Easy processing
- Excellent adhesion
- Pleasant surface feel (Soft touch)
- Regulation (EU) No. 10/2011

Processing Method: Injection Molding

| | Color / RAL DESIGN | Hardness DIN ISO 7619 ShoreA | Density DIN EN ISO 1183-1 g/cm ³ | 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 | Flow Spiral [760 bar, 200 °C] DSOP Lab 2032 cm | Adhesion to ABS VDI 2019 N/mm | Adhesion to PC VDI 2019 N/mm |
|---------------|--------------------|------------------------------------|---|--|---|---|--|-------------------------------------|------------------------------------|
| TF3ADN | natural | 28 | 1.040 | 2.5 | 700 | 9.0 | 55.0 | 2.5 (A) | 2.5 (A) |
| TF4ADN | natural | 38 | 1.030 | 3.0 | 700 | 15.0 | 55.0 | 2.5 (A) | 3.0 (A) |
| TF5ADN | natural | 51 | 1.050 | 4.0 | 700 | 20.0 | 40.0 | 3.0 (A) | 4.0 (A) |
| TF6ADN | natural | 59 | 1.070 | 5.5 | 700 | 24.0 | 35.0 | 4.0 (A) | 5.5 (A) |
| TF7ADN | natural | 72 | 1.090 | 7.0 | 700 | 27.0 | 25.0 | 5.0 (A) | 7.0 (A) |
| TF8ADN | natural | 77 | 1.090 | 8.0 | 700 | 29.0 | 25.0 | 5.0 (A) | 6.0 (A) |
| TF9ADN | natural | 89 | 1.120 | 11.0 | 600 | 40.0 | 15.0 | 2.5 (A) | 4.0 (A) |

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.

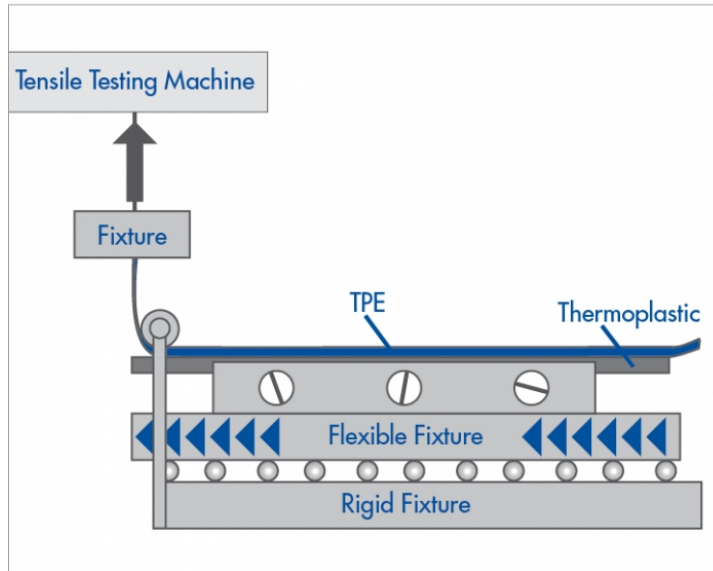
This datasheet is an extract of the KRAIBURG TPE program. Please contact KRAIBURG TPE to select the compound suitable for the requirements.

Disclaimer: The information provided in this documentation corresponds to our knowledge on the subject at the date of its publication and may be subject to revision as new knowledge and data becomes available. All values reported are typical values based on sample test results and are not a guarantee of performance. The responsibility to conduct testing to determine suitability of use for the particular process or end-use application remains with the customer. KRAIBURG TPE does not warrant or assume any liability with regards to the use of the information presented in this document.

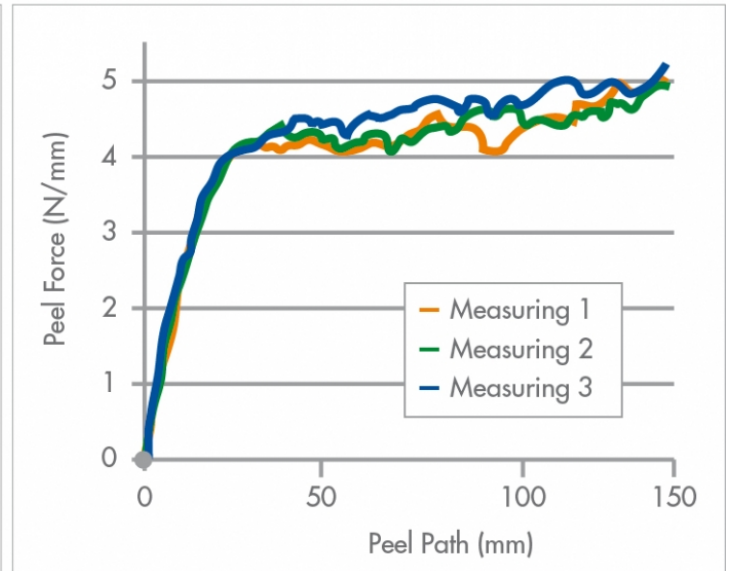
Description peel test

Peel test according to VDI guide line 2019

Test Setup



Example diagram for results of a peel test



Classification

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Peel test according to VDI Guideline 2019

For the VDI peel test we add two characters to the peelforce value.
The first character describes the TPE residue on the hard component.

Classification A



No TPE residue on thermoplastic

Classification B



1-50 % TPE residue on the thermoplastic, no TPE break.

Classification C



51-99 % TPE residue on the thermoplastic, no TPE break.

Classification D



TPE strip tears immediately.

| | |
|---|--|
| A | No TPE residue on hard component |
| B | Up to 50 % TPE residue on hard component |
| C | 50 to 99 % TPE residue on hard component |
| D | TPE strip tears immediately |

The second character describes if the TPE strip will tear during the measurement at any position on the peel path.

A/D



B/D



C/D



| | |
|-----|--|
| A/D | No TPE residue on hard component, TPE strip will tear |
| B/D | Up to 50 % TPE residue on hard component, TPE strip will tear |
| C/D | 50 to 99 % TPE residues on hard component, TPE strip will tear |

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Processing Guideline Injection Molding

| | |
|-------------------------|--|
| Cylinder temperature | 180 - 190 - 200 °C, max. 235 °C (360 - 370 - 390 °F, max. 445 °F) |
| Hotrunner | Hot runner temperatures: 200 - 235 °C (390 - 455 °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 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 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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