



MEK Cure Test

General Information

Solvent Resistance Rub Test – ASTM D4752

Evaluation for Solvent Resistance by Solvent Rub Test - ASTM D4752 and NCCA 11-18.
This test method is used to determine the degree of cure of a baked film by the paint film resistance to a specified solvent.

The Solvent Rub Test is usually performed using methyl ethyl ketone (MEK) as the solvent. The MEK resistance or degree of cure applies to paint topcoats and primers.

ASTM D4752 involves rubbing the surface of a baked film with cheesecloth soaked with MEK until failure or breakthrough of the film occurs. The type of cheesecloth, the stroke distance, the stroke rate, and approximate applied pressure of the rub are specified. The rubs are counted as a double rub (one rub forward and one rub backward constitutes a double rub).

The test is used widely in the paint industry because it provides a quick relative estimation of degree of cure without having to wait for long-term exposure results. It has been reported that the tests of two-component zinc-rich primers has shown good correlation with the cure of the primer as determined by diffuse reflectance infrared spectroscopy.

Reference: ASTM D4752 Standard Test Method for Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc-Rich Primers by Solvent Rub

Tip: You can use a Q-tip instead of a cloth, soak the Q-tip in the MEK and wipe back and forth in a 1 inch area about 50 times. If any of the powder coating comes off onto the Q-tip, this means you're coating is under cured. You can put the substrate with the powder coating back into the oven to continue to fully cure.

Test Results

Color _____ Cure Time _____

How many rubs until you noticed failure?

0 - 10 11 - 30 31 - 50 No Failure (Fully Cured)

How much longer did you re-cure for?

2 to 5 minutes 6 to 10 minutes 11 to 15 minutes Longer _____

Notes:
