

## Material Data Sheet U211-R95

### Polyurethane U211 – red

#### General

U211-R95 is a polyester based PU composed of prepolymers based on polyadipate glycol and diphenylmethane diisocyanate (MDI) processed with catalysts and chain extenders, producing a hardness of 95 +/-2 Shore A with very good physical properties. The resistance to most common hydraulic fluids makes it a very universal material for seal applications.

#### Physical properties

Density:	DIN 53479	g/cm <sup>3</sup>	1,23
Hardness at 20 °:	DIN 53505	Shore A	95 +/-2
100% Modulus:	DIN 53504	N/mm <sup>2</sup>	> 14
Tensile strength:	DIN 53504	N/mm <sup>2</sup>	49
Elongation at break:	DIN 53504	%	420
Tear strength:	DIN 53515	kN/m	137
Rebound resilience:	DIN 53512	%	23
Compression set:*	DIN 53517	%	30
Hardness at -5 °:	DIN 53505	Shore A	99
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 up to 40 °	R	Vegetable Oils	R
Sea Water	R	Silicone Oils	R
Steam	U	Biodegradeable Oils	S
HFA, HFB fluids	U	Fuels	S
HFC fluids	U	Ozone, Oxygen (cold)	R
HFD fluids	U	Air up to 100 °	R
Mineral Oils	R	Air up to 150 °	U

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

#### Main application

Static and dynamic seals (standard and special), wipers, O-rings, back-up rings, flange seals, rotary seals, low friction and wear, high extrusion resistance, excellent low temp. characteristics.  
Attention: limited compatibility with water!

#### Analysis and Evaluation

The properties relate to fundamental values for polyurethane products. Values mentioned above are corresponding to ASTM or DIN standards and have been tested on standardized plates in the laboratory. All immersion tests are made under laboratory conditions.