

Quality Testing Methods for Powder Coating

Testing methods are designed for Performance reliability & Quality control purposes

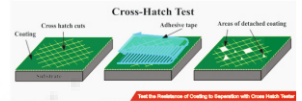
1. DRY FILM THICKNESS TEST (DFT)

Dry Film Thickness (DFT) is the thickness of a coating as measured above the substrate. This can consist of a single layer or multiple layers. DFT measures the total (not the individual layers). DFT is measured on cured powder coatings at ambient temperature



2. CROSS HATCH ADHESION TEST (ASTM D3359)

Scribe parallel lines through coating to substrate, 1/4" apart over a distance of one inch. Scribe another set of parallel lines 1/4" apart and perpendicular to the first set. Apply any sticky tape then remove slowly. Results should be no lifting of the cured powder between scribe lines.



3. IMPACT TEST (ASTM D2794)

Coating on .036 inch thick phosphated steel panel shall withstand impact with 1/2" Gardener impact tester ball at 26 inch pounds direct and reverse. No grazing or loss of adhesion. Finish shall not be able to be removed at impact area with 3M Y-9239 tape.



4. CHEMICAL RESISTANCE - MEK TEST (ASTM D1308)

Place approximately 10 drops of test solvent, consisting of 95% by weight toluene and 5% by weight Methyl Ethyl Ketone on the surface of the coating. Allow to stand for 30 seconds. Wipe off with soft, dry cloth. Coating shall show no more than a slight circular mark.



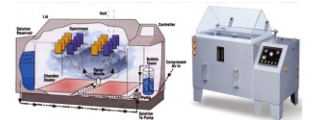
5. PENCIL HARDNESS TEST (ASTM D3363)

Faber Castell wood pencils are used in hardness of 1,2,3,4,.. Coating shall show no marks from 2H pencil.



6. SALT SPRAY CORROSION TEST (ASTM B117)

Use a 5% salt solution at 92-97 degrees F in a sealed weather cabinet. Scribe X in steel zinc phosphated test panel to bare metal. Inspect every 24 hours. End test and total hours after 1/4" creepage from scribed area. Creepage shall not exceed 1/4" in either direction from scribe line after 500 hours exposure.



7. GLOSS TEST (ASTM D523)

Test coated flat panel with Gardener 60 degree meter. Coating shall not vary + or - 5% from data sheet requirements on each material supplied.



8. BENDING TEST (ASTM D522)

Coating on .036 inch thick phosphated steel panel shall withstand 180 degree bend over 1/4" mandrel. No crazing or loss of adhesion and finish at the bend be able to be removed with 3M Y-9239 tape.

