

Acrylonitrile-Butadiene, Nitrile (NBR) - storage life 15 years per ANSI (NFPA) T3.1925R1-2001

Good mechanical properties: high tensile strength; compression set resistance; and abrasion resistance

Temperature range (general): -40°F to +225°F (-40°C to +107°C)

Commonly used with:

- Aliphatic hydrocarbons such as propane, butane, petroleum oil, mineral oil, fuels and diesel fuel
- Hydraulic fluids (HFA, HFB, HFC)
- Mineral oils and greases
- Vegetable oils
- Water, non-chlorinated

Not compatible with:

- Aromatic hydrocarbons such as benzene, toluene, and xylene
- Automotive brake fluid
- Halogen derivatives such as carbon tetrachloride and trichloroethylene
- Ketones such as MEK and acetone
- Phosphate ester hydraulic fluids
- Strong acids

N1 and N1P*

General purpose, 70 durometer

N2 and N2P*

General purpose, 90 durometer

N5 and N5P*

Extreme temperature nitrile

Carboxylated Nitrile (XNBR) - storage life 15 years per ANSI (NFPA) T3.1925R1-2001

Enhanced tear and abrasion resistance compared to Nitrile (NBR), good water, oil and fuel resistance

Temperature range (general): 14°F to + 212°F (-20°C to + 100°C)

Commonly used with:

- Aliphatic hydrocarbons such as propane, butane, petroleum oil, mineral oil, fuels and diesel fuel
- Hydraulic fluids (HFA, HFB, HFC)
- Water, non-chlorinated

Not compatible with:

- Aromatic hydrocarbons such as benzene, toluene, and xylene
- Brake fluid with a glycol base
- Chlorinated hydrocarbons such as trichloroethylene
- Fuels of high aromatic content
- Ketones such as MEK and acetone
- Ozone, weather and atmospheric aging
- Phosphate ester hydraulic fluids
- Polar solvents such as acetic acid and ethylene-ester
- Strong acids

X1 and X1P*

General purpose, 80 durometer

Hydrogenated Nitrile (HNBR, HSN) - storage life 15 years per ANSI (NFPA) T3.1925R1-2001
Excellent mechanical properties and good chemical resistance

Temperature range (general): -40°F to + 300°F (-40°C to + 150°C)

Commonly used with:

- Aliphatic hydrocarbons such as propane, butane, petroleum oil, mineral oil, fuels and diesel fuel
- Dilute acids, bases, and salt solutions at moderate temperatures
- Hydraulic fluids (HFA, HFB, HFC)
- Ozone, ageing, and weathering
- Vegetable and animal fats and oils
- Water (non-chlorinated) and steam up

Not compatible with:

- Aromatic hydrocarbons such as benzene, toluene, and xylene
- Brake fluid with a glycol base
- Chlorinated hydrocarbons such as trichloroethylene
- Ketones such as MEK and acetone
- Polar solvents such as acetic acid, ether. and ethylene-ester
- Strong acids

H1 and H1P*

General purpose, 75 durometer

Ethylene Propylene (EP, EPDM, EPR, EPM) - storage life is unlimited per ANSI (NFPA) T3.1925R1-2001

Excellent ozone resistance and good heat, ageing, compression set and abrasion resistance

Temperature range (general): -65°F to +300°F (-54°C to +149°C)

Commonly used with:

- Automotive brake fluids - Glycol based, silicone based
- Ozone
- Phosphate ester based hydraulic fluids
- Polar solvents such as alcohols, ketones (MEK, acetone), and esters
- Silicone oils and greases
- Steam
- Water

Not compatible with:

- Aliphatic hydrocarbons such as propane, butane, petroleum oil, mineral oil, fuels and diesel fuel
- Aromatic hydrocarbons such as benzene, toluene, and xylene
- Di-ester based lubricants
- Mineral oils, greases, and fuels
- Petroleum oils

E1 and E1P*

General purpose, 70 durometer

E2 and E2P*

General purpose, 80 durometer

E4 and E4P*

Sulfur cured, 70 durometer

E5 and E5P*

Peroxide cured, 70 durometer

Fluorocarbon (FKM) - storage life is unlimited per ANSI (NFPA) T3.1925R1-2001
Excellent high temperatures resistance and exceptional chemical resistance also has low gas permeability and resistance to ozone, weathering and aging

Temperature range (general): -15°F to +400°F (-26°C to +204°C)

Commonly used with:

- Aliphatic hydrocarbons such as propane, butane, petroleum oil, fuels and diesel fuel
- Aromatic hydrocarbons such as benzene and toluene
- Chlorinated hydrocarbons such as trichloroethylene and carbon tetrachloride
- Gasoline and gasoline-alcohol blends
- Mineral oil and grease
- Ozone

- Silicone fluid, oil and grease
- Vacuum
- Vegetable oil and grease

Not compatible with:

- Amines
- Hot chlorosulfonic and hydrofluoric acids
- Ketones
- Low molecular weight esters and ethers
- Nitro hydrocarbons
- Non-flammable (fireproof) hydraulic fluids such as Skydrol® and HyJet
- Steam

F1, F1P*, and F1U⁺

General purpose, 75 durometer

F2, F2P*, and F2U⁺

General purpose, 90 durometer

F7, F7P*, and F7U⁺

Improved chemical resistance

F11, F11P*, and F11U⁺

Explosive decompression resistant, 95 durometer

Perfluoroelastomer (FFKM) - storage life is unlimited per ANSI (NFPA) T3.1925R1-2001
Extreme high temperature capabilities with superior chemical resistance approach that of PTFE

Temperature range (general): 7°F to +446°F (-14°C to +230°C)

Commonly used with:

- Aliphatic hydrocarbons such as propane, butane, petroleum oil, fuels and diesel fuel
- Aromatic hydrocarbons such as benzene and toluene
- Inorganic and organic acids
- Polar solvents (ketones, esters, ethers)
- Water and steam
- Vacuum

Not compatible with:

- Fluorinated refrigerants such as R11, R12, and R113
- Fully halogenated freons
- Molten or gaseous alkali metals
- Uranium hexafluoride

F8

General purpose, 70 durometer

Silicone Rubber (Q, MQ, VMQ, PVMQ) - storage life is unlimited per ANSI (NFPA)
T3.1925R1-2001

Good ozone and weather resistance and good insulating and physiologically neutral properties
Not recommended for dynamic sealing, unless used as an energizer, due to poor tear strength and low wear resistance

Temperature range (general): -65°F to +400°F (-54°C to + 204°C)

Commonly used with:

- High, dry heat
- Animal and vegetable oil and grease
- High molecular weight chlorinated aromatic hydrocarbons, such as flame resistant insulators and coolant for transformers
- Diluted salt solutions
- Ozone

Not compatible with:

- Super-heated water steam over 250°F (121°C)
- Acids and alkalis
- Low molecular weight chlorinated aromatic hydrocarbons, such as trichloroethylene
- Hydrocarbon based fuels
- Aromatic hydrocarbons such as benzene and toluene
- Low molecular weight silicone oils
- Concentrated acids
- Ketones such as acetone and MEK

Q2

Extra high temperature resistant

Temperature range: -80°F to +425°F (-62°C to +219°C)

Q3

General purpose, 70 durometer

Tetrafluoroethylene-Propylene (FEPM, FE/P, TFE) - storage life is unlimited per ANSI (NFPA) T3.1925R1-2001

High temperature and chemical resistance

Temperature range (general): -23°F to +400°F (-31°C to + 204°C)

Commonly used with:

- Amines including amine based corrosive inhibitors and anti-freeze
- Bases
- Engine oils
- Ozone
- Phosphate esters
- Pulp and paper liquors
- Sour gasses and oil
- Steam and hot water

Not compatible with:

- Acetic acid
- Aromatic fuels
- Chlorinated hydrocarbons
- Ethers
- Ketones
- Toulene

A1 and A1P*

General purpose, 80 durometer

A2 and A2P*

General purpose, 70 durometer

* “P” following the elastomer designation denotes the **PolyMod**® low friction version, e.g. N3P.

+ “U” following the elastomer designation denotes **UltraMod**™ low friction fluoroelastomer, e.g. F9U.