

# XSH-Pur

Color – dark grey

XSH-Pur is a hydrolysis resistant hard grade thermoplastic polyurethane elastomer (TPU). This material is the further development and modernising of material SH-Pur, it still perfectly works in hot water (natural and sea) based, flame retardant hydraulic fluids (HFA, HFB), biologically degradable fluids (bio-oils), mineral oils, providing easy sliding, but has much bigger hardness, therefore it can be used in heavier conditions.

## High hardness of a material promotes its excellent stability to extrusion

XSH-Pur is highly resistant to ozone, weather impact and temperatures. As well as SH-Pur, this material is very recommended for usage in tropical regions. Swelling in mineral oils is low. XSH-Pur has the same high resistance to radiation exposure and gas permeability as SH-Pur.

## Resistance

Good resistance	Average resistance	Low resistance
Hydraulic fluids based on mineral oil	Fire-resistant fluids of type HFC (water glycol mixture)	Aromatic hydrocarbons
Biologically degradable hydraulic fluids	Some additives for power can have destructive effect (e.g. fungicides)	Chlorinated hydrocarbons (dichloromethane, trichloromethane)
Fire-resistant pressure fluids HFA and HFB	Ethanol	Ketones and glycols
Mineral oils and grease (certain additives can have destructive effects)	Non-ethanol fuels (except premium blend petrol and unleaded fuels)	Break fluids, based on glycol
Silicone oils and grease	–	Hot steam exceeding +100°C
Aliphatic hydrocarbons (e.g. propane, butane)	–	Concentrated acids and basis
Hot water and sea water up to +90°C	–	–
Diluted acids and basis	–	–

## Application

XSH-Pur is used as alternative to material PTFE in the combined sealing systems, consisting of two elements - a sliding ring (PTFE) and elastic O-Ring (NBR). The sliding ring out of XSH-Pur, unlike PTFE, can be installed easily and quickly without application of special instruments and techniques. Besides, material XSH-Pur - with the lowered coefficient of friction, ensures easier movement and total absence of effect «stick-sleep» that is important for smooth operation of the gear, without microstoppings and jumps.

XSH-Pur with increased hardness has excellent extrusion stability and can be used as a material for seals of different profiles, for example, in strongly worn out water plunger pumps and at very high pressure.

### Mainly used

- Wipers
- Piston seals
- Rod seals
- O-Rings
- Rotor seals

### XSH-Pur Material Data Sheet

Properties	Value	Unit	Standard
Hardness	57+/-2	Sh D	DIN 53505
Density	1,22	g/cm <sup>3</sup>	DIN 53479 or DIN EN ISO 1183-1
Compression set 70°C / 24 h, 20 % deformation	29	%	DIN 53517 or DIN ISO 815-1
Compression set 100°C / 24 h, 20 % deformation	33	%	DIN 53517 or DIN ISO 815-1
100 % modulus	24	N/mm <sup>2</sup>	DIN 53504
Tensile strength	≥40	N/mm <sup>2</sup>	DIN 53504
Elongation at break	≥300	%	DIN 53504
Tear strength	170	N/mm	DIN 53515 or DIN ISO 34-1
Abrasion	25	mm <sup>3</sup>	DIN 53516
Min. service temperature	-20	°C	
Max. service temperature	+110	°C	