



Pre-product Application Checklist

Introduction

The following pages are meant as a guideline to the successful application of Polymeric Engineered Solutions coatings and repair materials. The document is meant as a check list for the environment the coatings and materials are to be applied in. If you have any questions regarding the information detailed on the following pages, please contact Plant Equipment & Services at 1-888-778-6510 or by email at pes1@pes-solutions.com.

Areas to be assessed prior to application of any Polymeric Engineered Solutions coating or repair system

Prior to any PES product being applied the following areas need to be assessed:

1. Air temperature
2. Surface temperature
3. Product temperature
4. Dew point

Air temperature

This will affect the surface temperature, dew point and ultimately the application and performance of the PES product chosen. Although some PES materials can cure at low temperatures, for critical plant, equipment and structures that need protecting in aggressive environments, too high or too low air temperatures will adversely affect the performance of the material. For emergencies at localized repairs, heaters or coolers can be used to accelerate or slow the curing of the product, however for large areas, shelters and large industrial heaters/coolers will be required to control the air temperature and application environment. For the best results, application of PES coatings and repair materials should be made at 50°F to 95°F.

Surface temperature

Surface temperature of the steel will be affected by the air temperature, operating environment and in case of pipe work, tanks and process vessels, the operating temperature of the manufacturing process. A high surface temperature will cause the materials to cure too quickly and create an inherently weak repair system or poor adhesion to the steel surface. Low surface temperatures will cause the materials to cure too slowly and therefore allow contamination, such as carbonation to occur on the surface or mean the product has a weak cure structure. In the case of high surface temperatures the operating system will have to be turned off to allow the steel substrate to cool, the equipment or structure be moved to a controlled environment or in case of outdoor applications, coating and repair work be carried out during night time or early morning where the heat is at its lowest. In general, for best results the maximum temperature a PES coating can be applied is 104°F, although for certain materials the temperature can be higher.



Please speak to a PES consultant prior to application of any material above 104°F. For low surface temperatures, heaters can be used directly onto the surface. The base component of the material can be heated as well (up to 86°F) to ensure the material cures better and will be easier to apply, if applying by brush or roller. Never apply product when temperature is below 41°F (5°C).

Product temperature

Product temperature needs to be maintained at a consistent level; normally 59-86°F is the best range to keep to. If the product and especially, the activator are heated too much the product will gel too quickly and therefore the product will suffer from poor surface adhesion or go hard in the can or spray equipment. If the product is too cold, it may not cure or cure insufficiently to protect the steel surface from corrosion or chemical attack.

Dew Point

The dew point of the air tells about the humidity and risk of condensation. If the dew point of the air is higher than the substrate temperature, condensation will take place on the substrate. For best results you should not apply most polymeric products at a relative humidity above 90%. For applications in high temperature or aggressive chemicals, no PES material can be applied to a steel surface suffering from condensation. However for more benign environments or where anti-corrosive properties are required, several PES coatings can be used – please speak to a PES Technical Consultant or pes1@pes-solutions.com for further information.