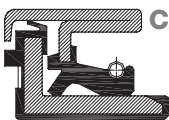
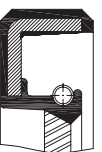
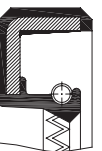


Additional types

	AS - P	Reinforced sealing lip for overpressure, with or without additional dust lip		B - O	Outer metal case, sealing lip without garter spring
	AS - PX	Reinforced sealing lip and special metal insert for overpressure, with additional dust lip		C - O	Outer metal case with reinforcing metal inner ring, without garter spring
	A - DUO	Twin sealing lips with two garter springs		C - TE	Inner metal case and sealing lip on O.D.; type B-TE available as well
	A - O	Sealing lip without garter spring		C-DUO	Outer metal case with reinforcing cap, twin sealing lips with two garter springs
	A - FL	Different spring groove for a better spring retention, waved O.D.		COMBI SEAL	Combination of a shaft seal and an additional lip in polyurethane against soiling, all in one housing
	A - LD	Sealing lip with hydrodynamic ribs, left rotation		CASSETTE SEAL	Integrated sealing system: oil seal, wear sleeve and dust protection in one unit
	A - RD	Sealing lip with hydrodynamic ribs, right rotation		RADIASEAL	Rotary shaft seal with fabric reinforced outer diameter
	A - WD	Sealing lip with bi-directional hydrodynamic ribs		SPLITRING	Rotary shaft seal only rubber, split
	ASX7	Waved rubber covered O.D., metal insert, sealing lip with garter spring, with or without dust lip		DINA Seal Metal OD	Rotary shaft seal for needle bearing applications, without spring
	A - EC	End covers		DINA Seal Waved OD	Rotary shaft seal for needle bearing applications, without spring
	A - TE	Rubber covered I.D. and sealing lip on O.D.		C64D	Rotary shaft seal for heavy industry



Electromeric Sealing Materials

NITRILE RUBBER (NBR)

This elastomer is a copolymer of butadiene and acrylonitrile and is used for the majority of conventional fluid sealing applications.

- Working temperature range: about -30 [°C] to +100 [°C] (+120 [°C] maximum)
- Standard colour: black

Advantages:

- Good swelling resistance in mineral oils and greases
- Good swelling resistance in water and radiator fluid

Limitations:

- Poor resistance to high-alloyed hypoid oil
- Poor resistance to ozone, weathering and sunlight
- Not resistant to automotive brake fluid (glycol ether based)
- Poor resistance to polar fluids (ketones, ethers, esters)
- Poor resistance to chlorinated hydrocarbons (carbon tetrachloride, trichlorethylene)
- Poor resistance to aromatic hydro-carbons

FLUORO ELASTOMER (FPM)

Mostly known under the trade names VITON® from Du Pont, TECNOFLON® from Solvay and FLUOREL® from 3M. It has good chemical resistance and is recommended for high temperature applications.

- Working temperature range: -20 [°C] to + 200 [°C]
- Standard colour: brown

Advantages:

- Excellent resistance to mineral oils, greases (also with the majority of additives) and above all high-alloyed hypoid oils
- Excellent acid resistance
- Good resistance to aromatic and chlorinated hydrocarbons
- Excellent resistance to ageing, ozone and weathering

Limitations:

- Limited cold flexibility
- Poor resistance to polar fluids (ketones, ethers, esters)

SILICONE RUBBER (SIL)

Also referred to as MVQ or VMQ

- Working temperature range: -50 [°C] to + 200 [°C]
- Standard colour: red / orange

Advantages:

- Retains flexibility down to very low temperatures
- Withstands continuous heating at high temperatures without hardening
- Resistant to mineral oils and greases
- Excellent resistance to ageing, weathering and ozone

Limitations:

- Not recommended for use with aliphatic as well as aromatic hydrocarbons such as petrols and paraffin, and lighter mineral oils or steam over 0.35 [MPa]
- Not resistant to hot water (100 [°C]), acids and non-mineral automotive brake fluids
- Poor tensile and tear strength
- Poor wear resistance