

AF1007a Data Sheet U570-D57

Polyurethane U570-D57 – Dark Blue (FDA)

General

U570-D57 is a hydrolysis resistant PU (H-PU) casted polyurethane, based on MDI, polycarbonate polycol 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 will be the main advantage of this material.

Physical properties

Density	DIN 53479	g/cm ³	1.17
Hardness at 20°C	DIN 53505	Shore D	57+ /-2
100% Modulus	DIN 53504	N/mm ²	>12
300% Modulus	DIN 53504	N/mm ²	>25
Tensile strength	DIN 53504	N/mm ²	>40
Elongation at break	DIN 53504	%	>330
Tear strength	DIN 53515	kN/m	>130
Compression set 70°C*	DIN 53517	%	<25
Compression set 1000°C*	DIN 53517	%	<35
Min. service temperature		°C	-30
Max. service temperature		°C	125

*Compression set: 25% deflexion, 24 hours.

Chemical resistance

Water up to 90°	R	Mineral oils	R
Sea water	R	Vegetable oils	R
Steam	U	Silicone oils	R
HFA, HFB fluids	R	Concentrated alcohols	U
Concentrated acids and lyes	U	Solvents	U
HFD fluids	U	Ozone, Oxygen (cold)	R

Key to chemical resistance: R = Resistant U = Unsuitable

Main application

Seals and composite seals (with elastomer preload element), wipers, back-up or retainer rings up to 600 bar pressure in standard hydraulics or machinery with wider metal tolerances. 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. U570-D57 can also be used in applications with contact to foodstuff.

Analysis and evaluation

The mentioned properties are fundamental values for polyurethane products. Values mentioned above are corresponding to the European ASTM and DIN standards and have been tested on test samples in the laboratory. All immersion tests in the laboratory are made on test samples under normal conditions for sealing products. The compound meets the specifications of the positive list to 21 CFR 177.2680 'Polyurethane resins' of the Food and Drug Administration (FDA), USA.

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All information is based on typical test results performed under specific conditions and limited sample size. This does not represent a legally binding guarantee of certain properties or the suitability for specific applications.

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