

<b>Title:</b>	ESP Elastomer Shelf Life Recommendation		<b>Revision Date:</b>	09/12/2024
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## ESP ELASTOMER SHELF LIFE RECOMMENDATION

The Shelf Life of an elastomer is defined as the maximum period of time between the cure date and the date the elastomeric product is first removed or unpackaged for installation or fabrication into a component part of a subassembly, assembly, or system. During the Shelf Life time, the stored elastomeric product is expected to retain its characteristics as originally specified, if it is stored under proper storage conditions. SAE International issued Aerospace Standard AS5316 (converted from ARP5316). It was intended to fully replace MIL-HDBK-695C as the industry standard for the Shelf Life of Aerospace elastomeric seals. However, AS5316 can also be used as a useful guideline for Shelf Life of many industrial and commercial grade elastomers as well.

The information in the chart below, is ESP's recommendation based on the AS5316 standard and intended to be utilized by those organizations who do not already have specific recommendations for the control of elastomeric seals. It should be noted that the packaging of the elastomeric seals prior to assembly into a product is an integral part of the controlled storage procedure. It provides a positive means of product identity from the time of manufacture to the time of assembly.

ESP does not establish limitations for storage times in assembled components, nor does it in any way provide a guideline for the operating life span of a particular compound.

The Shelf Life of the elastomer compound is dependent on the polymer type and storage conditions. Complete details of recommended storage conditions can be found within SAE AS5316.

ELASTOMER FAMILY	ASTM D1418 ABBREVIATION	ESP RECOMMENDED SHELF LIFE
Butyl Rubber, Isobutene Isoprene	IIR	25 Years
Ethylene Propylene	EPM, EPDM	25 Years
Fluorocarbon (Viton®)	FKM	25 Years
Fluorosilicone	FMQ, FVMQ	25 Years
Perfluorocarbon (Kalrez®, Simriz®)	FFKM	25 Years
Silicone	MQ, VMQ, PMQ, PVMQ	25 Years
Tetrafluoroethylene/Propylene (Aflas®)	FEPM	25 Years
Carboxylated Nitrile	XNBR	15 Years
Chloroprene (Neoprene®)	CR	15 Years
Chlorosulfonated Polyethylene	CSM	15 Years
Epichlorohydrin (Hydrin®)	CO, ECO	15 Years
Ethylene Acrylic (Vamac®)	AEM	15 Years
Hydrogenated Nitrile	HNBR	15 Years
Nitrile (Buna-N)	NBR	15 Years
Polyacrylate	ACM	15 Years
Polyurethane (Polyester or Polyether)	AU/EU	5 Years
Styrene Butadiene (Buna-S)	SBR	3 Years