Material Data Sheet Polyurethane U580-D57-G – grey (Hard Grade Polyurethane with MoS2)

General

U580-D57-G is a MoS2 filled, hydrolysis–resistant (H-PU), casted Polyurethane, based on MDI, Polycarbonate Polyol and certain additives. The hardness is adjusted at 57 Shore D which results in excellent extrusion resistance. Used as a dynamic sealing element in composite seals, easier installing and better sealing performance in combination with less friction and reduced stick-slip effect will be the main advantage of this material.

Physical properties

Density:	DIN ISO 1183-1	g/cm³	1,17 ±0,03
Hardness at 23°C:	DIN ISO 7619-1	Shore D	57 ±3
100% Modulus:	DIN 53504	N/mm²	≥ 13
300% Modulus:	DIN 53504	N/mm²	≥ 25
Tensile strength:	DIN 53504	N/mm²	≥ 45
Elongation at break:	DIN 53504	%	≥ 310
Tear strength:	DIN ISO 34-1	kN/m	≥ 120
Compression set, 24h, 70°C, 25%:	DIN ISO 815-1	%	≤ 25
Compression set, 24h, 100°C, 25%:	DIN ISO 815-1	%	≤ 30

* mentioned values are subject to a tolerance of +/- 25%

Temperature range: -30°C to 125°C

Chemical resistance

Resistant to: Water up to 90°C, Sea Water, Mineral Oils, Vegetable Oils, Silicone Oils, Ozone, Oxygen (cold), HFA fluids, HFB fluids

Not Resistant to: Steam, conc. Acids and Lyes, conc. Alcohols, Solvents, HFD fluids

Main application

Seals and composite seals (with elastomer preload element), wipers, back-up or retainer rings up to 600 bar pressure in standard hydraulics, machinery with wider metal tolerances, applications with poor lubrication or rough and worn sliding surfaces. Due to its outstanding hydrolysis resistance it can be used in the most common hydraulic fluids, oil in water emulsions but also water power applications, applications in the mining industry and presses

Analysis and Evaluation

Values mentioned above are based on several tests performed during development and production of the material. Tests have been performed on standard test pieces specified within the relevant standard within the laboratory. Tests performed on any other pieces which are not related to the corresponding standard or made out of any (semi)finished part or any other part deviating in production process, dimension or age of the material from above may result in different values. The data represents our present empirical values and does not disengage the end user from their obligation to examine the usage of the material for each specific application.

We reserve the right to update this data sheet from time to time if new empirical values are available. Errors and omissions excepted.

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