Owens Corning® SSL II® with ASJ Max Fiberglas™ Pipe Insulation – The Only Fully Compliant Listed and Labeled Plenum Insulation Rated Over Plastic Pipe Assemblies

Associated to this Bulletin is Underwriters Laboratories Test Report SR5052164, clarifying that Owens Corning® SSL II® with ASJ Max Fiberglas™ Pipe Insulation is Plenum Rated, and is the only fully compliant Listed and Labeled Pipe Insulation by Underwriters Laboratories (UL) File R14111, Category: INSULATED PLASTIC PIPE ASSEMBLIES (BSMP) for installation over polymer pipes (i.e. PVC, polyethylene, and polypropylene).

UL Test Report SR5052164 address the reference of the 2012, 2015, and 2018 International Building Code:

- Section 7.20.7 Insulation and coverings on pipe and tubing.
  - Exception: Insulation and coverings on pipe and tubing installed in plenums shall comply with the International Mechanical Code.

Per 2012, 2015, and 2018 International Mechanical Code:

- Section 602.2.1 Materials within plenums. Materials within the plenums shall be noncombustible or shall be listed and labeled with flame spread index not more than 25 and smoke developed index not more than 50 when tested per ASTM E84 or UL 723.
  - Exception #5: Combustible materials fully enclosed within one of the following;
    - 5.3 Material listed and labeled for installation within a plenum.

Owens Corning® SSL II® with ASJ Max Fiberglas™ Pipe Insulation is in full compliance to the Fire Hazard Classification (FHC) Flame Spread Index 25 / Smoke Developed Index 50 as tested over 1/4" PVC, and 1/4" polypropylene. And is the only fully Listed and Labeled Fiberglass Pipe Insulation, carrying the following labeling on all pipe boxes:

INSULATED PLASTIC PIPE ASSEMBLY
CERTIFIED IN ACCORDANCE WITH IMC, SECTION 602.1, EXCEPTION 5.3
PVC AND POLYPROPYLENE PIPE. DURING INSTALATION, THE PIPE IS TO BE COVERED
WITH MINIMUM 1 in. THICK OWENS CORNING POLYPROPYLENE-KRAFT-
SCRIM-FOIL FACED PIPE COVERING DESIGNATED "FHC 25/50"
File R14111

For additional information contact Owens Corning GETTECH at 1-800-GETTECH.
For Listing, go to UL Online Certifications Directory; in File Number type: R14111

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November 5, 2018

REPORT

on

Owens Corning® Pipe Insulation with ASJ Max Jacket and SSL II®

Closure Insulated Plastic Pipe Assemblies

Under the

CLASSIFICATION PROGRAM

Owens Corning

Toledo, OH

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DESCRIPTION

PRODUCT COVERED:

The Product covered by this Report is a hollow-cylindrical section of cured insulation with a WMP-ASJ (polypropylene-kraft-scrim-foil) facing, intended for use in Insulated Plastic Pipe Assemblies.

The product is Classified by UL LLC (UL) as to Surface Burning Characteristics only.

USE

The product is permitted to be installed in ducts, plenums, and other spaces as permitted by authorities having jurisdiction. The pipe assembly is intended to be protected during installation by UL Classified, 1 in. thick minimum, faced fiberglass or mineral wool, Pipe and Equipment Covering Material with a Flame Spread Index of 25 or less and a Smoke Developed index of 50 or less (designated “FHC 25/50”).

TEST RECORD NO. 1

GENERAL:

Test results relate only to the items tested.

EXAMINATION OF MATERIALS

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

Various physical and chemical tests were conducted on the components and finished products. The results developed from these tests were employed in establishing specifications for use in the factory Follow-Up Service Program.

SURFACE BURNING CHARACTERISTICS:

SAMPLES

The test samples consisted of Owens Corning® ASJ Max jacket (WMP-ASJ polypropylene-kraft-scrim-foil faced pipe coverings) with SSL II® Closure system, with ¼ in pvc and polypropylene plastic sheets laid on top of the faced pipe assembly.

Each test consisted of UL Classified Faced Pipe and Equipment Covering, supplied by Owens Corning, with a Flame Spread Index of 25 or less and a Smoke Developed index of 50 or less (designated “FHC 25/50”). For testing purposes, the faced insulation was configured in flat board form. Flat sheets of ¼ in pvc and polypropylene plastic were laid atop the insulation, across the tunnel width, butted end-to-end, to form the required 24 ft. long sample.

Each test sample was supported with 1/4 in. diameter uncoated steel rods and placed at 2 ft intervals.

For each test a piece of 1 ft long by 22 in. wide by 1/16 in. thick uncoated steel plate was placed at the fire end of the tunnel furnace "upstream" from the gas burners to complete the 25 ft chamber length.

The test samples were allowed to condition at a temperature of 73 ±4°F and a relative humidity of 50±5 percent prior to testing.

METHOD

The tests were conducted in accordance with Standard ANSI/UL723, Eleventh Edition, dated April 19, 2018, "Test for Surface Burning Characteristics of Building Materials", (ASTM E84).

RESULTS

Data on flame spread and smoke developed appears in the following tabulations. Graphs of flame spread versus time and smoke developed versus time are also provided as part of the Test Record.

Flame Spread Index

The maximum distance the flame spreads along the length of the sample from the end of the igniting flame is determined by observation.

The Flame Spread Index (FSI) of the material is determined by rounding the Calculated Flame Spread (CFS) as described in UL 723. The CFS is derived by calculating the area under the flame spread distance (ft) versus time (min) curve, ignoring any flame front recession, and using one of the calculation methods as described below.

1. If the total area (A_T) is less than or equal to 97.5 min-ft, the CFS shall be 0.515 times the total area (FSI=0.515 A_T).

2. If the total area (A_T) is greater than 97.5 min-ft, the CFS is to be 4900 divided by 195 minus the total area (FSI=4900/(195-A_T)).

Table 1: Flame Spread Summary

Test No.	Sample Description	Maximum Flame Spread (ft)	Time of Maximum Flame Spread (min:s)	Calculated Flame Spread (CFS)
1	ASJ Max faced pipe board with 1/4 in polypropylene sheet backing	4.0	0:13	20.33
2	ASJ Max faced pipe board with 1/4 in pvc sheet backing	4.0	0:14	20.34
3	ASJ Max faced pipe board with 1/4 in polypropylene sheet backing	4.0	0:13	20.33
4	ASJ Max faced pipe board with 1/4 in polypropylene sheet backing	4.0	0:14	20.31

Flame Spread Index	20

Smoke Developed Index

The smoke Developed Index is determined by rounding the Calculated Smoke Developed (CSD) as described in UL 723. The CSD is determined by the output of a photoelectric circuit operating across the furnace flue pipe. A curve is developed by plotting values of light absorption (decrease in cell output) against time. The CSD is derived by expressing the net area under the curve for this material as a percentage of the net area under the curve for untreated red oak.

The CSD is expressed as:

$CSD=(A_M/A_{ro})x100$

Where:

CSD=Calculated Smoke Developed

A_M= The area under the curve for the test material

A_{ro}= The area under the curve for untreated red oak

Table 2: Smoke Developed Summary

Test No.	**Sample Description**	**CSD Calculated Smoke Developed**
1	ASJ Max faced pipe board with 1/4 in polypropylene sheet backing	25.8
2	ASJ Max faced pipe board with 1/4 in pvc sheet backing	27.3
3	ASJ Max faced pipe board with 1/4 in polypropylene sheet backing	27.8
4	ASJ Max faced pipe board with 1/4 in polypropylene sheet backing	28.1

Smoke Developed Index	25

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 for Surface Burning Characteristics for Building Materials, UL723, Eleventh Edition (dated April 19, 2018) and, therefore, such products are judged eligible to bear UL's Mark as described below and on the Conclusion Page of this Report.

Any information and documentation provided to you involving UL Mark services are provided on behalf of UL or any authorized licensee of UL.

Classification Marking:

The surface Burning Characteristics as shown below in the Classification Marking represent the judgment of UL based upon the results of the examination and tests presented in this Report.

Insulated Plastic Pipe
Assemblies
Control No. or File Number

CERTIFIED IN ACCORDANCE WITH IMC, SECTION 602.1, EXCEPTION 5.3
PVC AND POLYPROPYLENE PIPE. DURING INSTALATION, THE PIPE IS TO BE COVERED WITH MINIMUM 1 in. THICK OWENS CORNING® POLYPROPYLENE-KRAFT-SCRIM-FOIL FACED PIPE COVERING DESIGNATED “FHC 25/50”

Test Record by:

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Reviewed by:

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Conclusion

Samples of the product 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 samples investigated by UL and does not signify UL certification or that the product described is covered under UL's Follow-Up Service Program. When covered under UL's Follow-Up Service Program, the manufacturer is authorized to use the UL Classification Mark on such products which comply with UL's Follow-Up Service Procedure and any other application requirements of UL. The Classification Mark of UL on the product, or the UL symbol on the product and the Classification 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 Classification and Follow-Up Service.

Report by:

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