

Tough Plastics for the Mining Industry

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The mining industry is subject to the most demanding conditions. Machines and plastic elements are exposed to high loads of impact, abrasion and chemical attack. Elastollan®, the thermoplastic polyurethane (TPU) and Elasturan® (Casting-PU-Systems) are the preferred solutions in this industry. They stood the test in applications such as screens, cyclones, scrapers, flotation elements, impact liners and pump inner casings. Also in use: Elastocoat® C, so-called polyurea- or hybrid coating systems, that are applied in a spraying process. Thus equipped surfaces resist highly abrasive conditions and are used in mineral spiral separators for example.

The BASF polyurethane product family for the mineral industry shows its strengths in the following properties:

- good hydrolysis- and microbe resistance
- excellent abrasion levels
- robust impact strength
- high tear propagation and tensile strength
- adhesion on metallic inserts



Mining plant in South Africa: Cyclones made from wear-resistant PU are used to separate minerals. Photo: BASF

Product	Chemistry	Shore Hardness DIN ISO 7619-1	Tensile Strength DIN 53504 [MPa]	Elongation at Break DIN 53504 [%]	Tear Strength DIN ISO 34-1Bb [MPa]	Abrasion DIN ISO 4649-A [mm³]	Examples of Applications
Elasturan® (PU) Cold & Hot Cast							
6025	Ester	60A	25	710	20	15	Sieves; biocide equipped
6025	Ester	85A	42	450	50	29	
6025/129	Ester	65A	30	570	20	14	Scrapers; high elasticity
6025/129	Ester	82A	50	550	45	24	
6055/107	Ether	65A	25	600	12	26	Sieves; hydrolytic stability
6055/107	Ether	82A	36	550	28	35	
6065/114/A55	Ether	60A	25	780	24	12	Technical parts; highly impacted and hydrolytic stable
6065/114/A55	Ether	86A	45	560	27	20	
6075	Ester	60A	48	600	35	15	Sieves; highly impacted
6075	Ester	85A	50	520	44	20	
Elastocoat® C (PU) Spray Coating							
6335/101	Ether	93A	21	430	58	140	Mineral spiral separators
Elastollan® (TPU) Injection Molding							
E 585A	Ester	83A	40	650	95	35	Sieves
ES 60D	Ester	60D	45	500	170	25	
EC 95A	Ester	96A	55	550	120	25	Seals for telescopic hydraulic props
E 1185	Ether	87A	45	600	70	25	Sieves; cables
E 1190	Ether	92A	50	550	85	25	

The stated values for individual grades are typical test results and not limiting specification values.

Selected Literature:

- Tough Plastics for Wheels and Castors
- Tough Materials for Wind Power
- Tough Plastics for Agriculture

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. (August 2016)

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www.polyurethanes.basf.de
www.elastollan.de

**If you have technical questions on the products,
please contact the Infopoints:**



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