

OECD polymer of low concern (PLC) criteria and additional customer related criteria

	Firmness	Elasticity
Polymers currently in use		
PTFE	✓	✓
FKM/ FPM alle grün	✓	✓
Alternative Materials for lining		
EPDM	✓	✗
NBR	✓	✓
PUR rubber	✗	✓
ECO (Epichlorhydrin rubber)	✓	✗
H-NBR	✓	✓

Symbols



Meaning

- Accept
- Not fulfilled
- Accept with limitations
- Nearly not fulfilled

Legend

- Firmness
- Elasticity
- Permanent Compression
- Shore Hardness Range
- Rebound resilience
- Temperature resistance (1000h)
- Cold flexibility
- Ozone/ Weathering Resistance
- Oil/ Fuel Resistance
- Steam Resistance
- Acid resistance
- Caustic resistance
- Solvent resistant

The material property of an elastomer returns it to its original shape after deformation.

The amount or measure of permanent deformation in a material.

The measure of the resistance that a rubber material offers to permanent deformation.

Elastic behaviour of elastomers when subjected to a load.

To be assessed when used as intended or in extreme conditions.

Resistance at low temperatures; For all elastomers, it is required to be stable at -40°C.

Polymers are stable, monomers are not. The tendency of a polymer to degrade at low temperatures.

The extent of expansion or contraction of a material when subjected to a load.

The extent of expansion or contraction of a material when subjected to a load.

In presence of acid media the polymer may not change its properties.

In presence of caustic media the polymer may not change its properties.

In presence of solvents the polymer may not change its properties.

Permanent Compression	Shore Hardness Range	Rebound resilience	Temperature resistance (1000h)	Cold flexibility
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✗	✓	✗	✓	✓
✗	✓	✓	✓	✗
✓	✗	✓	✗	✓
✓	✓	✓	✗	✓
✗	✓	✓	✓	✓

to its original size and shape after being deformed

that occurs to an object, such as an o-ring, affects its original density or shape after a force is removed.

It has to indentation. A durometer is used to measure shore hardness

on impact load

at temperature during disposal. Thermal stability testing may involve TGA

It depends on the glass transition temperature of the material. This is the temperature below which the elastomer

is likely to undergo rubber degradation from long-term exposure to ozone, certain pollutants, and

contact with mineral oil and fuel contact

contact with steam and hot water contact

may change its properties significantly

may change its properties significantly

may change its properties significantly

Ozone/
Weathering
Resistance

Oil/ Fuel
Resistance

Steam Resistance

Acid resistance



elastomer changes from a rubber-like to a glass-like state

under harsh environmental conditions. When elastomers are exposed to weather, this ca

Caustic resistance



an cause degradation of the product.