

TECHNICAL ARTICLE

PULL ADHESION: THE ABAA TEST METHOD FOR THE AIR AND WATER-RESISTIVE BARRIER INDUSTRY

There are multiple types of air and water-resistive barriers (AWB) that are adhesively installed onto substrates. As part of the Air Barrier Association of America (ABAA) material evaluation process, adhered air and water-resistive barrier materials (such as sheet goods, fluid applied membranes and sprayed polyurethane foams) are required to achieve a minimum pull adhesion performance value of 16 psi when tested in a laboratory. The manufacturer provides ABAA a pull adhesion laboratory test report as part of the material evaluation requirements.

The ABAA Quality Assurance Program (QAP) requires the installer to conduct pull adhesion testing of the installed AWB material daily. During an ABAA audit, the installer or the auditor conducts adhesion testing. The primary purpose of performing the site testing is to identify potential issues with the AWB installation such as contaminated surfaces, wet substrates, improper application, or potentially a material defect.

There are multiple material technologies utilized for adhered AWB's. ABAA does not currently publish a minimum pull adhesion value for manufacturer specific materials installed on a job site. ABAA recommends contacting the manufacturer for their pull adhesion minimum value that would indicate the installer followed their installation instructions for a specific material on a specific substrate.

As a part of the field testing, it is important to determine and document where the separation occurred, specifically whether the specimen remained adhered to the substrate or if the separation was within the substrate. If the AWB de-bonds from the substrate at a value below the manufacturer's or specification requirements, the installation may be considered improper, or a material issue may exist, that should be further investigated.

When ABAA's QAP was introduced, the most applicable test method available was ASTM D4541 Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers. ABAA adopted this test method for evaluating pull adhesion, with modifications to produce more repeatable and reproducible results, namely, standardizing the size of the disk, rate of the pull, cutting around the disk, etc. The modifications to ASTM D4541 are now incorporated into ABAA T0002 test method, which can be used in the field or laboratory.

The ABAA T0002 test method is a step forward in the evolution of the air and water-resistive barrier industry. The document is located on the ABAA website and can be downloaded by clicking on this link: [**ABAA T0002-2019**](#)

air barrier
abaa
association of
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