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Material Data Sheet U505-P79

Polyurethane U505-P79 – petrol

General

U505-P79 is a hydrolysis-resistant (H-PU), casted Polyurethane, based on MDI, Polycarbonate Polyol and certain additives. Due to the excellent overall properties, especially wear resistance, it is recommended as a substitute for NBR in most of the hydraulic and pneumatic applications.

Physical properties

Density:	DIN 53479	g/cm ³	1,15 ±0,03
Hardness at 23°C:	DIN 53505	Shore A	79 ±3
Hardness at +70°C:	DIN 53505	Shore A	76 ±3
Hardness at +100°C:	DIN 53505	Shore A	72 ±3
100% Modulus:	DIN 53504	N/mm ²	≥ 5,5
300% Modulus	DIN 53504	N/mm ²	≥ 25
Tensile strength:	DIN 53504	N/mm ²	≥ 30
Elongation at break:	DIN 53504	%	≥ 310
Tear strength with nick:	ISO 34-1 B	kN/m	≥ 35
Tear strength without nick:	ISO 34-1 B	kN/m	≥ 80
Compression set, 24h, 70°C, 25%:	DIN 53517	%	≤ 30
Compression set, 24h, 100°C, 25%:	DIN 53517	%	≤ 35
Abrasion loss	ISO 4549	mm ³	56

Temperature range: -25°C to 100°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, diluted Acids and Lyes

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

Main application

Static and dynamic applications, mostly used for U-cup seals and wipers in pneumatic applications, as a preload element replacing NBR especially in large diameter range. 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.

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.