

Materials Guide

| Cushion material type | Material code | Temperature ranges (F) | Specification | Description / Key Attributes |
|---|---------------|------------------------|--|--|
| Chloroprene | CR | -40 to 212 | TA69 AMS3209, MIL-C-8603, LAC422544 | Chloroprene is a 70 duro compound with good water, ozone and weather resistance typically used for automotive and ground support applications. Can be corrosive under elevated temperature and high humidity conditions. Customization available depending on specific requirement. |
| EPDM | EP | -65 to 275 | TA79-1A, MIL-DTL-85052/2, MA2150/6, NASM85449/2, BPS-C-135 Ty II Mil-C-8603B , MIL-C-85449/2** AMS3253, AS85449/2 & AS85052/2 | EPDM is an elastomer designed for use in commercial aircraft for wiring and tube clamps where phosphate ester hydraulic oil is used. |
| Nitrile | NB | -65 to 275 | TA77-2A, MIL-DTL-85052/1 MIL-C-85052/1**, MA2150/5, NASM85449/1, MIL-C-85449** BPS-C-135 Ty I , AMS3224, AS85449/1 , AS85052/1 , AMS3215, MIL-C-8603**, U/L 94V-0 (fire), FAA FAR 25.853 | An improved nitrile elastomer compounded to meet the most rigorous requirement of aerospace hydraulic and fuel system. Has excellent resistance to hydrocarbon based fluids, ozone, fire and corrosion. Available in 55 or 70 duro hardness. Excellent SAF compatibility. Customization available depending on specific requirement. |
| Fabric supported High Temperature Silicone | WC | -65 to 600 | TA9798 (fabric supported), Valtec 0001-C, PWA36450, EMS22787, AMS3352, Rolls Royce TS147 | A fabric supported ultra high temperature elastomer developed for new higher operating temperature turbine engines. Excellent fluid, fire, corrosion resistance |
| Low Smoke Fire Resistant Specialty Silicone | HA | -65 to 400 | TA6711, BSM1-72, BSM1-63**, Bombardier S6907, | A custom designed compound for aircraft pressurized cabin environment where fire resistance, low smoke density and toxicity requirements are essential. |
| Low Temp Specialty Silicone | BF | -150 to 500 | TA88, ASTM D2000 M4 FC608 A19 E016, MIL-R-3065 | An ultra low temp silicone with wide operating temp range widely used for rocket and turbine engine applications |

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| | | | E, TA612A6B3E1E3F3GK2MZ** | |
| Low Outgassing Specialty Silicone | WF | -85 to 500 | TA2417, NASA SP-R-0022A | An Elastomer developed especially for spacecraft applications where “low outgassing” is a consideration. Surpassed NASA's specification SP-R-0022A by approximately 10 fold, and does not require any supplemental baking operations. |
| High Strength Fabric Reinforce Specialty Silicone | HC | -65 to 500 | TA101 Reinforced MIL-DTL-85052/3 NASM85449/3, MIL-C-85449/3**, AMS3316 , AS85052/3 & AS85449/3. | A high-strength, silicone fabric/elastomer combination with good fluid resistance and high temperature properties. Used primarily for turbine engine applications. A.Q.P.L. material perMIL-DTL-85052/3 and NASM85449/3 |
| General Purpose Silicone | HF | -80 to 437 | TA9576 supported AMS3303 | A high-strength and resistance to deterioration by weathering, petroleum based lubricating oil, and remain flexible over the temperature range. Not suitable for contact with hydrocarbon fuels and low-aniline-point hydrocarbon fluids due to excessive swelling. |
| Fluorosilicone | IK | -80 to 500 | TA6727, Lockheed LMA-ME0270, Class 1, Type 1, Grade B | A fluorinated silicone with resistance of Mil-T-83133 (JP-8), Lubricating oil Mil- Mil-PRF-23699, hydraulic fluid , Mil-PRF-87252, Mil-PRF-83282, Deicer E-36 (AMS 1435), DF Plus 88 (AMS 1424), general purpose aerospace cleaning solvent DS 108 |
| PTFE | TF | -320 to 500 | | A PTFE based cushions used primarily in cryogenic and chemical environments, Has good thermal stability, ageing, weathering and electrical insulation properties |
| Metal wire felt | WT | -320 to 1300 | | Stainless steel fibers cushion, Laser cut to the size and sealed edges, no fraying of edges. Heat resistance of stainless-steel fibers, the softness of a three dimensional textile structure, and exceptional mechanical durability and resiliency. |
| Fabric Cushion | KP | -100 to 600 | AMS3677, Boeing BPS-C-155, GE A50TF232, P&W 370, P&W 484, CPW 437-2, EMS24215, Douglas DMS2332, Type 1, Class II, DMS2282A, Type 3, Class 1 | Polybenzimidazole (PBI) polyamide fiberglass fabric impregnated with polytetrafluoroethylene (PTFE) in the form of woven braided tubing. This fabric has been used typically for anti-chafing cushion between flexible metal tubes (payload) and clamp. |
| Fiber Glass | FT | -100 to 1000 | TA81A | A braided fiberglass sleeve with aluminized finish to prevent fraying of the ends |