



Company:

Mitsubishi Plastics Composites America, Inc.
401 Volvo Parkway
Chesapeake, VA 23320

Contact:

Bill Yannetti, 757-382-5768, bill.yannetti@m-chem.com

Objective:

Test Avery Dennison Performance Tapes AFB™ 6211B on Alpolic® panels. Lab report HB-205
The data sheet for AFB™ 6211B is available at the following link:

<http://tapes.averydennison.com/content/dam/averydennison/pt/na/en/Literature/Product%20Information/AFB%206211B/AFB-6211B-TDS-ADPT.pdf>

Date: November 25, 2014

1) Application Description:

Mitsubishi Plastics Composites America, Inc. is the manufacturer of Alpolic® metal composite material panels for architectural applications.

2) Test Scope:

Avery Dennison Performance Tapes AFB 6211B was evaluated on treated Alpolic® panels by testing 90 degree adhesion from the panels at 12 inches per minute crosshead speed. AFB 6211B is a 0.8 mm (31.5 mils) tape with a black acrylic foam core.

3) Test Procedure:

AFB 6211B was laminated to 5 mil dead soft aluminum foil at room temperature for support during the adhesion tests. The tape/foil laminate was cut to 25 mm (1 inch) width x 200 mm (8 inch) length for testing. Three replicates were laminated for each panel with the average value reported in section 5. The surfaces were prepped as described in section 4 below before applying the tape and tested according to the ASTM D3330 test method.

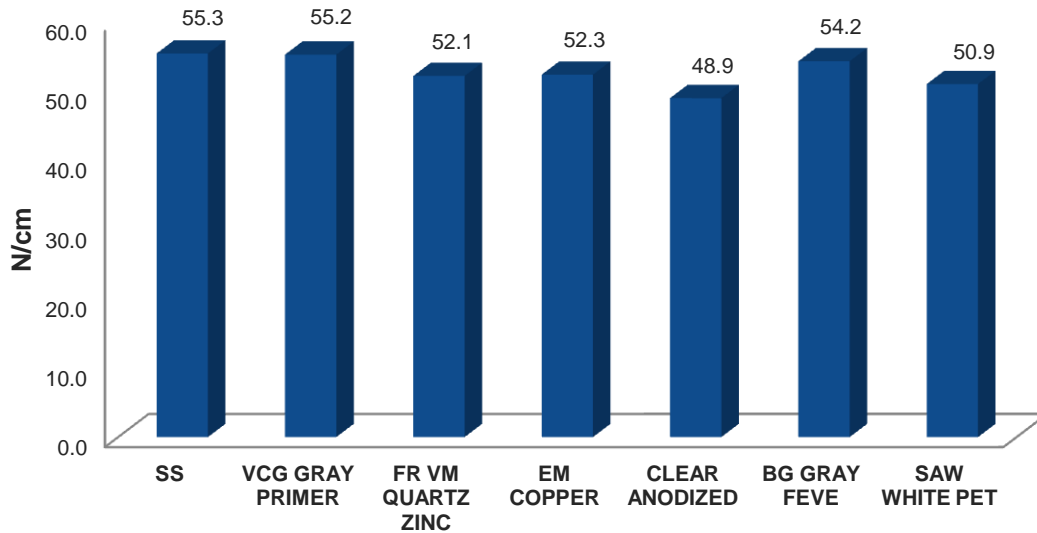
4) Surface Preparation:

The panels were cleaned using a lint free paper towel with a 50/50 mixture of water and isopropyl alcohol and then the panel surface was treated with Tite-R-Bond™ 4357 adhesion promoter. The panels were allowed to dry for a minimum of one minute before applying the tape to the treated surface.

5) Summary of Results:

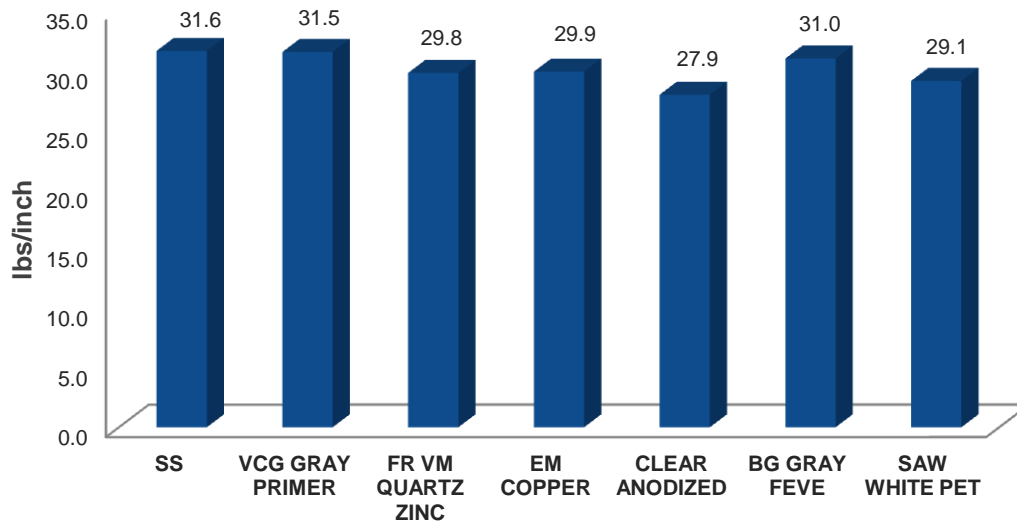
A minimum average 90 degree peel force of 44N/cm (25 lbs/inch) with the failure mode being foam core split is generally accepted as the minimum requirement for construction applications. The foam split failure mode indicates that the adhesive bond to the panels is higher than the internal strength of the acrylic core. This is the most desired failure mode. Test values are in N/cm and lbs/inch in the two graphs below.

**AFB™ 6211B
90 Degree Adhesion (72 hr dwell)**



Failure mode: all samples were foam split

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Failure mode: all samples were foam split

6) Conclusions:

AFB 6211B formed a high bond strength to all the treated Alpolic® composite panel substrates in this report. Using an adhesion promoter to increase adhesion and shorten dwell time is highly recommended. All types of panels to be used in an application should be tested prior to installation at the job site.

The test results in this report are only relevant for the specific Alpolic® composite panel finishes reported in this report. Other Alpolic® composite panel finishes/types should be tested for adhesion by Avery Dennison Performance Tapes prior to the start of a project.

7) Additional Consideration:

The ideal bonding temperature for pressure-sensitive adhesives is above 21°C (70°F) but bonding can be performed as low as 10°C (50°F) as long as both panels are the same temperature. Bonding below 21°C (70°F) will result in less adhesive wet out to the panels and require extra time before the maximum bond between the panels is achieved. The end user must test to confirm that an acceptable bond can be achieved when bonding below 21°C (70°F).

APPLICATION TECHNIQUES

- It is essential, as with all pressure-sensitive tapes, that the surface to which the tape is applied be clean, dry, and free of grease or oil.
- Bond strength is dependent upon the amount of adhesive-to-surface contact developed.
- Note that different pressure, time and temperature on different (film/rigid) surface achieves different performance.

STORAGE/SHELF LIFE

- One year when stored at 64-72°F (18-22°C) / 30-70% relative humidity, out of direct sunlight and in original packaging.

Please refer to Tapes.AveryDennison.com for complete terms and conditions, including warranty terms, relating to this product. You should periodically review the site as terms and conditions are subject to change without notice

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Performance
Tapes

Asia Pacific
Kunshan, China,
NO. 618 Nanhe Road
Kunshan Economic &
Technological Zone
China 215335
Phone: +86 512 57155001
Fax: +86 512 57155059
www.stap.averydennison.com

Europe
Tieblokkentlaan 1
B-2300 Turnhout
Belgium
Phone: +32 (0)14 40 48 11
Fax: +32 (0)14 40 48 55
www.steu.averydennison.com

South America
Rua Francisco Foga, 225
13280-000 Vinhedo
SP Brazil
Phone: +55 19 3876 7736
Fax: +55 19 3876 7682

North America
250 Chester Street
Painesville, Ohio
44077 USA
Phone: +1 866-462-8379
Fax: +1 888-358-4469
www.stus.averydennison.com