

# Product Evaluation Report

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## Product Manufacturer

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

## Product Name, Model and/or Description

Series "Alpolic and Alpolic/FR" Composite Wall Panel  
Systems with 5/8" Plywood Substrate  
Large and Small Missile Impact Resistant

Code: Current Edition of the Florida Building Code including the 7th Edition (2020) Florida Building Code

Compliance Method: 61G20-3.005(1)(d) – Product Evaluation Report by a Licensed Professional Engineer

Product Name, Model and/or Designation: Products covered by this evaluation include the following.

- Mitsubishi Chemical Composites America, Inc. Series "Alpolic and Alpolic/FR" Composite Wall Panel Systems with 5/8" Plywood Substrate – Large and Small Missile Impact Resistant

Product Testing, Materials and Certification:

- Performance Testing per TAS 201, TAS 202 and TAS 203:
  - Test report on Large Missile Impact Test, Cyclic Wind Pressure Test, and Uniform Static Air Pressure Test on Alpolic and Alpolic/FR Composite Wall Panel Systems, prepared by Architectural Testing Inc., Report No. A8556.01-109-18, dated September 15, 2011, signed and sealed by Michael D. Stremmel, P.E., on May 30, 2012.
  - Test report on Small Missile Impact Test, Cyclic Wind Pressure Test, and Uniform Static Air Pressure Test on Alpolic and Alpolic/FR Composite Wall Panel Systems, prepared by Architectural Testing Inc., Report No. 01-35789.02, dated 05/31/00, signed and sealed by Allen Reeves, P.E.
  - Test report on Small Missile Impact Test, Cyclic Wind Pressure Test, and Uniform Static Air Pressure Test on Alpolic and Alpolic/FR Composite Wall Panel Systems, prepared by Architectural Testing Inc., Report No. 01-43055.01, dated January 07, 2003, signed and sealed by Joseph A. Reed, P.E.
- Material Testing:
  - Southwest Research Institute, Report No. 01-8361-038, ASTM D1929-91a for Ignition Properties, 4mm Alpolic/FR, dated 10/28/96, signed by Betty J Covey and Alex B. Wenzel.
  - United States Testing Co. Inc., Report No. 100727-3, ASTM D1929-91a for Ignition Properties, 4mm Alpolic
  - Southwest Research Institute, Report No. 01-8361-320d, ASTM E84-97 for Flame Spread Index and Smoke Developed Index, 4mm Alpolic, dated 09/18/97, signed by Anthony L. Saucedo and Alex B. Wenzel.
  - Southwest Research Institute, Report No. 01-7520-359a, ASTM E84-95 for Flame Spread Index and Smoke Developed Index, 4mm Alpolic/FR, dated 09/26/96, signed by Anthony L. Saucedo and Alex B. Wenzel.
  - ATI, Report No. 01-43055.02, ASTM E8-00 for Tensile Strength, 4mm Alpolic, dated March 04, 2003, signed and sealed by Joseph A. Reed, P.E.
  - ATI, Report No. 01-35789.03, ASTM E8-96 for Tensile Strength, 4mm Alpolic and 4mm Alpolic/FR, dated July 07, 2000, signed and sealed by Allen N Reeves, P.E.
  - Intertek Test Report No. E6899.01-106-31, dated 4/22/15, ASTM D635-14 Rate of Burn, 4mm Alpolic/FR.
  - US Testing Co. Test Report No. 100727-1, dated 4/12/91, ASTM D635 (year not recorded) Rate of Burn, 4mm Alpolic.
  - Spec. Data issued by Alcoa Mill Products, dated November 08, 2000, with chemical composition and mechanical properties of Aluminum Alloy 3105-H14
- Materials:
  - Alpolic and Alpolic/FR aluminum composite metal panel 4mm thick (0.157") as manufactured by Mitsubishi Chemical Composites America, Inc., Chesapeake, VA. Core comprised of thermoplastic material. Face sheet comprised of 0.020" aluminum 3105-H14 alloy.
  - Aluminum extrusions (6063-T6).



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## Product Installation Instructions:

- MCCA/PTC PDG Drawing No. MPCA0001, Rev. 7, dated 4/14/17 Series "Alpolic and Alpolic/FR" Composite Wall Panel Systems with 5/8" Plywood Substrate – Large and Small Missile Impact, signed and sealed by Robert. J. Amoruso, P.E. Florida No. 49752.

**Engineering Analysis & Evaluation:** The following evaluations, engineering and/or rational analysis/calculations have been performed.

- Wall Panel Extrusion Supports to 16 GA Fty = 50 ksi Steel Stud anchorage has been verified by calculation (PTC PDG Calc. No. 2096) prepared by Robert J. Amoruso, P.E. in accordance with the current edition of the Florida Building Code.
- Material Testing Equivalency Evaluation verified by comparison of standards used in testing to that currently required in the Florida Building Code as documented in PTC PDG Report No. 2473-EER, prepared by Robert J. Amoruso, P.E. in accordance with Product Approval Rule 61G20-3.015(4)(d) – Equivalency of Standards.

## Limitations & Conditions of Use:

- This product has been evaluated for use inside the HVHZ (High Velocity Hurricane Zone).
- Refer to Product Installation Instructions noted above for:
  - Maximum allowable wind loads at related maximum allowable size(s).
  - Overall dimensions and material/grade of main product components, accessories, etc.
  - Illustrated diagrams of the attachment of the product to substrate structure of 16 GA. steel studs of 50 ksi yield strength.
  - Anchor type(s), size(s), substrate(s), embedment, edge distance, and spacing/locations.
- Site wind pressures shall be determined by a licensed professional engineer in accordance with the current edition of the Florida Building Code (and/or ASCE 7 as referenced in the current edition of the Florida Building Code) for components and cladding based on allowable stress design.
- Site conditions not covered in this product evaluation document are subject to additional engineering analysis by a licensed professional engineer or registered architect as required by the authority having jurisdiction.
- Adequacy of the existing structural substrates as a main wind force resisting system capable of withstanding and transferring applied product loads to the foundation is the responsibility of the licensed professional engineer or registered architect acting as the design professional of record for the project of installation.

### Certificate of Independence per Product Approval Rule 61G20-3.009

PTC Product Design Group, LLC and Robert J. Amoruso, P.E. does not have, nor will acquire, any financial interest in the company manufacturing or distributing product(s) covered by this Product Evaluation Report.

PTC Product Design Group, LLC and Robert J. Amoruso, P.E. do not have, nor will acquire any financial interest in any other entity involved in the approval process or testing of the product(s) covered by this Product Evaluation Report.

Evaluated By:  
Robert J. Amoruso, P.E.  
FL P.E. License Number 49752

