Adhesion Test

The ASTM D4541 is an industry-standard test procedure for determining an air barrier membrane's pull-off strength. This test is helpful when used to assess air barrier installations and establish minimal requirements to confirm product performance and field installations in actual settings. The Adhesion Test determines the greatest perpendicular force (in tension) that a surface area can bear before a plug of material is detached.

Continued performance testing of ITC 213 under the ASTM D4541 test procedure is strictly to determine the adhesion strength to substrate for all applications. Below is the procedure and results of those tests.

- Blasted & coated a piece of 6" steel I beam within ITC 213 QC coating standards
- Determine Mil thickness across the substrate to ensure that desired coating coverage was achieved:
    - 3.9 mils
    - 4.3 mils
    - 5.4 mils
    - 5.4 mils
- Four Dollies were glued onto the I beam and let cure for 24 hours. (picture #1)
- After curing for 24 hours a hole saw cut the coating just outside the diameter of the dolly so only the stressed area pulled/tested is coating where the dollies are glued. (picture #2)
- Tester pulled each dolly until the dolly was removed for the test piece. (picture #3) Results below:
    - 3.9 mil- 1810psi
    - 4.3 mil- 1820psi
    - 5.4 mil- 2230psi
    - 5.4 mil- 1870psi

Summary of Test

- All four tests passed the adhesion test parameters with the dolly coming off when grip strength of glue was surpassed. Only one minute (>5%) small piece of coating removed by test. (picture #4)
- Results show a superior adhesion to metal and can certainly conclude that coverage for all surfaces and durability of coating are excellent and far exceed industry standards and expectations.


3.9
4.3
5.4
5.4


3.9
4.3
5.4
5.4


1810
1820
2230
1870
PSI 01/17/2025


5.4