ASTM D4541 Tensile Fixture

Pull-Off Adhesion Fixture for Coating Dollies

Built to ASTM D4541 — Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers



OVERVIEW

Tensile fixture for pulling coating test dollies perpendicular to the coated surface on a universal test machine. The coated panel is held flat against a reaction plate while a self-aligning coupling pulls the bonded dolly, giving a laboratory counterpart to field pull-off testing with measured force and controlled loading rate.

KEY FEATURES

- Self-aligning coupling keeps the pull perpendicular to the coating
- Reaction plate with clearance hole bears on the panel around the dolly
- Accepts common dolly sizes with threaded or pinned attachments
- Controlled machine loading rate for repeatable laboratory comparisons
- Flat-panel clamping for metal, concrete and composite substrates

TECHNICAL SPECIFICATIONS

Test method	Coating pull-off strength using bonded dollies
Test type / loading	Tension perpendicular to the coated surface
Specimens	Coated panels with bonded dollies, per ASTM D4541 practice
Load capacity	10 kN standard; higher capacities on request
Fixture material	Hardened steel, corrosion-resistant finish
Dolly attachment	Threaded or pinned, matched to customer dolly design
Machine connection	Clevis pin or threaded adapter, to suit customer frame
Compatible frames	Electromechanical universal test machines

APPLICATIONS

- Protective and industrial coatings
- Paint and primer adhesion R&D
- Thermal spray and powder coatings
- Coating system qualification

ABOUT THE STANDARD

ASTM D4541 evaluates the pull-off strength of a coating system by bonding a loading fixture, or dolly, to the coating and pulling it perpendicular to the surface until failure. It covers several portable adhesion tester types on rigid substrates such as metal, concrete or wood. Results report the greatest tensile pull-off force sustained and the nature of the failure.

Ordering & customization: Specify dolly diameter and attachment type, panel size and thickness, required capacity and test machine connection when ordering.

Specifications are typical and may vary by configuration; confirm at time of quote. Users should refer to the current edition of the standard for test procedures. Part ref. UGC-D4541-TF