O-RING MATERIAL	LOWER SERVICE TEMPERATURE (deg.C)	COMMENTS
PTFE wedges / rings	-250	AESSEAL® standard supply
Graphite Wedges / rings	-200	AESSEAL® standard supply
F.E.P. - Silicone core	-62	AESSEAL® standard supply
Silicone	-60	Supplied to order only
Fluorosilicone	-60	Supplied to order only
EPR peroxide cured E692-75	-57	AESSEAL® standard supply
EPR FDA E300-70	-54	FDA grade, supplied to order only
Nitrile	-40	AESSEAL® standard supply
Neoprene	-40	Supplied to order only
Viton V680-70	-26	FDA grade, supplied to order only
F.E.P. - Viton core	-23	Supplied to order only
Kalrez 4079	-20	AESSEAL® standard supply
Kalrez 6375	-20	AESSEAL® standard supply
Kalrez 7075	-20	Currently supplied to order only
Viton 51414 E60C	-15	AESSEAL® standard supply
Aflas	0	AESSEAL® standard supply

Table 4 – Lower Service Temperature of Elastomers / O-Rings.

Table 4 shows that at the extreme end of the scale, only Graphite or PTFE based o-rings should be used. The lowest service temperature of any commercially available elastomeric compound is that of Silicone, although special compounds of other materials are available that may be marginally lower than this. It is worth noting that the seal chamber may be at a higher temperature than the actual pumped product. Therefore, the actual temperature that the seal will be subjected to should be sought.

In every case, the chemical compatibility of the material should be checked with the product. The end-user site may be able assist with this. The guide below, table 5, details typical low temperature products found throughout industry and compatible o-rings. This should be used in conjunction with the temperature guide in table 4.

Product	Compatible O-Ring for Low Temprature	Product	Compatible O-Ring for Low Temprature
Ammonia + Mineral Oil	Neoprene	Freon 152A	Nitrile, Neoprene
Anhydrous Ammonia	EPR, Neoprene	Freon 21	FEP
Aqueous Ammonia 33%	EPR, Neoprene, Nitrile	Freon 218	Nitrile, Neoprene
Brine (Calcium Chloride)	EPR, Nitrile, Neoprene, Viton	Freon 22	Neoprene, EPR
Brine (Copper Chloride)	EPR, Nitrile, Viton	Freon 22 with Oil	FEP
Brine (Sodium Chloride)	EPR, Nitrile, Viton	Freon 31	Neoprene, EPR
Dichloroethane 85%	FEP, Viton	Freon 32	Nitrile, Neoprene
Dowtherm SR1	Nitrile, Viton, FEP	Freon 502	Neoprene
Ethane	Nitrile, FEP, Viton	Freon C316	Nitrile, Neoprene
Ethanol (aqueous solution)	EPR, Neoprene, Nitrile	Freon C318	Nitrile, Neoprene
Ethyl Alcohol	EPR, Neoprene, Nitrile, Viton	Freon T-P35	Nitrile, Neoprene
Ethylene	Nitrile, Viton	Glycerine	EPR, Neoprene, Nitrile, Viton
Ethylene Glycol	EPR, Nitrile, Neoprene, Viton	Industrial Methylated Spirit (I.M.S.)	EPR, Nitrile
Freon 11 (Freon MF)	Nitrile	Kerosene	Nitrile, Viton, FEP
Freon 11 with Oil	Nitrile, Neoprene	Liquid Nitrogen	PTFE
Freon 112	FEP	Liquid Oxygen	PTFE
Freon 113	Nitrile, Neoprene	Liquefied Carbon Dioxide Gas	FEP, Nitrile
Freon 113B1	Nitrile, Neoprene	Methane Gas	Nitrile, Viton, FEP
Freon 114	Nitrile, Neoprene	Methanol 40%	EPR, Nitrile, Neoprene
Freon 114B2	Neoprene	Methyl Acetate	FEP
Freon 115	Nitrile, Neoprene	Methyl Ethyl Ketone	EPR, FEP
Freon 12	FEP	Methylene Chloride	FEP
Freon 12 with Oil	Nitrile, Neoprene	Propane	Nitrile, FEP, Viton
Freon 13	Nitrile, Neoprene	Propyl Alcohol	EPR, Neoprene, Nitrile, Viton
Freon 13B1	Nitrile, Neoprene	Propylene Glycol	EPR, Nitrile, Viton
Freon 14	Nitrile, Neoprene	Toluene	Viton, FEP
Freon 142B	Nitrile, Neoprene		

Table 5 – Elastomer Compatibility chart.