Datasheet

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/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	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.

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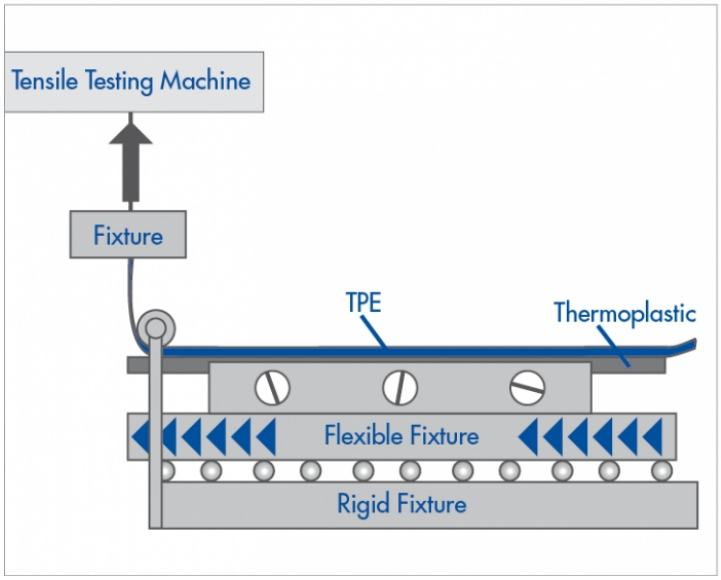
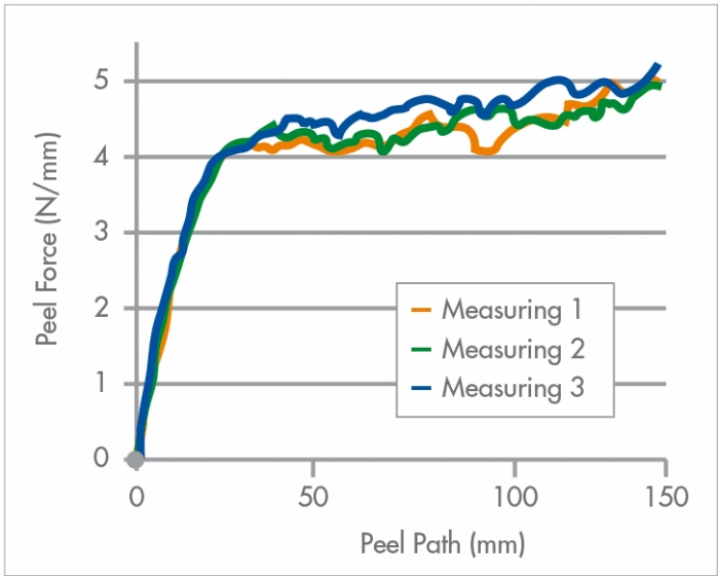
Description peel test

Peel test according to VDI guide line 2019

Test Setup



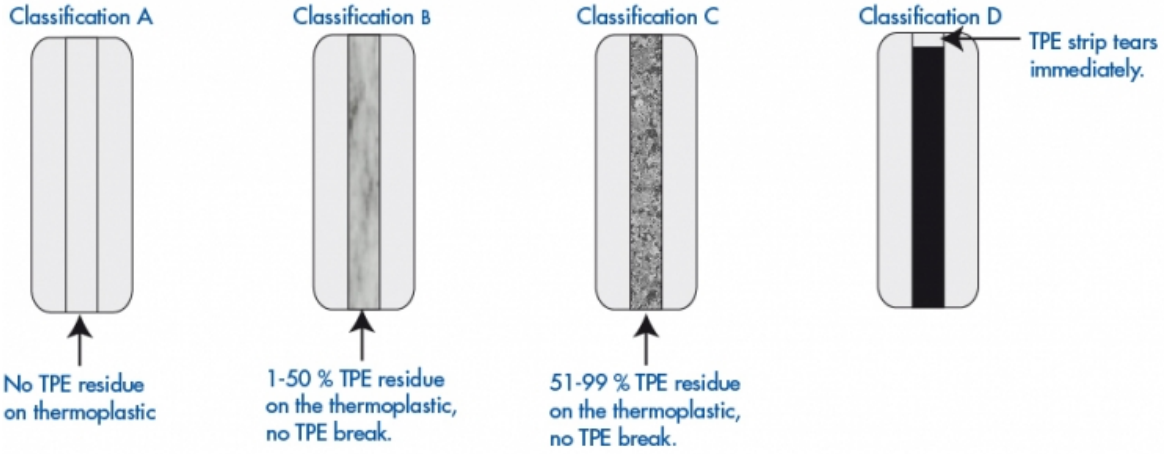
Example diagram for results of a peel test



Classification

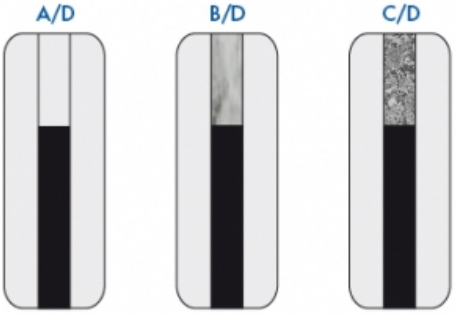
Peel test according to VDI Guideline 2019

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



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	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.