

## Bettis RPE-Series Corrosion Protection System

### Description

The corrosion protection system of standard Bettis RPE-Series pneumatic actuators consist of the following treatments or materials:

### Electrophoretic finish on springs

Springs are protected from corrosion using an electrophoretic finish.

### Anodize pre-treatment

The housing and end caps get an anodize pre-treatment prior to painting. The pre-treatment takes care of a perfect bonding of the paint layer to the aluminium housing and gives additional corrosion protection to the bore of the housing.

### Powder coat

- 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 (3.15 and 6.3 mils).
- 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 1,500 hours.

The powder coating is virtually solvent free, and therefore environmentally friendly.

### High grade & hard anodized aluminium pinion

Actuators with high grade & hard anodized aluminium pinions, passed a 1,500 hours salt spray test. Optional stainless steel pinions are available for a higher corrosion resistance.

### Stainless steel or Deltatone treated external steel parts

External parts are stainless steel or steel alloy with a Deltatone® treatment for optimum protection and durability.

### The chemical and durability assessment.

All these components, treatments and finishes, including the durable pinion design, anodized surface finish, standard powder coat paint and Stainless steel treated external fasteners shows no decline of actuator functions up to 1,500 hours salt spray test.

### Technical Data

Coating :	Polyurethane powder coating for exterior use.
Salt spray test :	ASTM B117: 1,500 hours
Color :	Orange (RAL 2009)
Materials: Housing:	Anodized aluminium alloy
Endcaps:	Anodized aluminium alloy
Pistons:	Chromated aluminium alloy
Pinion:	High grade aluminium alloy, hard anodized (Option: Stainless steel)
Springs:	Electrophoretic finish
Fasteners:	Stainless steel or alloy steel with Deltatone® treatment
Type Sticker:	Polyester
Application:	Standard Bettis RPE-Series pneumatic actuators

**Table 1. Test result polyurethane powder coating**

No	Item	Standard	Specification
1	Hardness	ASTM D3363 Pencil (Mitsubishi Uni)	H
2	Adhesion	ISO 2409, ASTM D3359 Cross hatch test (2mm)	Gt (0) 100% Adhesion
3	Impact test	ASTM D2794 5/8" Ball (direct)	Min. 60 lb.in without detachment
4	Bend test	DIN 53152, ISO1519, ASTM D522	Min 3.2 mm without cracking
5	Resistance to humid atmospheres	ASTM D543 3%, H2s04, 4 hours	No Blistering
6	Alkali resistance	ASTM D543 10%, NaOH, 4 hours	No Blistering
7	Water resistance	DIN 500017, min.	No Blistering
8	UV resistance	ASTM G 154 (UVB-313)	Excellent color and gloss retention

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