Standard corrosion protection system

Description:

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

1. CERAMIGARD body treatment

The body and end caps have a unique surface finish of Di-aluminium Trioxide (Al2O3); a hard, corrosion resistant ceramic like surface, protecting body and end caps against wear and corrosion.

Prior to the CERAMIGARD body treatment the components are degreazed to remove oil stain from the castings surface.

CERAMIGARD exceeds the requirements of specification MIL-A-8625, Type II, Class 1 and is applied with a layer thickness between 10 to 15 Microns.

2. Powder coating finish

- Polyurethane powder coating for exterior use.
- The powder coating is applied cold using automatic electrostatic spray equipment and is cured for about 10 minutes at minimum 200°C (392°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.

3. Cobalt zinc plated pinion

All Hytork actuator pinions are Cobalt Zinc plated. Cobalt Zinc plating provides a uniform ductility that will withstand up to 6 times the corrosion resistance of conventional zinc plating.

4. Stainless steel travel stops

The travel stops screws and nuts are made of stainless steel. This assures positive sealing, correct port alignment and long life.

5. The chemical and durability assessment.

All these components and treatments including the durable pinion design, CERAMIGARD surface finish, standard powder coated paint and stailess steel travel stops shows no decline of actuator functions after 1000 hours salt spray test.

Test result polyurethane powder coating

No	Item	Standard	Specification
1	Hardness	ASTM D3363 Pencill (Mitsubishi Uni)	2H
2	Adhesion	ISO 2409, ASTM D3359 Cross hatch test (2mm)	Gt (0) 100% Adhesion
3	Impact test	ASTM D2794 5/8" Ball (direct)	Min. 25 lb.in without detachment
4	Bend test	DIN 53152, ISO1519, ASTM D522	Min 5 mm without cracking
5	Salt Spray resistance	ASTM B117 (1000 hours) "X-cut" (Zinc phosphated steel)	No Blistering Creep < 2 mm
6	Acid resistance	ISO 2512 5% H2SO4, 1 Hour	No Blistering
7	Alkali resistance	ISO 2812 5% Na CO3, 1 hour	No Blistering
8	Water resistance	20° C, 7 days	No Blistering
9	Boiling test	1 hour @ 98°C	No Blistering

This data sheet contains general information as supplied by the paint supplier and describes typical properties for the coating.

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