



THERMOLAST® S – A NEW GENERATION OF SUPERSOFT TPE

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KRAIBURG Holding – History Dating back to 1947 . . .

KRAIBURG Holding
Employees: 2,504 worldwide
Sales in 2016: € 950 Mio
Established: 1947

TPE
CUSTOM-ENGINEERED TPE AND MORE

**THERMOLAST® S –
A NEW GENERATION OF SUPERSOFT TPE**

Core Competences – Our Commitments

- CUSTOMER ORIENTATION**
You're looking for comprehensive support, but you don't want to have to wait long. That's what we are doing. Because our business relations are based on two principles: reply fast and deliver on time. We maintain personal contact so that we can meet your needs.
- CUSTOMIZATION & INNOVATION**
You're looking for high-quality TPE material solutions that meet your requirements. We think the same way. When we produce thermoplastic elastomers we use the extraordinary experience and comprehensive technical know-how we have.
- INTERNATIONAL NETWORK**
KRAIBURG TPE is a worldwide supplier of TPE plastic products. You can benefit from having access to local offices that provide support, logistics, and communication before and after the sale.
- SPECIALIZATION & KNOW-HOW**
Our expert teams will support you in planning and realizing projects – in detail, of course, in processing our products. IN KRAIBURG TPE, competence and reliability go hand in hand.
- CONSISTENTLY HIGH PRODUCT QUALITY**
You want confidence in the quality of the raw materials you use. With KRAIBURG TPE you are in good hands. With our globally uniform production and quality standards, we ensure consistent product quality for every batch – and thus support your production processes.

Processing

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Technical rubber compounds



Thermoplastic Elastomers (TPE)



Tire retreading



ERGOLASTEC® workplace mats



Insulation systems



Products for rail systems



Rollers and roll coverings



Stable flooring



BELMONDO® Rubber flooring
for horses



Polyurethane products



EPDM floor coverings



Composite Applications

KRAIBURG TPE – Short Portrait



- Global operating manufacturer of soft, elastic Thermoplastic Elastomers
- Competence Leader in the global TPE market
- Markets:
Automotive, Consumer, Medical & Industry
- 645 employees worldwide
- € 190 Mio. annual sales in 2019
- Production capacity: 60,000 tons
- Family-owned company

A portrait of Franz Hinterecker, the CEO of Kraiburg TPE. He is a middle-aged man with short, graying hair and glasses. He is wearing a dark suit jacket, a white shirt, and a blue patterned tie. The portrait is set against a light gray circular background. A blue circular graphic element is positioned to the left of the portrait, containing the text 'Franz Hinterecker' and 'CEO, KRAIBURG TPE'.

Franz Hinterecker
CEO, KRAIBURG TPE

Regional Headquarters
Atlanta (GA) / USA



Headquarters
Waldkraiburg / GERMANY



Regional Headquarters
Kuala Lumpur / MALAYSIA



In addition KRAIBURG TPE is also represented by distribution partners in numerous countries.



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THERMOLAST® S – Supersoft TPE

Hardness

- Gel-like materials
- Comfort fit
- Hardness Range
 - VLRH: 45 – 70
 - Shore 00: 30 – 50
 - Shore A: << 10

FC/S	VLRH	Sh 00
TF3ZGO-LCNT	45	30
TF4ZGO-LCNT	60	40
TF5ZGO-LCNT	70	50



THERMOLAST® S – Supersoft TPE

Mechanical Properties

- Extreme elasticity and stretchability
- Wide range of fully elastic behavior
- Very low compression set at room temperature

FC/S	Modulus 100%	Elongation at Break	CS 72h / 23°C
TF3ZGO-LCNT	0.1 MPa	> 1000%	8%
TF4ZGO-LCNT	0.1 MPa	> 1000%	10%
TF5ZGO-LCNT	0.2 MPa	> 1000%	10%



THERMOLAST® S – Supersoft TPE



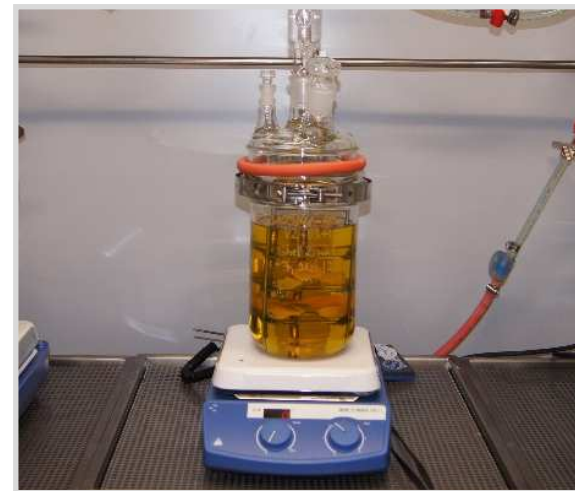
Surface Appearance

- Opaque-white, translucent color
- Full range of coloration options available
- Uniform, homogeneous surface

THERMOLAST® S – Supersoft TPE

Chemical Resistance

- Materials tested against
 - Detergent solution
 - Disinfectants
 - Lubricants
- Good stability
- No deterioration of surface
- No changes in performance



THERMOLAST® S – Product Overview



FC/S Series

Hardness: 30 - 50 Shore 00
Color: translucent
Density: 0.87 – 0.89 g/cm³

- Thermoplastic processing
- Dry surface
- Pleasant, skin-like surface touch
- No oil-bleeding
- Proven resistance to detergents and disinfectants

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Coloration Technology



Various pigment formulations to achieve best results



Processing



Supersoft TPE are processed ...

- on standard equipment in injection molding
- or 3D printing with pellet-printers

Sprues and scrap are ready for in-process recycling!

THERMOLAST® S – Material Storage



- Free flowing granules
- No stickiness in funnel, reduced bridging
- No blocking in bags, tested for > 1 year real time

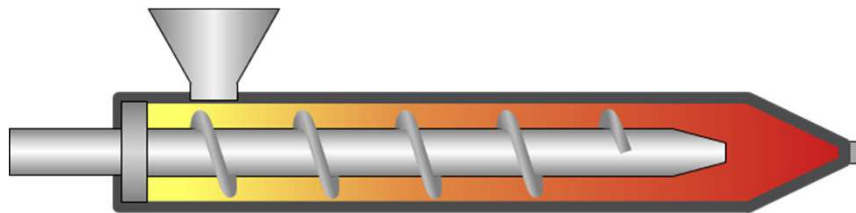


THERMOLAST® S – Details Processing



Processing hints

- Avoid excessive melt-decompression
- Medium to low back pressure
- Compensate for drooling reducing the back-pressure



Temperature (°C)					
Zone	1	2	3	4	5
Target	40-70	195	205	220	215

$$\rightarrow T_{\max} = 250 \text{ }^{\circ}\text{C}$$

$$\rightarrow T_{\text{Mold}} = 30\text{-}50 \text{ }^{\circ}\text{C}$$

TPS in 3D Printing Technologies

Filament-based 3D Printing

- Limited choice of materials
- Materials are mostly optimized for filament extrusion
- Often different materials for printing and series production
- Only limited hardness range possible

Liquid Polymer Technology

- So far as we know , there is no technology in the market available for TPS
- Physical and chemical limitations must be overcome

Direct 3D Printing from Granules

- Free choice of materials, no specifically optimized materials are necessary
- 3D printing and injection molding with identical materials
- Good resemblance of part properties to injection molding
- Extremely wide hardness range
- Multi-component parts are possible



Contact



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For more information about KRAIBURG TPE please visit:

www.kraiburg-tpe.com