

Material Data Sheet U203-FDA95

Polyurethane U203-FDA – natural white

General

U203-FDA95 natural white is a hydrolysis resistant PU (H-PU) composed of prepolymers based on polyadepate glycols and diphenylmethane diisocyanate (MDI). The hardness is adjusted at 93 +/-2 Shore A. The product is recommended for a continuous use in 70 – 90°C hot water and a max. service temperature of 100°C. The system passed all official FDA tests by the Akron Polymer Laboratory Inc. – Ohio, U.S.A.

Physical properties

Density:	DIN 53479	g/cm ³	1,10
Hardness at 20°:	DIN 53505	Shore A	93 +/-2
100% Modulus:	DIN 53504	N/mm ²	> 10
300% Modulus:	DIN 53504	N/mm	> 16
Tensile strength:	DIN 53504	N/mm ²	> 40
Elongation at break:	DIN 53504	%	460
Tear strength:	DIN 53515	kN/m	135
Rebound resilience:	DIN 53512	%	38
Abrasion loss:	DIN 53516	mm ³	< 35
Compression set:*	DIN 53517	%	31
Hardness at -5°:	DIN 53505	Shore A	96
Hardness at +80°C:	DIN 53505	Shore A	93
Min. service temperature:		°C	-30
Max. service temperature:		°C	105

*) Compression set: 25% deflexion 22 hours at 70°C, after 3 weeks aging.

Chemical resistance

Water, sea water	R	HFA, HFB fluids	R
Demineralized water	R	HFC fluids	S
Steam	U	HFD fluids	U
Mineral / vegetable oils	R	Fuels, grease	S
Peanut oil	R	Alcohols, white spirit	S
Beer	R		

Key to chemical resistance: R = resistant S = suitable U = unsuitable

FDA certification (n-Hexane and water extraction test)

We, Seal Maker Produktions und Vertriebs GmbH, certify that the following polyurethane elastomer system "U203-FDA95 polyurethane natural white" is approved for the use in applications that will come in contact with dry, and/or aqueous and/or fatty foodstuff. Tests have been performed in accordance with the US code for federal reg. 177-2600. Both n-Hexane and water extractables tests acc. to FDA CFR 177-2600 were performed by Akron Polymer Laboratory, Ohio, U.S.A. The tests determine if elastomer formulations can be used with dry, and/or wet, and/or oily foodstuffs. The results clearly show that the formulation passed the FDA requirements.

Analysis and Evaluation

The mentioned properties are fundamental values for polyurethane products. Values mentioned above are corresponding to the European ASTM and DIN 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.