

Data sheet

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Hytork XL

Standard corrosion protection system

Description:

The corrosion protection system of standard Hytork XL series pneumatic actuators consist of the following treatments or materials:

1 Pretreatment

Pretreatment is provided to ensure good adhesion and is applied in this order: Alkaline cleaning, multiple rinsing, deoxidizing (or "de-smutting") of the aluminum substrate, rinsing, clear chromate conversion coating, multiple rinses, and convection heat drying. The chromate conversion coating is accomplished with Henkel Surface Technologies - Alodine 1500 chemistry. This is superior pretreatment for aluminum, and provides the most corrosion resistant substrate for paint or powder coating application. There is no better pretreatment for the anodic substrates of aluminum or zinc than a chromate conversion coating.

2 CERAMIGARD body treatment

The body has a unique surface finish of Di-aluminum Trioxide (Al₂O₃); a hard, corrosion resistant ceramic like surface, protecting all body parts against wear and corrosion.

3 Cobalt zinc plated pinion

All Hytork actuator pinions are Cobalt Zinc plated.

4 Powder coating.

- Polyester non-TGIC based powder coating for exterior use.
- The powder coating is applied cold using automatic electrostatic spray equipment and is cured at minimum 190°C (374°F) offering excellent light and weather resistance.

- The powder coating thickness is between 80 and 160 microns.
- Good chemical resistance against most bases, acids, solvents, alkalis and oils at normal temperatures.
- Excellent exterior mechanical durability.
- The coating has passed a salt spray test according to ASTM B117 for 1000 hours. The powder coating is virtually solvent free, and therefore environmentally friendly.

The advantages of the polyester based powder coating.

The paint's wide temperature range exceeds our actuator temperature limits. The powder is virtually indestructible and cannot be removed by grit blasting or most chemicals without destroying the unit. The only method we have found to remove the paint is by burning it off at very high temperatures which can warp the dimensions and also destroy the unit. The powder coating also holds its gloss and color very well.

The chemical and durability assessment.

The durable pinion treatment together with our 'ceramigard' surface finish and standard powder coated paint shows no decline of actuator functions after 1000 hours salt spray test.

| | |
|----------------------|-------------|
| Weatherability | - Excellent |
| Corrosion Resistance | - Very Good |
| Chemical Resistance | - Very Good |
| Heat Resistance | - Good |
| Impact Hardness | - Good |
| Hardness | - HB-4H |
| Flexibility | - Very Good |
| Adhesion | - Excellent |

Chemical Test Results powder coating:

| Sample | 10% HNO ₃ | 10% HCl | 3% H ₂ SO ₄ | 10% NaOH | 10% NH ₄ OH | 15% Xylene & 85% Min. Spirits | Unleaded Gasoline |
|---------|----------------------|----------|-----------------------------------|--------------|------------------------|-------------------------------|-------------------|
| 3.7 mil | Slight Stain | No Stain | No Stain | No Stain | No Stain | No Stain | Slight Stain |
| 3.8 mil | No Stain | No Stain | No Stain | Slight Stain | No Stain | No Stain | Slight Stain |



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