

**AD1 Series**
**THERMOLAST® K**

The AD1 Series is your material solution for applications with excellent adhesion to polar thermoplastics such as ABS, PC and PC/ABS. The compounds are available in natural and black colors.

**Typical applications**

- Bumpers
- Door sills
- Function and design elements
- Grommets
- Handles (hand tools and power tools etc.)
- Seals
- Thumb wheels

**Material advantages**

- Easy coloring
- Excellent adhesion
- Excellent processing behavior
- Insert molding possible
- Pleasant surface feel (Soft touch)
- Suitable for automotive-interior
- UL 94 HB listed
- UV resistance

**Processing Method:** 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	Adhesion Renault D41 1916 (ABS) <sup>2</sup> N/mm	Adhesion Renault D41 1916 (PC) <sup>2</sup> N/mm
<b>TC3MSB</b>	natural	31	1.100	2.0	600		1.0	1.5
<b>TC3MSZ</b>	black	30	1.100	2.0	600	9.0	1.5	1.5
<b>TC4MSB</b>	natural	39	1.100	3.0	650	10.0	2.5	3.0
<b>TC4MSZ</b>	black	40	1.100	3.0	650	10.0	3.5	3.5
<b>TC5MLB</b>	natural	50	1.100	3.5	600	13.0	2.0	2.5
<b>TC5MLZ</b>	black	49	1.100	3.5	600	13.0	2.0	2.0
<b>TC6MLB</b>	natural	60	1.100	4.5	550	15.0	6.0	6.0
<b>TC6MLZ</b>	black	59	1.100	4.5	550	16.5	4.0	5.5
<b>TC7MLB</b>	natural	68	1.100	5.0	500	16.0	11.0	14.5
<b>TC7MLZ</b>	black	69	1.100	5.0	500	16.0	12.5	11.5

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.

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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	Adhesion Renault D41 1916 (ABS) <sup>2</sup> N/mm	Adhesion Renault D41 1916 (PC) <sup>2</sup> N/mm
<b>TC8MLB</b>	natural	77	1.100	5.5	400	17.0	9.0	9.0
<b>TC8MLZ</b>	black	77	1.100	5.5	400	19.5	8.0	8.5

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

<sup>2</sup> The adhesion quality depends on mold design, product geometry and process parameters.

All values published in this data sheet are rounded average values.  
Specification limits are based on three-fold standard deviation from the average value.

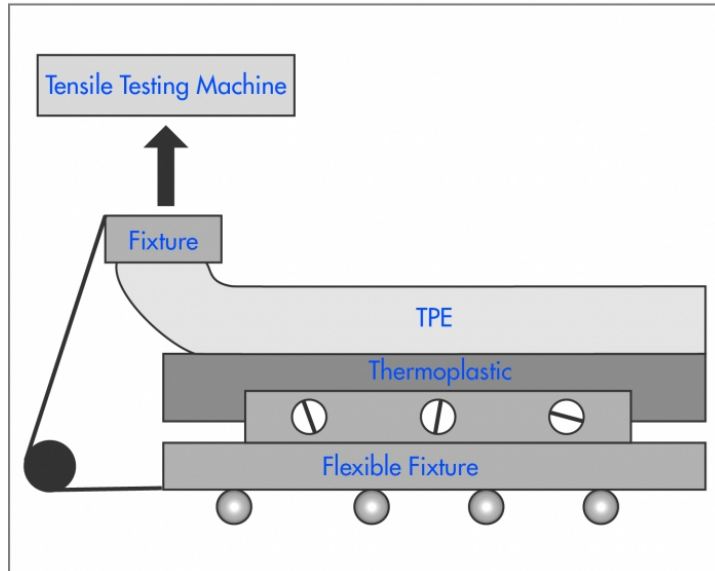
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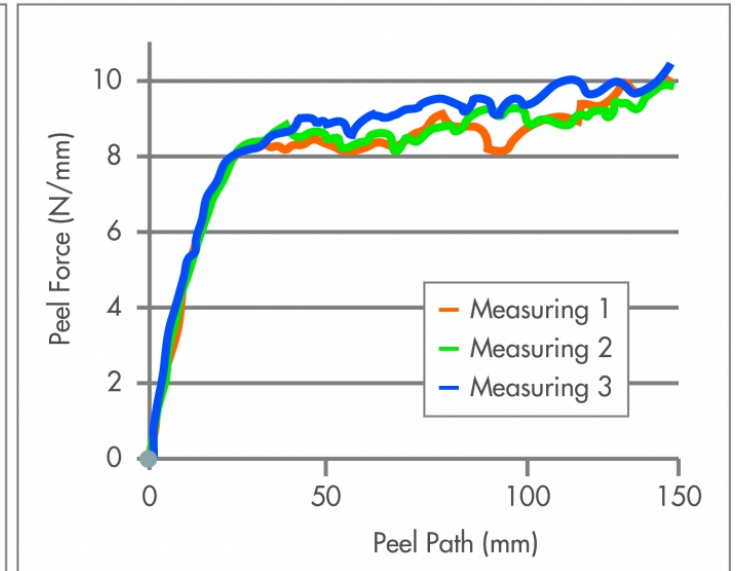
**Description peel test**

# Peel test according to „Renault D41 1916“ standard

**Test Setup**



**Example Diagramm as result of a peel test**



The peel force is measured by a tensile testing machine in N/mm, in relation to the peel path. Test piece dimensions: Thermoplastic part: 130 x 22 x 2 mm, TPE part: 130 x 20 x 2 mm.

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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	The mold temperature depends on the hard component. A temperature exceeding 80 °C (175 °F) should be avoided. The common temperature is 40 - 60 °C (105 - 140° F).
Pre drying	To achieve optimum mechanical values, drying the material for 2 - 4 hours at 60 - 80 °C (140 - 175 °F) is recommended.
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.

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