

## Enduro® LF10 Coating

Increases Component Lifetime

### Reduces Wear Caused by Friction and Sticking

Enduro® LF10 coating is a thin, PTFE-based coating that Greene Tweed applies to a variety of components within manufacturing equipment. This includes elastomers to extend lifetime in dynamic sealing applications, and rigid thermoplastic or metal components to enhance gliding or sliding properties.

Enduro® LF10 improves performance by reducing wear and sticking force between component interfaces caused by friction. The coating has excellent adhesion and conformality to cover, but not alter, complex surface features. High purity and FDA compliance enable elimination of grease for contaminant-sensitive applications such as pharmaceutical, biochemical, food and beverage, and semiconductor manufacturing equipment.

Greene Tweed's LF10 deposition process occurs at room temperature and, with no cure cycle or solvent bake-out, the coating can be applied to a wide range of materials. Enduro® LF10 coating also renders surfaces hydrophobic (water shedding) and oleophobic (oil shedding), thereby repelling both moisture and oily contaminants. The coating works well in both static and dynamic applications and can also ease installation of high durometer elastomers.

### Features & Benefits

- Friction and sticking force reduction extend lifetime of components, especially in dynamic and semi-dynamic applications, increasing equipment efficiency
- Excellent purity, adhesion, and uniformity allow the coating to replace contaminating greases, thus enhancing process yield
- High conformality enables coating of complex features, without altering the shape of the exposed surface
- Deposition occurs at low temperatures, allowing coating of delicate structures and temperature-sensitive materials



Enduro® applied to Chemraz® seal

- Continuous use at high temperatures equal to PTFE (up to 536°F/280°C); meets the thermal needs of most processes
- Creates a surface that repels both water and oil, further enhancing component lifetime and cleanliness, improving equipment uptime
- Increases surface hydrophobicity even above that of bulk PTFE

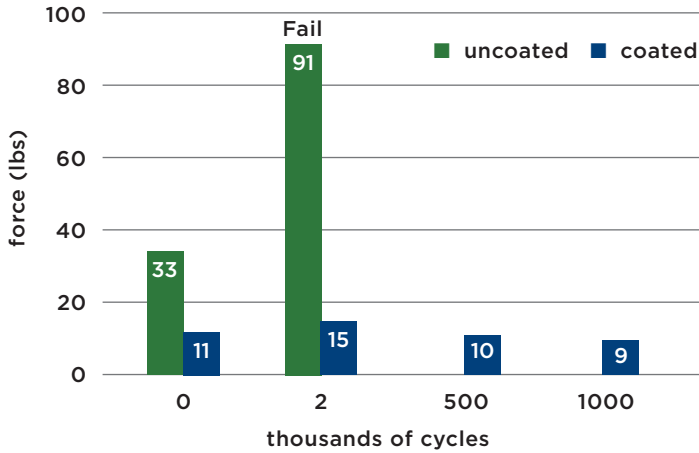
### Applications

- Reduces friction in dynamic, semi-dynamic and static elastomeric seals
- Reduces sticking force (separation force) for seals, including vacuum seals
- Eliminates grease lubricants and their risks
- Reduces friction for plastic and metal components
- Converts surface property from hydrophilic to hydrophobic
- Eases installation of high durometer seals

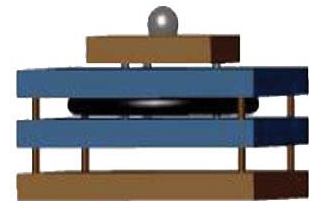
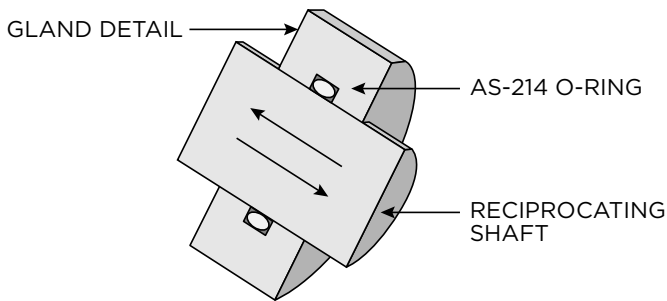
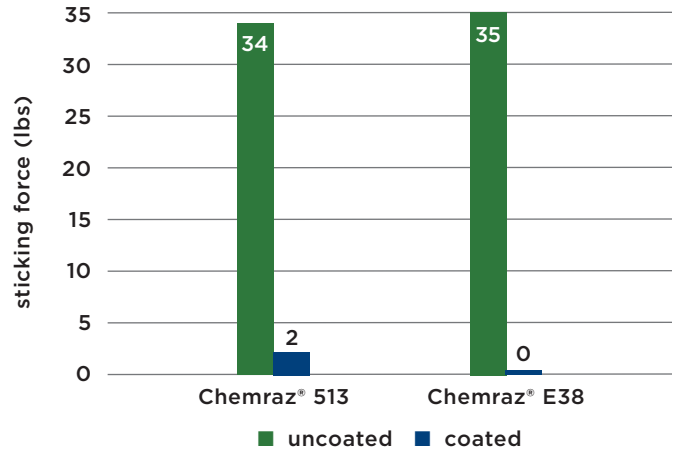
### Coating Thickness

Enduro® LF10 is precision-applied at the micron level for solid substrates and flexible substrates (elastomers).

### Friction Force on Chemraz® 505 AS-214 O-Rings



### Sticking Force on AS-214 O-Rings



Friction Force Test Parameters	
O-Ring Size	AS568-214
Material Tested	505
Rod Surface Finish	9 Ra Chrome Coated
Cycle	1.25" Stroke Length/0.5 Hz
Rod Diameter	0.997"
Gland OD	1.239"
Nominal Stretch	1.3%
Nominal Squeeze	11.9%
Nominal Volume Fill	66.7%

These illustrations show an AS-214 o-ring compressed between SS plates. After the assembly is aged at the determined time and temperature, the fixture is removed from the oven and cooled to room temperature. The maximum force required to push the blue plates apart is recorded as the sticking force.