

CROSSFLON PROPERTIES COMPARISON TABLE

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| Property | Units | Test Method | UNFILLED PTFE | CROSSFLON 512 | CROSSFLON 605 | CROSSFLON 705 | CROSSFLON 905 | CROSSFLON 1402 | CROSSFLON 1403 | CROSSFLON LR (D5) | CROSSFLON J | CROSSFLON FG |
|---|--|-------------|---|---|---|--|---|---|--|---|--|--|
| Composition | --- | --- | Ptfe | Ptfe Bronze | Ptfe Glass | Ptfe Carbon/Graph | Ptfe Ceramic MoS ₂ | Ptfe Ceramic | Ptfe Ceramic | Ptfe Glass | Ptfe Polymeric filler | Ptfe Inorganic filler |
| Colour | --- | --- | White | Dark Brown | Beige | Black | Grey | Light Brown | Light Brown | Maroon | Yellow/Brown | Off White |
| Operating Temperature | °C | --- | -250 to +260 | -250 to +260 | -250 to +260 | -250 to +260 | -250 to +260 | -250 to +260 | -250 to +260 | -250 to +260 | -250 to +260 | -250 to +260 |
| Specific Gravity | g/cm ³ | ASTM D1457 | 2.19 | 3.86 | 2.25 | 2.08 | 2.20 | 2.04 | 2.06 | 2.27 | 1.81 | 2.25 |
| Hardness | Shore 'D' | ASTM D2240 | 58 | 70 | 65 | 60 | 62 | 60 | 62 | 62 | 60 | 60 |
| Deformation Under Load, MD 24 hr @ 23°C, 14 MPa 1 hr @ 150°C, 5 MPa permanent | % | ASTM D621a | 14.3 10.0 7.9 | 2.0 3.2 1.4 | 12.4 9.2 6.4 | 6.0 10.6 5.6 | 12.2 6.5 4.1 | 1.5 4.8 1.2 | 1.0 2.1 1.0 | 2.4 4.1 2.2 | 3.0 2.0 2.0 | 6.0 5.1 4.3 |
| Compressive Strength 1% Strain 5% Strain 0.2% Offset | MPa (psi) | ASTM D695 | 4.2 (610) 11.0 (1600) 8.4 (1200) | 11.0 (1600) 17.0 (2500) 12.5 (1800) | 6.2 (900) 15.5 (2250) 11.0 (1600) | 5.9 (850) 17.2 (2500) 11.4 (1650) | 8.3 (1200) 13.1 (1900) 12.2 (1770) | 8.0(1160) 26.0 (3770) 15.2 (2200) | 9.0 (1305) 28.0 (4060) 16.2 (2350) | 11.0 (1600) 15.9 (2300) 14.5 (2100) | 6.9 (1000) 15.0 (2200) 12.0 (1740) | 8.3 (900) 14.5 (2250) 12.5 (1600) |
| Coefficient of Thermal Expansion (30°C to 260°C) | mm/mm/°C | ASTM D2240 | MD 13.5 x 10 ⁻⁵ CD 11.0 x 10 ⁻⁵ | MD 7.0 x 10 ⁻⁵ CD 5.7 x 10 ⁻⁵ | MD 8.5 x 10 ⁻⁵ CD 4.5 x 10 ⁻⁵ | MD 7.9 x 10 ⁻⁵ CD 6.2 x 10 ⁻⁵ | MD 5.0 x 10 ⁻⁵ CD 4.0 x 10 ⁻⁵ | MD 17.1 x 10 ⁻⁵ CD 15.2 x 10 ⁻⁵ | MD 16.0 x 10 ⁻⁵ CD 14.0 x 10 ⁻⁵ | MD 6.0 x 10 ⁻⁵ CD 2.5 x 10 ⁻⁵ | MD 6.8 x 10 ⁻⁵ CD 5.2 x 10 ⁻⁵ | MD 5.7 x 10 ⁻⁵ CD 4.2 x 10 ⁻⁵ |
| Thermal Conductivity | W/m.K | Cenco Fitch | 0.27 | 0.72 | 0.41 | 0.72 | 0.32 | 0.53 | 0.53 | 0.33 | 0.24 | 0.37 |
| Short Term Limiting PV @ 0.05 m/s @ 0.5 m/s @ 5 m/s | MPa.m/s | BCL Method | - 0.065 - | - 0.78 - | - 0.45 - | - 0.70 - | - 0.78 - | - 0.50 - | - 0.90 - | - 0.70 - | - 0.26 - | - 0.35 - |
| Maximum (P) | MPa | BCL Method | 6.9 | 14 | 14 | 14 | 14 | 14 | 20 | 14 | 5.2 | 6.9 |
| Maximum (V) | m/s | BCL Method | 1.3 | 2 | 2 | 5 | 5 | 2 | 5 | 2 | 2 | 2 |
| Coefficient of Friction (Dry) Static @ 0.2 MPa Dynamic @ 0.2 MPa, 5m/s | --- | BCL Method | 0.07 0.08 | 0.11 0.13 | 0.10 0.12 | 0.10 0.12 | 0.08 0.11 | 0.07 0.11 | 0.09 0.11 | 0.13 0.15 | 0.12 0.13 | 0.10 0.10 |
| Wear (K) Factor vs 1040 Steel – 12-16 RMS | mm ³ /Nm x 10 ⁻⁹ | BCL Method | 6.6 | 4.2 | 2.3 | 1.0 | 0.3 | 0.8 | 0.21 | 2.2 | 1.5 | 0.81 |
| Water Absorption | % | ASTM D570 | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil |
| ADVANTAGES (related to filler) | | | Chemically inert except for molten fluorine and alkali metals. | Improved thermal conductivity, hardness, compressive strength, and creep. Enhances dimensional stability. | Enhancement of load & mechanical properties. Good chemical & electrical properties. | Excellent load bearing, wear & friction. Best filled for use in water. Abrasion resistant. | Improvement of load bearing/mechanicals. Excellent friction and wear, very good elasticity & hardness | Good load bearing and creep resist. Excellent chemical resistance. All fillers are FDA compliant. | Excellent loading and bearing ability, wear and creep resist. Best combination of most properties. | Very good wear and creep resistance. Low deformation under load and good dielectric properties. | Very low wear and frictional coefficient. Excellent for soft mating surfaces, Excellent insulator. | Very good wear resistance and compressive resist. All ingredients are FDA compliant. |
| RECOMMENDED / SUGGESTED APPLICATIONS | | | Gaskets, bearings, all bellows types, flange linings, seal rings. | Bearings, piston rings, valve seats and valve plugs. | Bearings & bearing pads, piston rings, valve seats, & valve plugs, gaskets. | Bearings, seal rings, piston rings, valve plugs & compressor rings, gaskets. | Bearings, seal and piston rings. Valve seats. Gaskets and bearings used in a vacuum. | Bearings, seals, gaskets, Food contact applications and very suitable for soft mating surfaces | Suitable for most applications that need low wear and/or high load bearing ability. | Dry bearings & pads, cup seals. M/C tool slideways and hydraulic piston rings, | Soft mating surfaces such as Brass, SS, and Al. Tape and std bearings for textile, auto, pkg, etc | Bearings, pads, seals, valve seats, etc, on food process machinery and vending m/c, etc. |