

TERRACORE PANELS LLC

PRODUCT EVALUATION

PRODUCT EVALUATED

TERRACORE PANELS BY ALLCOMB WITH DOW CORNING 795 SEALANT

EVALUATION PROPERTY

FLAMMABILITY IN ACCORDANCE WITH NFPA 285

REPORT NUMBER

G103363463SAT-001

ORIGINAL ISSUE DATE

01/30/18

LAST REVISED DATE

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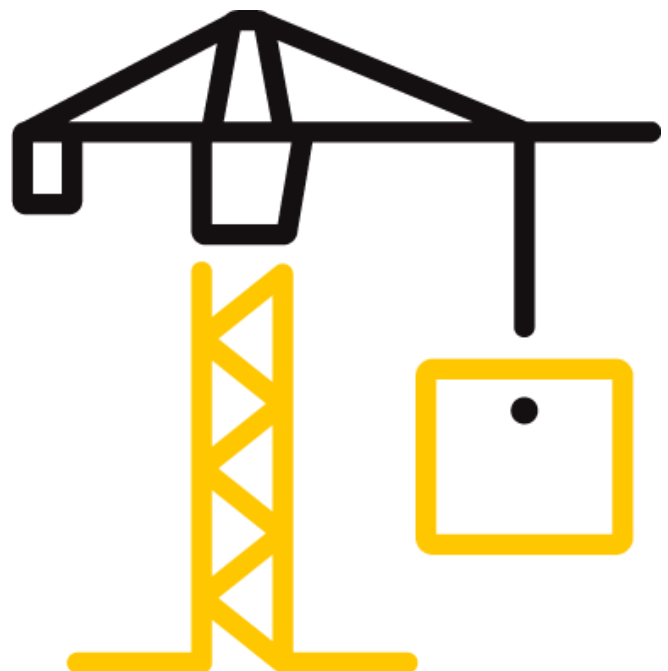
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PRODUCT EVALUATION FOR TERRACORE PANELS LLC

Report No.: G103363463SAT-001

Date: 01/30/18

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1 Introduction

Intertek Testing Services NA (Intertek) is conducting a product evaluation for TerraCore, on TerraCore Panels by ALLCOMB, to evaluate the use of Dow Corning 795 Silicone Building Sealant as an alternate joint sealant to the H.B. Fuller Firesound used in the compliance test. The compliance test was conducted on December 1, 2016 and is documented in Intertek Test Report No. 102738533SAT-003. This evaluation is being conducted to determine if the alternate sealant will maintain compliance, or show equivalency, with the assembly tested in accordance with NFPA 285, *Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components*, 2012 edition.

2 Product and Assembly Description

2.1. Product and Assembly Description:

This product evaluation refers to a product and test assembly described in Intertek Test Report 102738533SAT-003, dated December 12, 2016. Consult that document for additional information and specific test conditions.

The assembly tested and documented in Intertek Test Report No. 102738533SAT-003, consisted of a steel frame base wall with 5/8-in., type-X gypsum on the interior side and 1/2-in. Georgia Pacific DensGlass® Gold on the exterior side. Tyvek® Commercialwrap® was applied to the DensGlass Gold as a weather resistant barrier. Z-Profile subgirts were installed and Roxul Cavity Rock Mineral Wool Insulation, 3 in. × 24 in. × 48 in. 4 pcf, was installed between the subgirts. The TerraCore Panels were installed with the TerraCore Continuous Interlocking Channel TC-1A Rail system attached to the subgirts. There was a 1-in. air gap between the Roxul Cavity Rock Mineral Wool Insulation and the TerraCore panels. The panel joints were treated by inserting a ½-in. foam backer-rod nominally 1/4 in. recessed into the joint. The remainder of the joint was filled with H.B. Fuller Firesound intumescent sealant.

2.2. Product and Assembly Traceability:

The TerraCore Panels were sampled by Intertek for the test documented in Report No. 102738533SAT-003. No sample selection was conducted for the panels used in the test conducted to validate the use of the Dow Corning 795 Silicone Building Sealant.

2.3. Product and Assembly Certification:

Authorities Having Jurisdiction (AHJ) should be consulted in all cases as to the particular requirements covering the installation and use of Intertek certified products, equipment, systems, devices and materials. The AHJ should be consulted before construction. Fire resistance assemblies and products are developed by the design submitter and have been investigated by Intertek for compliance with specific requirements. The published information (product and design listings) cannot always address every construction nuance encountered in the field. When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the test standard referenced for each Intertek certified product. The test standard includes specifics concerning alternate materials and alternate methods of construction. Only products which bear Intertek's Mark are considered as certified. The appearance of a company's name or product in Intertek Directory of Listed Building Products does not in itself assure that products so identified have been manufactured under Intertek's Follow-Up Service. Only those products

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bearing the Intertek Mark should be considered to be Listed and covered under Intertek's Follow-Up Service. Always verify the Mark on the product before using it.

3 Reference Documents

As part of this evaluation, Intertek has directly or indirectly used the following referenced documents:

- NFPA 285, *Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components*, 2012 edition.
- Spec ID No. 41986
- Intertek Testing Report No. 102738533SAT-003, dated December 12, 2016.

4 Evaluation Method

This evaluation is being conducted to assess the use of Dow Corning 795 Silicone Building Sealant as an alternate joint sealant to the H.B. Fuller Firesound intumescent sealant. A screening test was conducted in support of this evaluation at the Intertek Laboratory located in York, PA.

The screening test was conducted with a base wall constructed with a steel frame, 5/8-in., type-X gypsum on the interior side and 1/2-in. Georgia Pacific DensGlass® Gold on the exterior side. The TerraCore Panels were installed with the TerraCore Continuous Interlocking Channel TC-1A Rail system attached to the base wall. The panel size, configuration, and orientation mirrored the test conducted and documented in Report No. 102738533SAT-003. The panel joints were treated with Dow Corning 795 Silicone Building Sealant. Only panels directly above the window were used since the goal was only to comparatively assess the joint sealant. Also, the weather resistant barrier and exterior mineral wool insulation were omitted. None of these variations affected the exposure on the panels above the window and the joints.

The screening test was conducted on October 19, 2017, under Project No. H5790.01-121-24-R0. The test assembly was instrumented with thermocouples identified in NFPA as TC 1 through TC 13. Additional thermocouples required by the standard for the burn room and second story were also included. The thermocouple of most concern for this assessment with TC 11, which is located at the joint, 10 ft above the window. NFPA 285 limits this thermocouple to 1000 °F as one of the pass/fail criteria. The data acquired for TC 11 is presented in Figure 1. The maximum measured temperature was 801 °F, which is 199 °F below the allowable limit. Furthermore, there was no visual observation of flames at or beyond 10 ft above the window.

The data acquired from the screening test is located in the appendix of this evaluation.

Intertek's opinion, based on sound principles, is that the use of Dow Corning 795 Silicone Building Sealant will maintain compliance if substituted for the previously tested H.B. Fuller Firesound intumescent sealant.

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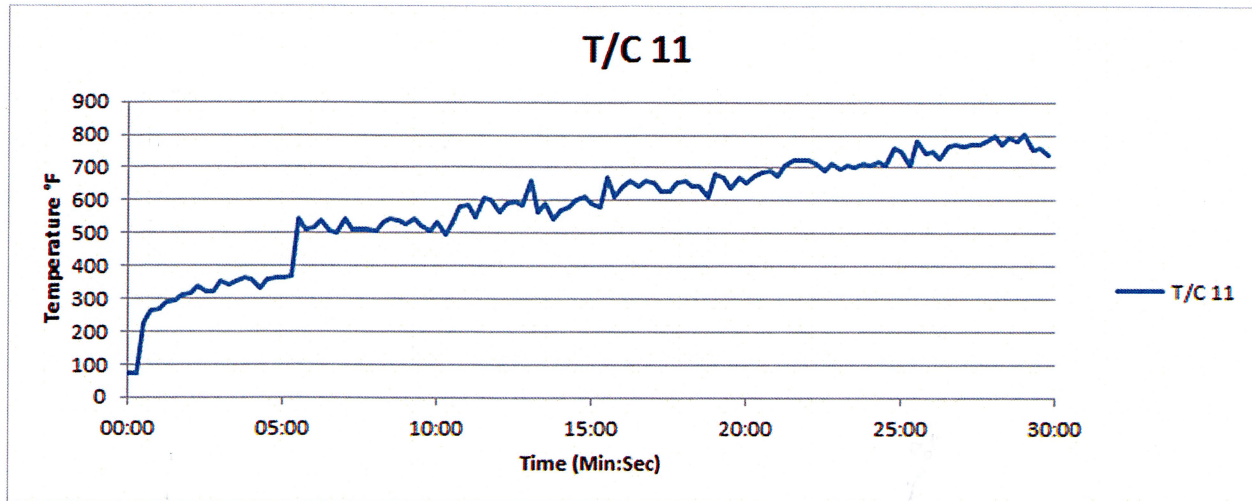


Figure 1. Time-Temperature Graph of Thermocouple at 10 ft Above Window

5 Conclusion

Intertek has conducted this product evaluation for TerraCore, on TerraCore Panels by ALLCOMB, to evaluate the use of Dow Corning 795 Silicone Building Sealant as an alternate joint sealant to the H.B. Fuller Firesound used in the compliance test. This evaluation was conducted to determine if the alternate sealant will maintain compliance, or show equivalency, with the assembly tested in accordance with NFPA 285.

Based on the information contained and referenced herein, it is Intertek's professional judgment based on sound principles that the Dow Corning 795 Silicone Building Sealant can be used as an alternate to the H.B. Fuller Firesound intumescent sealant without adversely affecting the results obtained from the NFPA 285 test.

INTERTEK TESTING SERVICES NA LTD.

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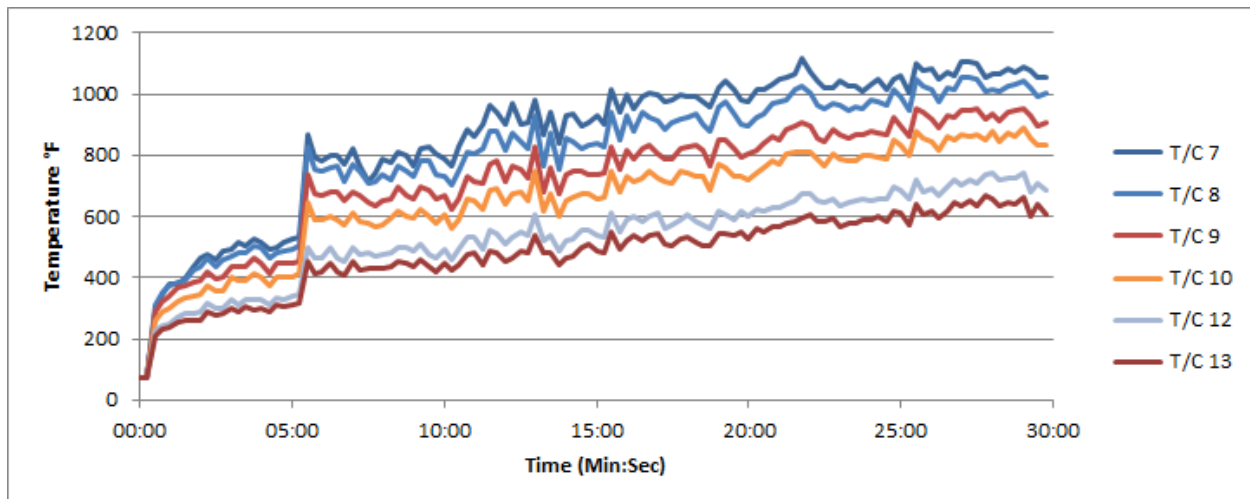
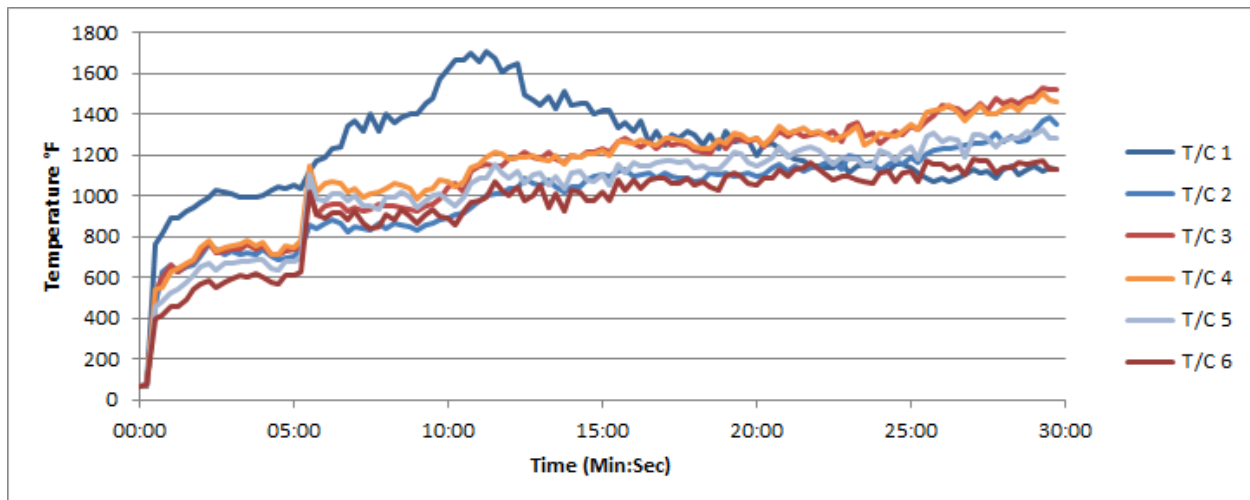
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6 APPENDIX

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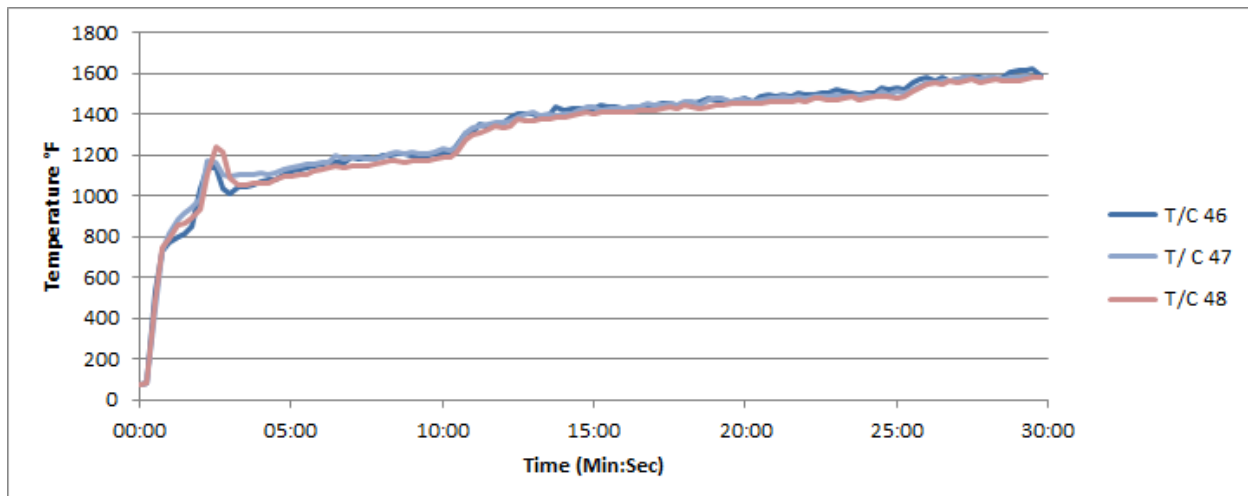
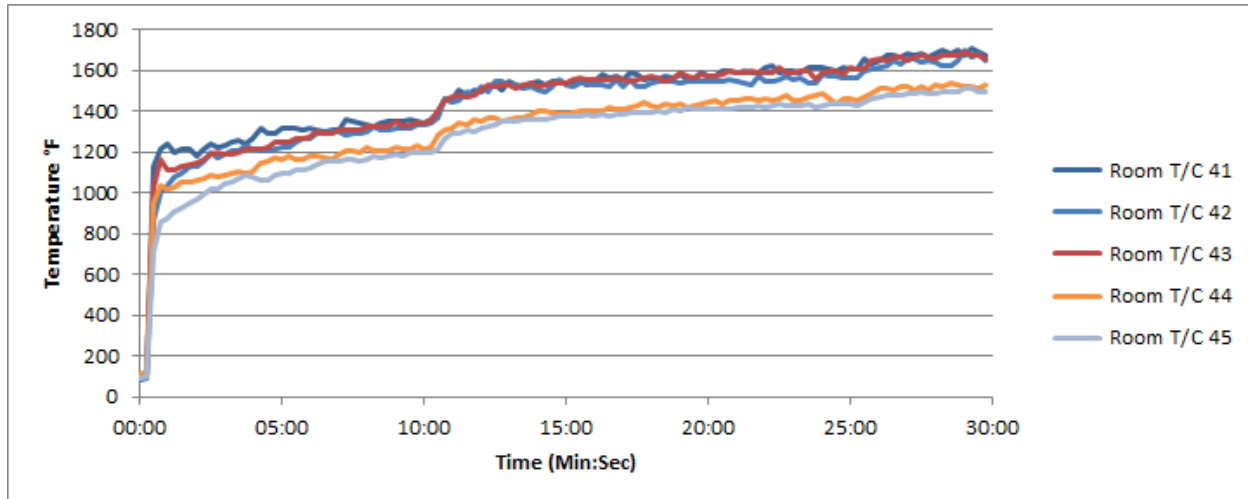
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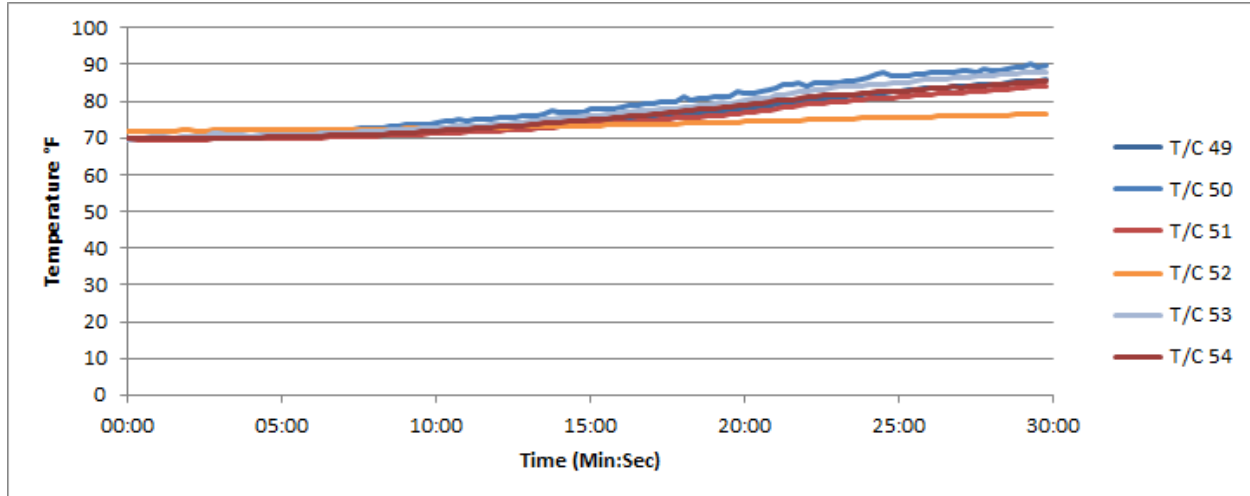
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DATE	SUMMARY	REPORTER	REVIEWER
January 30, 2018	Original	Barry Badders, M.S., P.E.	Juan Manuel Flore, P.E.