

PN894

Sealing solutions

evolast[®] N894 is a high-performance FFKM material, specifically designed for the **chemical process industry**. evolast[®] N894 is an excellent choice for use in **aggressive chemical environments**, providing a broad chemical resistance to different media such as acids, bases, water, steam, amines, solvent based chemistries. It is recommended as a multipurpose compound in all applications where fluid handling of different substances is required due to its **excellent chemical resistance to a wide range of chemicals**.

Features and benefits

evolast[®] N894 provides excellent mechanical and sealing properties through a temperature **service range from -15°C to + 230°C**, withstanding **peaks down to -25°C and up to +275°C**.

evolast[®] N894 is available for production of **O-rings** (with diameters from 1 mm to 2000 mm) and every shape of **customer-designed sealing element**.

Applications

- Valves
- Pumps
- Mechanical seals
- Sprayers
- Compressors
- Reactors

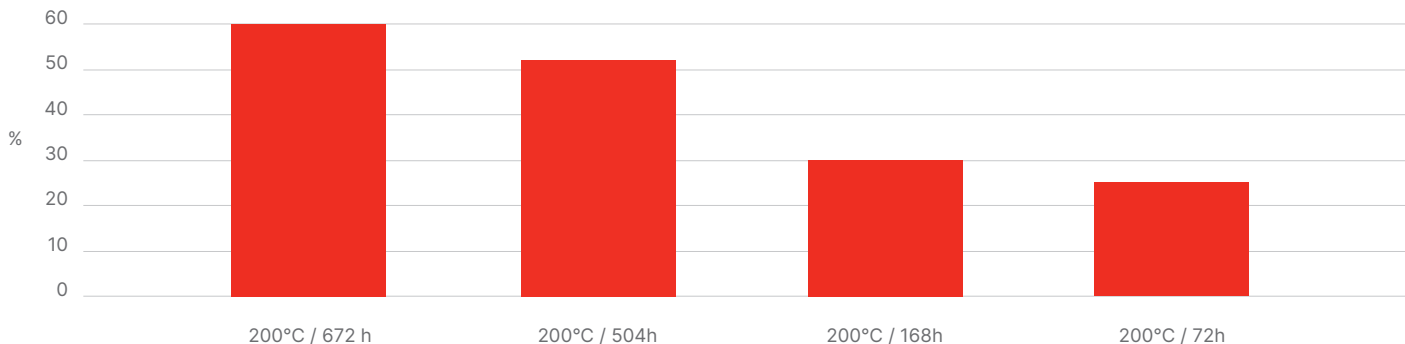
Typical properties

Physical properties	Test method	Unit	Typical value
Colour			black
Specific Gravity	ASTM D1817	g/cm ³	2,00
Hardness	ASTM D2240	Shore A	75
Mechanical properties			
Compression set (70 hours @ +200°C)	ASTM D395-B	%	18,5
Elongation at break	ASTM D412	%	145
Tensile strength	ASTM D412	MPa	18
Low temperature performance			
TR10	ASTM D 1329	°C	-4
Thermal resistance			
Air ageing (70 hours @ +275°C)	ASTM D573		
Delta Hardness		ShA points	-1,5
Delta Elongation at break		%	+20
Delta Tensile strength		%	-25
Service temperature range		°C	-25 / +275



Thermal resistance

Compression Set Comparison (ISO 815-1 Meth. A)



Chemical resistance

The following tables give an indication of what evolast® N894 offers in terms of chemical resistance to aggressive chemicals: **Table 1** reports a general overview of performance in different classes of chemicals, whereas some specific examples are reported in **Table 2**. However, it is always recommended to run immersion testing in the actual operating conditions.

Table 1: Chemical resistance overview

Rating system: A: 0-10% volume swell B: 10-30% volume swell C: 30-50% volume swell

Chemical resistance (ASTM D471)	Volume swell	Chemical resistance (ASTM D471)	Volume swell
Inorganic acids	A	Esters	A
Organic acids	A	Ethers	A
Alkalis	A	Aldehydes	A
Amines (RT-Room temperature)	A	Alcohols	A
Hot amines (>70°C)	B	Hydrocarbons	A
Water/Steam	A	Sour gas	A
Ketones	A	Lubricants	A

Table 2: Results of lab testing of evolast® N894 in various fluids

Chemical resistance (ASTM D471)	Testing conditions (time and temperature)	Volume swell (%)	Delta hardness (ShA points)
H ₂ SO ₄ 98%	70 hours @ +60°C	+3	-1
HCl 37%	168 hours @ +80°C	+6	-4
HNO ₃ 65%	72 hours @ +80°C	+6	-4
CH ₃ COOH glacial	336 hours @ +100°C	+3	-4
NaOH	168 hours @ +150°C	0	-1
Anhydrous NH ₃	168 hours @ +100°C	-0,8	+7
Ethylenediamine	72 hours @ +100°C	+18	-7
Steam	168 hours @ +220°C	-5	0
Water/Glycol (50/50 w/w)	168 hours @ +150°C	+2	-2
MIBK	168 hours @ +115°C	+4	-5
MEK	720 hours @ +45°C	+4	-3
FUEL C	504 hours @ +40°C	+9	0
Ethylene oxide	168 hours @ +23°C	+2	-3

Statements and recommendations in this publication are based on our experience and knowledge of typical applications of this product, and shall not constitute a guarantee of performance nor modify or alter our standard warranty applicable to such product.