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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/cm³	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/mm²	≥ 5,5
300% Modulus	DIN 53504	N/mm²	≥ 25
Tensile strength:	DIN 53504	N/mm²	≥ 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	mm³	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.