



PTFE

Typical Applications

STAMPINGS ● SPRINGS ● DIES ● ALUMINUM COMPONENTS ● GUN PARTS

NON-STICK - Very few solid substances will permanently adhere to a PTFE coating. While tacky materials may show some adhesion, almost all substances release easily. Wear due to sliding is very low due to the anti-adhesive properties. For many applications, a significant problem is the buildup of foreign particles, and PTFE nonstick coatings' excellent release qualities help solve these issues.

LOW COEFFICIENT OF FRICTION - Friction is a force created when two objects rub together that hinders the motion. With a PTFE industrial coating, the coefficient of friction is generally lowered to a range of 0.05 to 0.20, depending on the load, sliding speed, and type of coating used. Lubricity is very important in any application that has moving parts touching each other.

HEAT RESISTANCE - PTFE fluoropolymer coatings can operate continuously at temperatures up to 550°F, and can be used for intermittent service up to 600°F with adequate ventilation. The thermal stability of the coatings means that they can be used in high heat environments without losing or affecting any other properties.

CRYOGENIC STABILITY - Many PTFE coatings can withstand temperatures as low as -454°F without loss of physical properties. Their ability to withstand sub-freezing temperatures means that PTFE industrial coatings will not lose any of their other characteristics when exposed to such low temperatures.

CHEMICAL RESISTANCE - Chemical environments usually do not affect a PTFE fluoropolymer coating. The only chemicals known to affect these coatings are molten alkali metals and highly reactive fluorinating agents. Permeation resistance due to the low porosity of the coatings means that they are extremely corrosion resistant and are chemically inert.

NON-WETTING - PTFE nonstick coatings are both hydrophobic and oleophobic. The low surface energy of the coatings means that the cohesive forces in the water are strong enough to make the water bead up and not spread across the surface of the coating. Cleanup is easier and more thorough.

UNIQUE ELECTRICAL PROPERTIES - Over a wide range of frequencies, PTFE coatings have a high dielectric strength, low dissipation factor, and high surface resistivity. Dielectric strength is the highest voltage that the coating can withstand before it breaks down. The dissipation factor is the percentage of electrical energy absorbed and lost when current is applied to the coating. A low dissipation factor means that the absorbed energy dissipated as heat is low. Adding fillers to certain coatings can make them electro-conductive enough to be used as an anti-static coating.

ABRASION RESISTANCE - PTFE coatings are very resistant to scratches and abrasion due to their excellent durability and toughness. Surface scarring is minimal, especially in certain coatings when fillers are added.

Benefits

- Non-Stick
- Abrasion Resistance
- Chemical Resistance
- Heat Resistance
- Low Coefficient of Friction

Industries

- Armaments
- Automotive
- Aerospace
- Defense
- Transportation
- Heavy Equipment
- Appliance
- Industrial
- Hydraulics
- More being added each day!



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