

Classification

The epichlorohydrin rubbers are special fluids and ozone resistant elastomers. They have an application range of temperature of -40 to 150° C. These elastomers also combine a lot of the characteristics typical to nitrile, polichloroprene and polyacrylic rubbers moreover they show non verifiable performance in the greater part of the oil-resistant rubbers. The vulcanized items exhibit an excellent resistance to a wide variety of fluids, aging, elevated resiliency and flexibility at low temperatures, along with low permeability to gases.

Polymer type

Omopolymers of the epichlorohydrin are available and also epichlorohydrin-ethylene-oxide copolymer, epichlorohydrin-ethylene-allilglycidilether terpolymer. The omopolymer and copolymer exhibit and extremely low swell to ASTM oils, to aliphatic and aromatic solvents. The copolymer associated with these properties also posses a good low temperature resistance.

The terpolymer while it is being comparable from the point of view of copolymer performances, it results more versatile as it regards the vulcanization systems.

		Omopolymer	Copolymer	Terpolymer
Hardness ShA	pti	72	69	60
Tensile strength	Mpa	13	14	11
Elongation	%	250	300	450
Compression set 22 H @ 125°C	%	25	27	32
Heat resistance 70 H @ 150°C				
Tensile strength	%	-5	-20	-5
Elongation	%	-20	-30	-31
Hardness ShA	pti	+7	+4	+3 to +7
ASTM N.3 Igg @ 150°C				
Tensile strength	%	+10	+8	
Elongation	%	-25	-30	
Volume	pti	+4	+8	
ASTM Fuel C 70 H @ 23°C				
Tensile strength	%	-20	-25	-38
Elongation	%	-35	-35	-40
Hardness ShA	pti	-12	-15	-16
Volume	%	+35	+28	+30
Brittle point	°C	-20	-38	

Applications

Epichlorohydrin elastomer based compounds are easily transformed with the normal technologies in use today. The applications reflect the typical characteristics of these elastomers and therefore the involved sectors are those of the automobile, oil industry, electric, textile and refrigeration. The good dynamic properties, very similar to those of natural rubber, make it a better choice in applications requiring high temperature performance.

Printed manufactured articles can be produced, extruded or calandered with steam vulcanization, hot air or UHF. The cured items can be O-Rings, diaphragms, membranes, pipes, rolls press, conveyor belts, cables, and anti-vibration mountings.