

Sealing Solutions

evolast® N894 perfluoroelastomer parts are black products specifically designed for the chemical process industry. Evolast® N894 is an excellent choice for use in aggressive chemicals, 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 application where fluid handling of different substances is required due to his excellent chemical resistance to a wide range of chemicals.

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 **+270°C**

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

evolast® N894 parts find application in valves, pumps, mechanical seals, sprayer, compressors, reactors

Typical Properties

Physical properties

	test method	unit	typical value
Colour			black
Specific Gravity	ASTM D1817	g/cm ³	2.02
Hardness	ASTM D2240	Shore A	75

Mechanical properties

	test method	unit	typical value
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

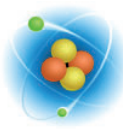
	test method	unit	typical value
TR10	ASTM D 1329	°C	-4
Bending test (no cracks) 4 hours @ -30°C	Internal test (OR 50.40 x 3.18)	pass/ no pass	pass
Bending test (no cracks) 6 hours @ -30°C	ISO 37 R-30 (ISO37S2 specimen)	pass/ no pass	pass

Thermal resistance

	test method	unit	typical value
Air ageing (70 hours @ 275°C)	ASTM D573		
Delta Hardness		ShA points	-1.5
Delta Elongation at break		%	-25
Delta Tensile strength		%	20

Service temperature range

		°C	-25 / +270
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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.

Chemical resistance overview

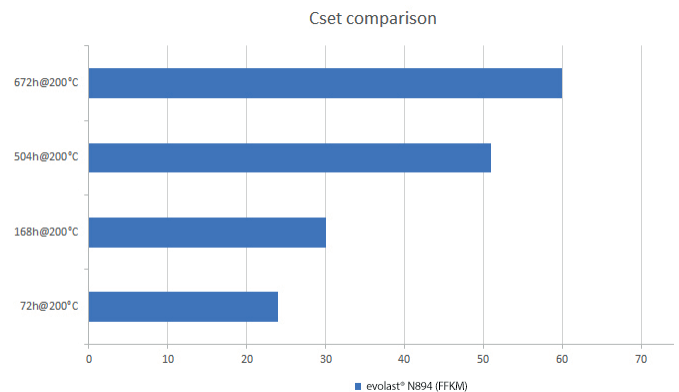
Chemical resistance (ASTM D471)	volume swell
Inorganic acids	A
Organic acids	A
Alkalis	A
Amines (RT)	A
Hot amines (<70°C)	B
Water/Steam	A
Ketones	A
Esters	A
Ethers	A
Aldehydes	A
Alcohols	A
Hydrocarbons	A
Sour gas	A
Lubricants	A

Rating system:

A: 0–10% volume swell B:

10–30% volume swell C:

30–50% volume swell



Results of lab testing in various fluids of evolast® N894

Chemical resistance (ASTM D471)	testing conditions (time and temp.)	volume swell (%)	delta hardness (ShA points)
H2SO4 98%	70 hours @ 60°C	3	-1
HCl 37%	168 hours @ 80°C	6	-4
HNO3 65%	72 hours @ 80°C	6	-4
CH3COOH glacial	336 hours @ 100°C	3	-4
NaOH	168 hours @ 150°C	0	-1
Anhydrous NH3	168 hours @ 100°C	-0,8	7
Ethylenediamine	72 hours @ 100°C	18	-7
Steam	168 hours @ 220°C	-5	0,1
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	-
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.

5/2023