File R38231
Project 4786661893

April 14, 2015

REPORT

ON

PROTECTIVE COVERINGS FOR FOAMED PLASTIC (CAWOC)

UNDER THE

LISTING PROGRAM

FLAME SEAL PRODUCTS INC
HOUSTON, TX

PRODUCT COVERED:

The product covered by this Report is a Spray Applied Coatings designated as “Flame Seal TB-C”.

The product is Listed as to Protective Coverings for Foamed Plastic only.

USE:

The material is intended for use as a protective covering for foamed plastic with respect to exposure to the inside face of buildings only, in accordance with the provisions contained in the National Building Code of Canada, and in consideration of other requirements of authorities having jurisdiction.

TEST RECORD NO. 1

PROJECT NO.: 4786661893

INTRODUCTION

This Report describes an investigation undertaken on March 02, 2015, to qualify a spray applied coating designated "Flame Seal TB-C" for use as a protective covering for foamed plastic by subjecting representative samples to fire tests in accordance with the provisions contained in the Standard CAN/ULC-S124-06, *Standard Method of Test for the Evaluation of Protective Coverings for Foamed Plastic*, Second Edition. All tests were conducted at UL LLC's testing facilities in Northbrook, IL.

Protective coverings for foamed plastic are intended to delay the involvement of foamed plastic in a fire, and to protect it from stray ignition sources.

The fire tests are supplemented by other tests and examinations intended to furnish information concerning the performance of the tested assemblies and the materials employed therein.

EXAMINATION OF MATERIALS:

The materials used in this investigation were produced under the observation of a representative of UL LLC, in a ready-to-use form. The composition of the finished materials is of a proprietary nature. Data on the composition is on file at the Laboratories for use in the Follow-Up Service Program.

Various physical and chemical tests were conducted on the finished product. The results developed from these tests are considered proprietary in nature, and were employed in establishing specifications for use in the factory Follow-Up Service Program.

SAMPLES:

Item	Description
Substrate	13 mm thick Plywood
Foamed Plastic	Nominal 75 mm thick sprayed polyurethane
Spray Applied Coating	FLAME SEAL TB-C
Hardener	TB50 Curing Agent

PREPARATION OF TEST ASSEMBLIES:

The manufacture of the assemblies used in the tests was witnessed by a representative of UL LLC.

TEST ASSEMBLY

The completed samples measured 1220 mm by 1220 mm.

The spray polyurethane foamed plastic was applied to the plywood and allowed to cure for a minimum of 24 hours prior to application of the protective coating. The spray polyurethane foamed plastic was nominally 63 – 75 mm thick.

The thermocouples were installed by drilling through the entire thickness of the sample and inserting the thermocouple from the unexposed side of the sample until the bead was flush with the surface of the foam. The thermocouple was kept in place by fastening the wire with staples to the plywood substrate on the unexposed side.

Thermocouples were placed at the center of each quadrant of the panel and at the center of the board.

The coating was prepared for application by combining 2.1 lbs of TB-C and 0.4 lbs of T-50 then mixing. This was then sprayed onto the foam samples.

The material was applied in three coats as follows:

Coat	Cure Time Between Coats (hrs.)	Application Rate (m^2/L)
1	-	2.49
2	17.67	2.49
3	0.25	3.08

The overall wet application rate was 0.89 m^2/L.

METHOD

FIRE EXPOSURE

The furnace was fired in accordance with the time-temperature curve shown in the standard CAN/ULC-S101-14, Standard Methods of Fire Endurance Tests of Building Construction and Materials, Fifth Edition, using a furnace and test equipment as prescribed by the standard CAN/ULC-S124. Throughout the fire test period, observations were made regarding the character of the fire and condition of the exposed and unexposed surfaces. Developments pertinent to the performance of the assembly with reference to structural integrity, heat transmissions and passage of flame were noted and recorded.

The coated face was exposed to the fire for each test.

TEMPERATURE MEASUREMENTS

The furnace temperatures were measured by 3 thermocouples located 300 mm below the exposed surface and symmetrically distributed in the furnace.

The temperature at the interface of the coating and the polyurethane core was measured by means of five thermocouples. The thermocouples were located at the center of the specimen, and at the center of each quadrant of the specimen.

RESULTS

The Time/Temperature data recorded at the interface of the coating and the foamed plastic is given in ILLs. 1 and 2.

ILLUSTRATION INDEX:

Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the Standard CAN/ULC-S124-06, *Standard Method of Test for the Evaluation of Protective Coverings for Foamed Plastic*, Second Edition (dated August 2006) and, therefore, such products are judged eligible to bear the ULC Mark as described below.

ULC Listing Marking:

The Physical Properties as shown below in the Listing Marking represents the judgement of UL LLC, based upon the results of the examination and tests presented in this Report.

PROTECTIVE COVERINGS
FOR FOAMED PLASTIC

CLASS B

<Control No.>

Listed in accordance with CAN/ULC-S124

See ULC List of Equipment and Materials, Building Materials and supplements hereto.

together with the product identification, the surface burning characteristics, and the listee's name and address.

Report by:

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CONCLUSION

Samples of the products covered by this Report have been found to comply with the requirements covering the category and the products are found to comply with UL's applicable requirements. The description and test result in this Report are only applicable to the sample(s) investigated by UL and does not signify UL certification or that the product(s) described are covered under UL's Follow-Up Service Program. When covered under UL's Follow-Up Service Program, the manufacturer is authorized to use the ULC Listing Mark on such products which comply with UL's Follow-Up Service Procedure and any other application requirements of UL LLC. The Listing Mark of ULC on the product, or the ULC symbol on the product and the Listing Mark on the smallest unit container in which the product is packaged, is the only method to identify products investigated by UL to published requirements and manufactured under UL's Listing and Follow-Up Service.

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