

# Material Data Sheet U580-D57-G

## Polyurethane U580-D57-G – grey (Hard Grade Polyurethane with MoS<sub>2</sub>)

### General

U580-D57-G is a MoS<sub>2</sub> 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 53479	g/cm <sup>3</sup>	1,17 ±0,03
Hardness at 23°C:	DIN 53505	Shore D	57 ±3
100% Modulus:	DIN 53504	N/mm <sup>2</sup>	≥ 13
300% Modulus:	DIN 53504	N/mm <sup>2</sup>	≥ 25
Tensile strength:	DIN 53504	N/mm <sup>2</sup>	≥ 45
Elongation at break:	DIN 53504	%	≥ 310
Tear strength:	DIN 53515	kN/m	≥ 120
Compression set, 24h, 70°C, 25%:	DIN 53517	%	≤ 25
Compression set, 24h, 100°C, 25%:	DIN 53517	%	≤ 30

**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 represent our present empirical values and do not disengage the processor or user from his obligation to examine the usage of the material for his specific application.