

CHAMELEON WRAPPING AND LAMINATION LTD. PRODUCT EVALUATION

PRODUCT EVALUATED

CHAMCLAD PVC SIDING

EVALUATION PROPERTY

CAN/ ULC S134 AND NFPA 285

REPORT NUMBER

105818999COQ-001

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05/24/24

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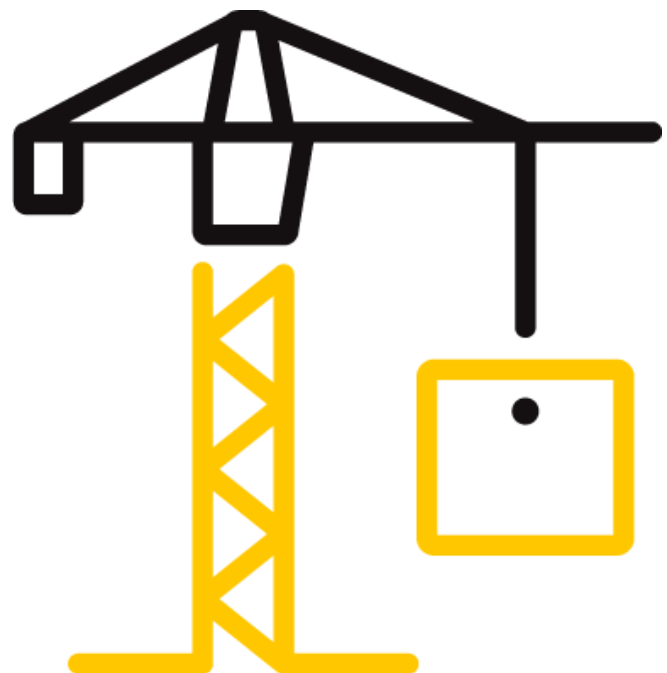
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PRODUCT EVALUATION FOR CHAMELEON WRAPPING AND LAMINATION LTD.

Report No.: 105818999COQ-001

Date: 05/24/24

PRODUCT EVALUATION RENDERED TO:	
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1 Introduction

Intertek Testing Services NA Ltd. (Intertek) has conducted a product evaluation for Chameleon Wrapping and Lamination Ltd. (Chameleon) on their ChamClad PVC siding to evaluate its fire propagation performance. The evaluation is being conducted to determine if the siding may be installed in wood frame construction and maintain compliance per CAN/ ULC S134 “Standard Method of Fire Test of Exterior Wall Assemblies” (2013, Reapproved 2018) and NFPA 285 “Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components” (2019).

2 Product and Assembly Description

2.1. Product Description:

ChamClad PVC siding is an exterior cladding made of an extruded PVC profile with a PVC film laminated to the exterior surface. The siding profiles are tongue and groove and fastened to the building structure through pre-punched nailing slots located along the top edge of the profiles. The fasteners are concealed after the upper profile is installed. The product is intended to be fastened to furring installed over sheathing. ChamClad PVC Siding is available as 6 in. (165 mm) and 12 in. (310 mm) wide wall panels.

2.2. Product Certification:

ChamClad PVC siding is currently Listed under Intertek’s Certification program. For details refer to Listing Report and Design Documents “ChamClad PVC Siding” (Spec ID 63668) on Intertek’s Directory of Building Products for the latest Listed Products, Quality Assurance, and Industry Programs (https://bpdirectory.intertek.com/Pages/DLP_Search.aspx).

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 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:

- CAN/ ULC S134 “Standard Method of Fire Test of Exterior Wall Assemblies” (2013, Reapproved 2018)
- NFPA 285 “Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components” (2019)

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- Intertek SpecDirect Spec ID 63668
- Intertek Test Report G104543597-SAT-002r1, issue dated January 19, 2021 (CAN/ ULC-S134)
- Intertek Test Report G104549690-SAT-002r0, issue dated January 19, 2021 (NFPA 285)
- Design Listing CWL-SI 25-01, dated December 12, 2023
- Design Listing CWL-SI 30-01, dated December 12, 2023

4 Evaluation Method

The purpose of this evaluation is to review the proposed wall assembly changes and the existing test data to determine if the current assemblies can maintain compliance per CAN/ULC S134 and NFPA 285 with wood studs. ChamClad PVC siding is currently Listed with Intertek for the following standards:

Product	Test Standard	Design Document Number
ChamClad PVC Siding	NFPA 285	CWL-SI 30-01
	CAN/ULC S134	CWL-SI 25-01

Certification is based on the following tested wall assembly (see Listing Spec ID: 63668 and test reports G104543597-SAT-002r1 and G104549690-SAT-002r0, dated January 19, 2021 and January 19, 2021, respectively). Order of components listed is from the interior to exterior:

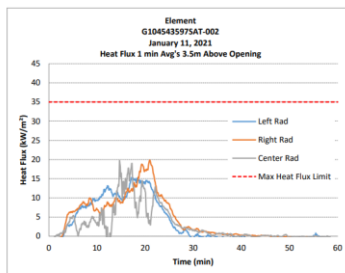
- Framing – Min. 20 GA metal studs (steel studs) spaced at max. 16 in. on center, with R-11 batt fiberglass insulation in stud cavities.
- Sheathing – One layer of min. 5/8 in. ASTM C1177 gypsum
- Air and Moisture Barrier – One layer of DuPont Tyvek Commercial Wrap
- Furring – 20 GA galvanized steel hat channel spaced no more than 16 in. on center.
- ChamClad PVC siding

Chameleon now wishes to qualify the assembly for the same ratings when installed with wood studs. All other installation details including the stud spacing, insulation, sheathing, air and moisture barrier, furring, and ChamClad PVC siding remain unchanged. Intertek has conducted a thorough review of the data previously obtained to determine if the proposed changes affect fire performance. The following sections discuss the findings in detail.

During the tests, the following was observed:

CAN/ULC S134

- Flaming on or in the wall did not spread more than 5m above the opening
- Heat flux did not reach the maximum allowable limit:



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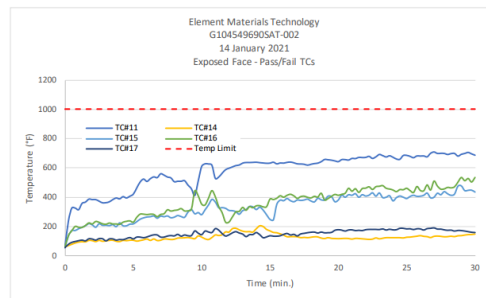
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Post-test pictures from the test program shows significant discoloration on the gypsum, but no damage:



NFPA 285

- Flames did not reach 10 ft. above the window opening.
- Flames did not reach horizontal distance of 5 ft. from the centerline of the opening.
- Measured temperatures did not reach the maximum allowable limit:



Post-test pictures from the test program shows significant discoloration on the gypsum, but no damage:



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As seen in the picture from both test programs, most of the damage that occurred from the tests was limited to the combustible siding itself. The combination of air gap provided by the furring channels and use of gypsum on the outer face of the studs, provides substantial protection to the studs. Additionally, the use of the fiberglass insulation in the stud cavities provides further protection to the studs. Based on these observations and the fact that the temperature and heat flux data passed the test conditions of acceptance by a large margin, it is Intertek's professional opinion that that the wall assembly consisting of the exact same component specifications and installation details will continue to meet the requirements of CAN/ULC S134 and NFPA 285 if its metal studs were replaced with wood studs. Intertek will update Chameleon's Design Listings and Listing Report to reflect the conclusion of this evaluation.

5 Conclusion

Intertek has conducted a product evaluation for Chameleon on their ChamClad PVC siding. The evaluation was being conducted to determine if using an alternate stud material installed within the same test assembly will maintain compliance with CAN/ULC S134 and NFPA 285.

Based on the information contained and referenced herein, it is Intertek's professional judgment based on sound engineering principles that the following is true:

- The current assembly using wood studs can maintain its compliance per CAN/ULC S134 and NFPA 285. Below is the new assembly listed in the order of components from the interior to exterior:
 - Framing – Min. 20 GA metal or wood studs spaced at max. 16 in. on center, with R-11 batt fiberglass insulation in stud cavities.
 - Sheathing – One layer of min. 5/8 in. ASTM C1177 gypsum
 - Air and Moisture Barrier – DuPont Tyvek Commercial Wrap
 - Furring – 20 GA galvanized steel hat channel spaced no more than 16 in. on center.
 - ChamClad PVC siding
- Intertek will update Chameleon's Listing and Design Listings to reflect the conclusion of this report.

INTERTEK TESTING SERVICES NA LTD.

Reported by:



EGBC Permit No.: 1000953

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May 24, 2024	Original	D. Xu	E. Amiralaei
