



ARCOR® Epoxy Coatings & Rebuilding Materials

Technical Review - Adhesion Testing

ARCOR® coatings are field tested in accordance with ASTM D-4541. Aluminum test dollies are adhered to the surface and a perpendicular force applied until the test poundage is reached or the dolly detaches the coating. Results shown in psi.

Pull-Off Test

Adhesion of a single coating or a multi-coat system of paint, varnish or related products is assessed by measuring the minimum tensile stress necessary to detach or rupture the coating in a direction perpendicular to the substrate. This method maximizes tensile stress as compared to the shear stress applied by other methods such as scratch adhesion and results may not be comparable. The test is performed by securing a loading fixture (dolly) perpendicular to the surface of the coating with an adhesive. After the adhesive is cured, a testing apparatus is attached to the loading fixture and aligned to apply tension perpendicular to the test surface. The force applied is gradually increased and monitored until either a plug of coating material is detached, or a specified value is reached.

Determine areas in which to adhere test dollies. Lightly sand area with 80-100 grit sandpaper. Wipe with acetone or MEK (methyleneethylketone).

Sand & Acetone wipe test dollies.

Apply an ARCOR epoxy as adhesive to test dolly surface (you may use S-30 Prime) (adhesives supplied with test unit may be used; if you find that the supplied adhesive pulls apart before pulling the coating from the substrate use an ARCOR Epoxy).

Let adhered test dollies cure a minimum of 24 hrs @ 72F (22C).

Utilize adhesion tester to pull test dollies and record the results for each dolly. We recommend mapping results.

For non-immersion applications results of 850 psi and above can be acceptable.

For applications involving ambient temperature and nominal chemical exposure results of 1200 psi & above can be acceptable.

For higher temperature immersions and/or chemical exposure generally results in excess of 1,500 psi can be acceptable.

For specific applications consult and **ARCOR®** Representative.