



2023

Overview **O-Ring**

AST Sealing Solutions

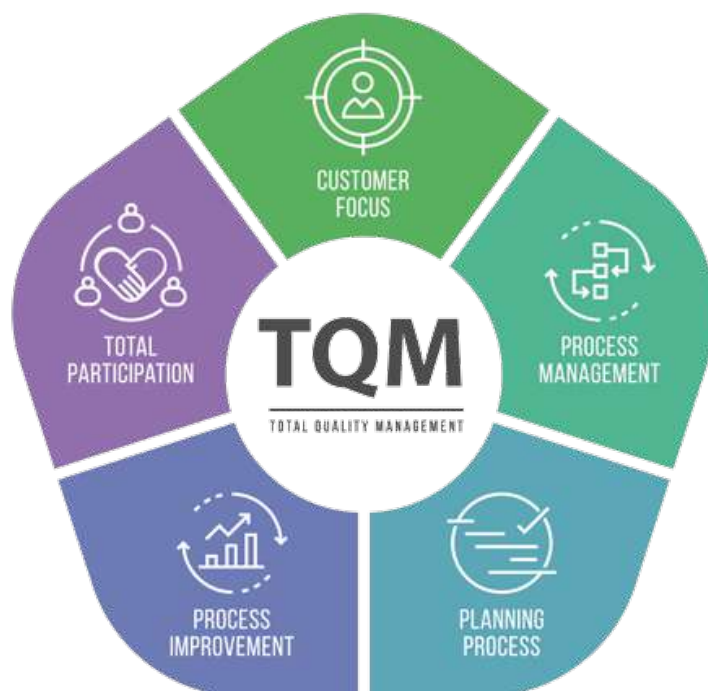


About AST Sealing

As AST Sealing, we have been providing OEM service on sealing elements since 1998.

Our business partnerships with the world's leading Industrial and Hydraulic equipment manufacturers; We offer sustainable quality products with our R&D engineers. It is one of the world's leading suppliers of sealing solutions specific to 16 sectors, especially automotive, construction machinery, agriculture, and industrial sectors.

- 11 factories in 6 countries
- Export to 35 countries
- 1200+ employees
- Possibility to ship anywhere in the world



Products



Static
Seals



Rotary Shaft
Seals



O-Rings



Seal
Kits



Hydraulic
Accumulators



Hydraulic
Seals



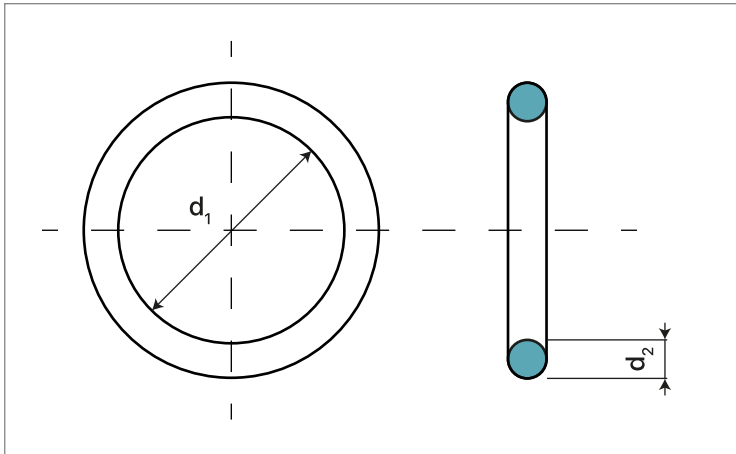
Bushing



General Information

What is an O-Ring?

An O-Ring is a simple and effective sealing element used in a wide range of engineering applications. It is ideal for sealing between rotating, oscillating, and linearly moving components. O-Rings are ring-shaped seals made from elastomeric materials and are often used in applications requiring high pressure, temperature, and chemical resistance.



Advantages

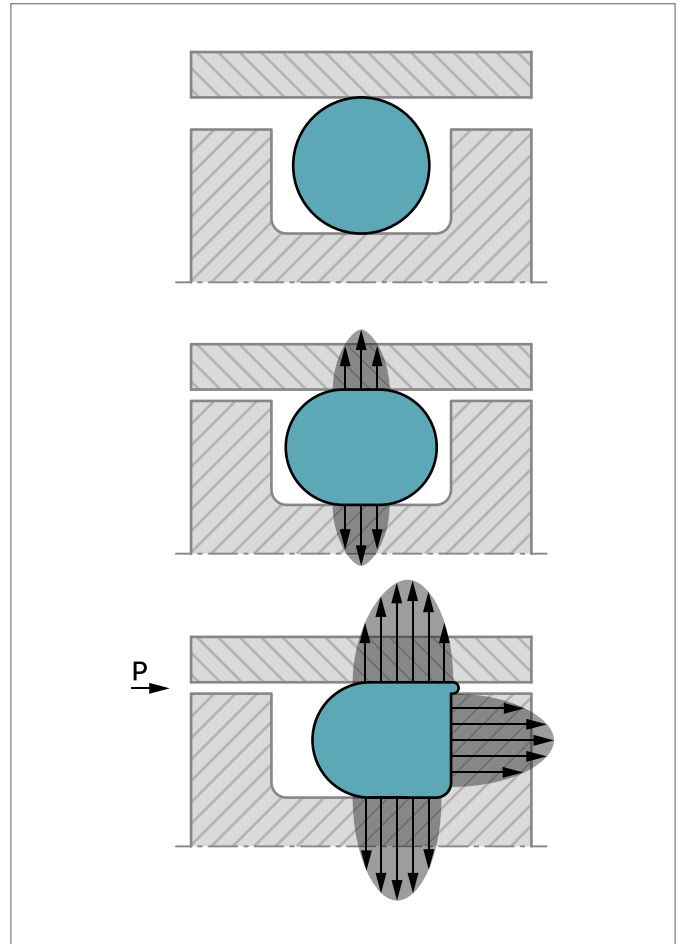
- Low-cost and simple production
- High sealing performance
- Wide application range
- Easy installation and replacement
- Variety of material and size options

Applications

- Automotive industry
- Aerospace and space industry
- Food and pharmaceutical industry
- Chemical and petrochemical sector
- Hydraulic and pneumatic systems

O-Ring Operating Principle

The operating principle of an O-Ring is based on the compression of the elastomeric material and its expansion towards the sealing surfaces. During installation, the O-Ring is placed into a groove and is then compressed between the sealing surfaces. This compression causes the O-Ring to expand and apply pressure towards the sealing surfaces, preventing the escape of fluid or gas.



For detailed and current information about our O-ring products, please scan the QR code.



General Information

O-Ring Materials and Standards

Designation	Trade Name *	Abbreviation		
		ISO 1629	ASTM D 1418	AST
Acrylonitrile-Butadiene Rubber (Nitrile Rubber)	Europrene® Krynac® Nipol N® Perbunan NT Breon®	NBR	NBR	N
Hydrogenated Acrylonitrile-Butadiene Rubber	Therban® Zetpol®	HNBR	HNBR	H
Polyacrylate Rubber	Noxite® Hytemp® Nipol AR®	ACM	ACM	A
Chloroprene Rubber	Baypren® Neoprene®	CR	CR	WC
Ethylene Propylene Diene Rubber	Dutral® Keltan® Vistalon® Buna EP®	EPDM	EPDM	E
Silicone Rubber	Elastoseal® Rhodorsil® Silastic® Silopren®	VMQ	VMQ	S
Fluorosilicone Rubber	Silastic®	FVMQ	FVMQ	F
Tetrafluorethylene-Propylene Copolymer Elastomer	Aflas®	FEPM	TFE/P**	WT
Butyl Rubber	Esso Butyl®	IIR	IIR	WI
Styrene-Butadiene Rubber	Buna S® Europrene® Polysar S®	SBR	SBR	WB
Natural Rubber		NR	WR	WR
Fluorocarbon Rubber	Dai-EI® Fluorel® Tecnoflon® Viton®	FKM	FKM	V
Perfluoro Rubber	Isolast® Kalrez®	FFKM	FFKM	J
Polyester Urethane Polyether Urethane	Zurcon® Adiprene® Pellethan® Vulcollan® Desmopan®	AU, EU	AU, EU	WU, Z
Chlorosulphonated Polyethylene Rubber	Hypalon®	CSM	CSM	WM
Polysulphide Elastomer	Thiokol®	-	TWT	WY
Epichlorohydrin Elastomer	Hydrin®	-	-	WO

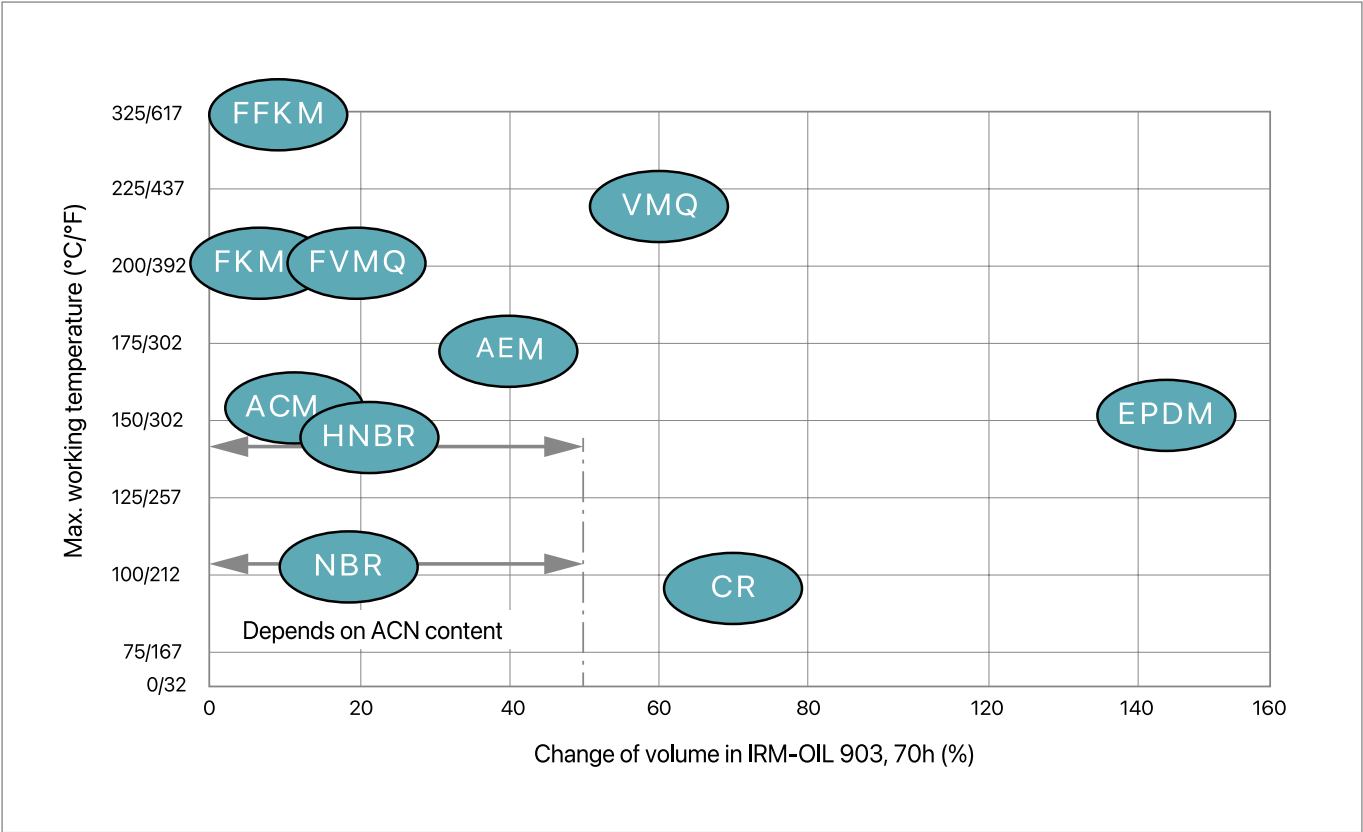
* Selection of registered trade names
** Abbreviation not yet standardized

ASTM = American Society for Testing and Materials
ISO = International Organisation for Standardization

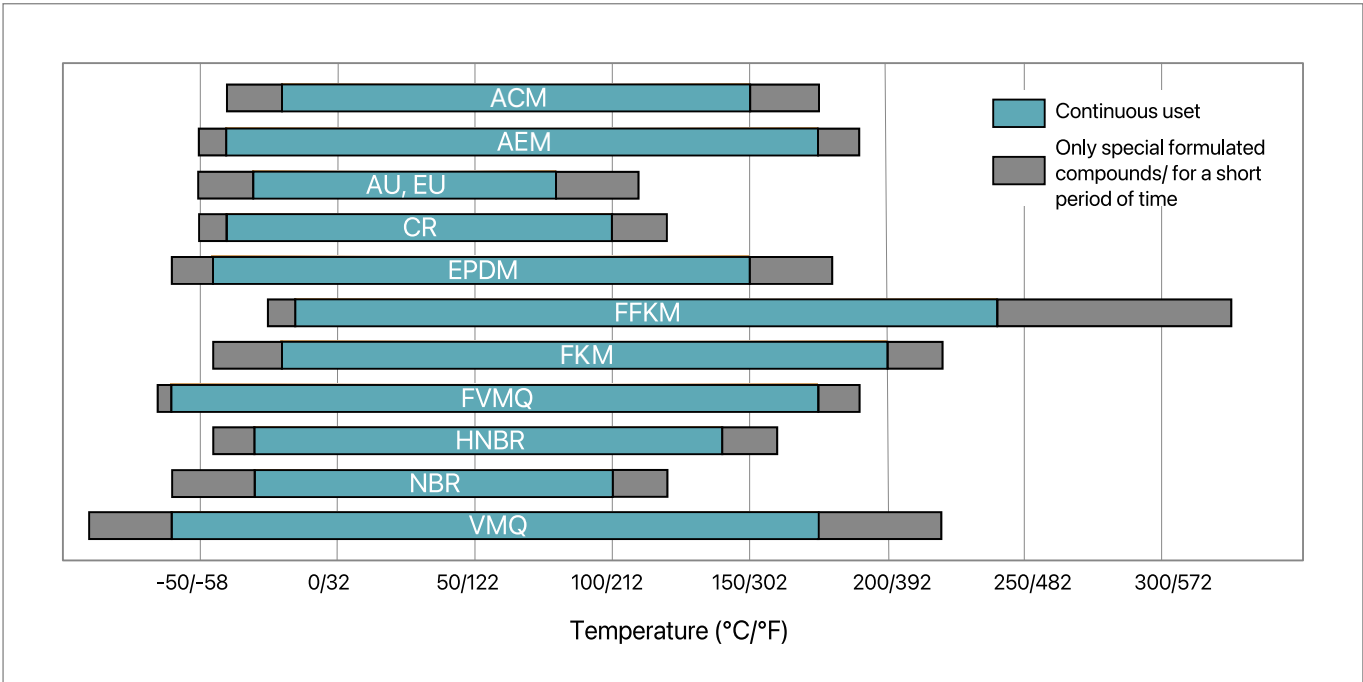
General Information

Application Parameters of Elastomers

Elastomers, as all other organic chemicals, have limited use. External influences such as media, oxygen or ozone, as well as pressure and temperature, will affect the material properties and therefore their sealing capability. Elastomers can swell, shrink or harden and develop cracks or even tears.



Temperature Range



General Information

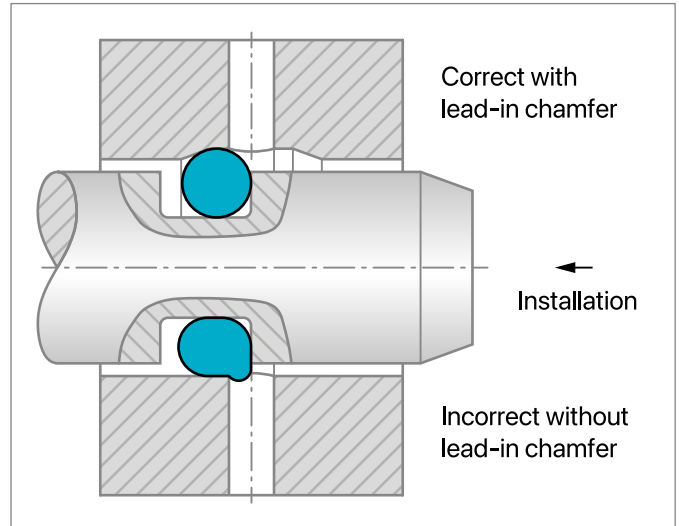
Installation and Design Recommendations

The following design recommendations are mainly based on the recommendations given in ISO 3601-2. They cannot be used with Isolast® materials. Please use the Isolast® brochure or contact your local Customer Solution Center for further details.

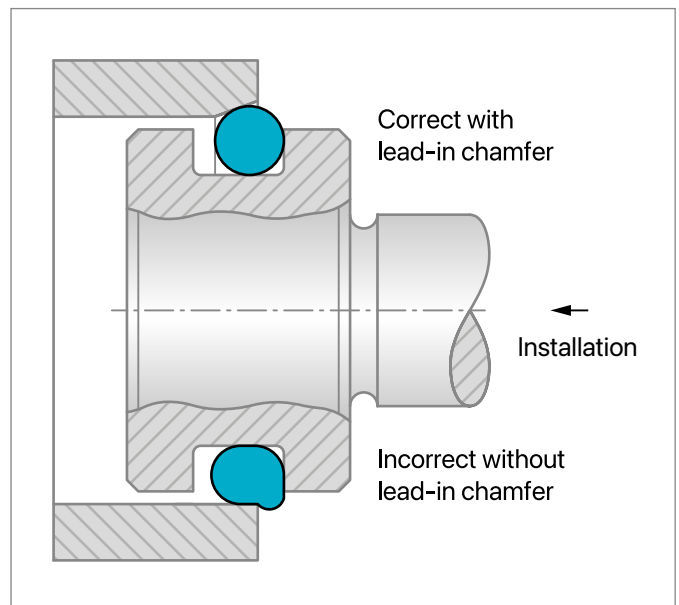
Installation Recommendations

Before starting installation, check the following points:

- Lead-in chamfers made according to the drawing?
- Bores deburred and edges rounded?
- Machining residues, e.g. chips, dirt and foreign particles, removed?
- Screw thread tips covered?
- Seals and components greased or oiled?
- Ensure media compatibility with the elastomer material.
- AST Sealing recommends to use the fluid to be sealed.
- Do not use lubricants with solid additives, e.g. molybdenum



O-Ring installation over transverse bores



Piston installation with O-Ring



Contact Us



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