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# System P-180D Fast Set

## DESCRIPTION

**System P-180D Fast Set** is a pre-catalyzed version of **System P-180D**. It is designed to allow top-coating in as little as 1 hour. **P-180D Fast Set** has a pot life of 90 seconds and must be applied using plural component application equipment. Pre-catalyzing eliminates any variance or mixing errors that may result from field addition of catalyst.

## PROPERTIES

(of cured product\*)

Density	1.15 g/mL
Service Temperature	-175°C max. approx.
Shore D Hardness	75 approx.

## STORAGE

Store in a cool and dry place for product integrity. Store in tightly sealed containers to protect from moisture and foreign materials.

## PRODUCT SAFETY

For details an MSDS is available from Quantum Coatings.

\*Approximate values only. Should not be considered specifications. This data sheet is intended for general information only. Updated: March 20, 2005

## INSTRUCTIONS

Must be applied using a plural proportioning spray equipment with a 1:1 ratio. Graco E-10 or equivalent is recommended. An air assisted static mix style proportioner is also adequate. Adjust equipment settings to achieve a uniform spray pattern and apply using proper painting technique. **Do not use a conventional airless system - short pot-life is not compatible with pre-mixing.**

**Allow a minimum of 1 hour and a maximum of 18 hours before topcoat is applied. Note: At very high or low substrate temperatures the cure time and recoat time will be affected. Consult with the manufacturer for guidelines.**

## AVAILABILITY

**System P-180D Fast Set** is packaged in 2 gallon (1 gallon Resin and 1 gallon ISO) or 10 gallon (5 gallon Resin and 5 gallon ISO) kits.

## OTHER

The purchaser of this product must rely on his own judgement in determining suitability for his purpose, and in applying directions as to handling and use. Quantum makes no warranty, expressed or implied, except that if this product proves on inspection to be defective, Quantum will replace it or refund the purchase price. Labour costs and other consequential damages are hereby excluded. No representative or purported agent of Quantum has the authority to change this warranty.



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# System P-180D

## Special Report

### SUMMARY

**System P-180D** is a high performance primer system designed specifically to overcome challenges associated with applying two component fast set elastomers to concrete, steel or wood substrates.

**System P-180D** is a two component polyurethane with a 1 to 1 mix ratio and a 60 minute pot life.

**System P-180D** provides exceptional anticorrosive properties on steel and outstanding adhesion to concrete.

### FEATURES AND BENEFITS

- Solvent Free - Eliminates solvent blisters. Reduces long waiting time. Maintains zero VOC of system. No flammability issues.
- Low Viscosity/Long Pot Life - Spray with conventional equipment. Excellent penetration into concrete or wood. Good coverage on steel.
- Anticorrosive - Significant improvement in corrosion resistance. Eliminates corrosion cells caused by pinholes.
- Penetrates Into Concrete - Strengthens surface of concrete providing twice the adhesive strength of topcoat. Eliminates pinholes.
- Can Be Catalyzed - Addition of Catalyst DA can shorten cure time for small repairs or urgent projects.

The following information summarizes the test results obtained with System P-180D

### ADHESION

Adhesion tests were carried out using a *PosiTest Pull-Off Adhesion Tester AT-CM*.

Substrate	Primer Treatment	Average Adhesion - PSI (mode*)
Steel (sandblasted)	Overnight/Sanded	1552 (DF)
Steel (sandblasted)	3 Hour Cure	1924 (DF)
Aluminum (sandblasted)	3 Hour Cure	1420 (AF)
Stainless Steel (lightly blasted)	No <b>P-180D</b>	1116 (AF)
Stainless Steel (lightly blasted)	3 Hour Cure	924 (AF)
Stainless Steel (lightly blasted)	5 Hour Cure	1262 (AF)
Concrete (precast)	No <b>P-180D</b>	625 (SF)
Concrete (precast)	Overnight/Sanded	1175 (SF)
Concrete (precast)	3 Hour Cure	600 (P/T F)
Concrete (precast)	6 Hour Cure	1006 (SF)

\* DF - Dolly Failure; AF - Adhesive Failure; SF - Substrate Failure; P/T F - Primer/Topcoat Interface Failure

For all substrates tested adhesion was increased when **P-180D** was applied and properly cured. For concrete, adhesion strength was doubled as a result of the use of **P-180D**. The loss of adhesion encountered with the 3 hour cure can be explained by bubbling/foaming which occurred at the primer topcoat interface. It is important that the primer be sufficiently cured and that it is not wet when the topcoat is applied. Ideal recoat time for **P-180D** to maximize adhesion is a minimum of 5 hours and a maximum of overnight (12 hours). These results were obtained at room temperature. Actual schedule will depend on ambient temperature.

## CORROSION

Corrosion tests were carried out in Q-Fog Cyclic Corrosion Tester CCT 600.

**Test Method:** All samples were tested according to the CCT-1 cyclic corrosion test. This test consists of cycles of 4 hours of salt fog at 35°C, 2 hours dry off at 50°C, ½ hour dry off at 40°C and 2 hours at 50°C/95% relative humidity. The cycle is then repeated. Total exposure time of the samples was 1600 hours. This cyclic test was chosen because it is generally considered to be a more severe test than continuous salt spray and provides a better indication of performance in typical service.

**Description of Test Specimens:** All test specimens were applied to sandblasted steel panels.

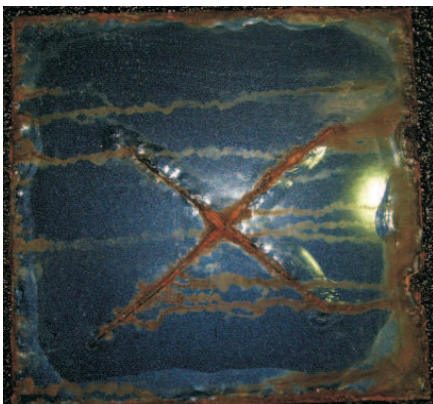
**Figure #1: Primer P-180D no topcoat. Used to evaluate corrosion resistance of P-180D on its own.**



**Figure #2: Solvent free two component primer (Standard). This sample was used as a control to determine the corrosion resistance of a P-180D type of product with no anti-corrosion additives employed.**



**Figure #3: Conventional solvent based epoxy primer and urethane topcoat system. This sample was used as benchmark for a complete primer/topcoat system. The system tested is a widely used commercial system for industrial maintenance applications.**



**Figure #4: Solvent based epoxy primer with fast set 100% solids topcoat. This sample demonstrates the best corrosion protection previously available with a fast set topcoat.**

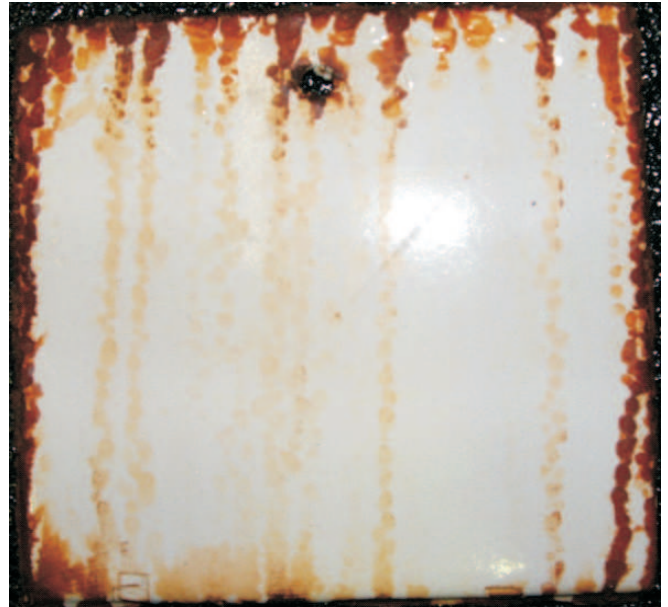




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## System P-180D Special Report

**Figure #5: Primer P-180D with LS-160D topcoat. LS-160D is a fast set 100% solids aliphatic topcoat. This sample demonstrates the performance improvement achieved with the P-180D primer/ solvent free elastomer topcoat system.**



### RESULTS

The corrosion inhibitor package employed with **System P-180D** made a significant improvement in the performance of a solvent free primer as seen in figure 1 and 2.

The performance of a solvent free topcoat exceeds that of the conventional urethane as seen in figure 3 and 4. The conventional system has significant creep and blistering along the scribe and around the edges of the panel. The solvent free topcoat provides much better corrosion resistance, but still has noticeable blistering along the scribe lines.

**Primer System P-180D** with a solvent free topcoat had exceptional performance. The scribe lines are barely visible and no blistering is present. This demonstrates a vast improvement in corrosion performance.