



UV Cure - MEK Rub Test v1.1

Testing Method

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| Scope | This test is used to qualitatively determine the condition of a cured UV coating film by testing the chemical resistance of the cured film by exposure to MEK(Methyl Ethyl Ketone) under controlled testing conditions. This testing type/method is also referenced under ASTM 5402-15 'Standard Practice for Assessing the Solvent Resistance of Organic Coatings Using Solvent Rubs'. |
| Test Measurement Instruments | <ul style="list-style-type: none">- MEK(Methyl Ethyl Ketone)- Cotton Swabs(Q-Tips)- PPE as noted in the MEK SDS; example: solvent-resist gloves, respirator, eye protection |
| Test Limitations | <ul style="list-style-type: none">- MEK testing is qualitative yet subjective as the testing process and observed results can vary by individual- This testing method is best used for comparative purposes- UV coating film thickness will influence the final results in conjunction with the degree of UV coating film cure. A higher volume/thicker film of UV coating can exhibit greater MEK resistance compared to a lower volume/thinner film |
| Test Procedure | <ol style="list-style-type: none">1.) Obtain a clean and dry UV coating sample to be tested; samples with ink areas can make the test results easier to observe2.) Determine the number of double-rubs(one back-forth motion) to conduct during the initial testing; consult CAC with the coating product number to be tested for this recommendation3.) Wearing PPE, dip the end of the cotton swab into the MEK solution and immediately rub the UV coating surface using a consistent and firm stroke in a back-forth(one double-rub) motion for a length of ~2" for the pre-determined number of double-rubs4.) Examine the UV coating film for the effects of the testing. If the coating film has been removed down to the substrate/ink layer, re-conduct the test in a new area of the UV coating sample using a lower number of double-rubs. If the coating film has not been removed down to the substrate/ink layer, re-conduct the test in a new area of the UV coating sample using a higher number of double-rubs. Using an area of the sample with ink for testing can aid in evaluating the results as ink removal can be observed on the cotton swab when break-through/removal of the UV coating film has been achieved5.) Repeat the testing process until the number of double-rubs just achieves a break-through/removal of the UV coating film down to the substrate/ink layer; this value is determined to be the MEK resistance of the UV coated sample |