FLAME CONTROL COATINGS
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FLAME CONTROL 60-60A INTUMESCENT THERMAL BARRIER FOR SPRAY POLYURETHANE FOAM INSULATION

CSI Section:
09 96 43 Fire-Retardant Coatings

1.0 RECOGNITION

Flame Control 60-60A has been evaluated for use as a fire-protective coating for spray foam plastic products. The coating has been evaluated for the contribution of wall and ceiling finish to room fire growth and as an alternative to the prescriptive thermal barrier required in Section 2603.4 of the IBC and Section 316.4 of the IRC. Flame Control 60-60A evaluated in this report is a satisfactory alternative to those prescribed in the following codes and regulations:

- 2024, 2021, 2018, and 2015 International Building Code® (IBC)
- 2024, 2021, 2018, and 2015 International Residential Code® (IRC)

2.0 LIMITATIONS

Use of Flame Control 60-60A recognized in this report is subject to the following limitations:

2.1 The application of any additional interior finish over the fire-protective coating is beyond the scope of this report.

2.2 Spray foam plastic insulation shall be installed in accordance with this report and the manufacturer's installation instructions. Where conflicts occur, the more restrictive shall apply.

2.3 Approval of Flame Control 60-60A for use with any insulation product listed herein is conditional upon that insulation products' current approval for use with Flame Control 60-60A. Users shall independently verify the current validity of any evaluation report referenced herein.

2.4 Flame Control 60-60A is produced in Houston, Texas.

3.0 PRODUCT USE

3.1 Design

3.1.1 Alternative Thermal Barrier Assembly: When used as an alternate to the prescriptive thermal barrier required in IBC Section 2603.4 or IRC Section R316.4, Flame Control 60-60A shall be applied to the minimum thickness shown in Table 1 of this report.

3.1.2 Interior Finish: Based on testing to NFPA 286, when Flame Control 60-60A is applied to spray foam plastic insulations as shown in Table 1 of this report, the assembly is considered to have a Class A interior wall and ceiling finish classification as defined in Section 803.1.1 of the 2021 and 2018 IBC and Section 803.1.2 of the 2015 and 2012 IBC.

3.2 Application

3.2.1 General: Flame Control 60-60A shall be applied in accordance with Flame Control Coating's installation instructions, the spray foam plastic manufacturer's installation instructions, this evaluation report, and the applicable codes listed in Section 1.0 of this report. Where conflicts occur, the more restrictive governs. The manufacturer's published installation instructions and this report shall be available at the jobsite for quality control purposes.

3.2.2 Application: The minimum installed thickness of Flame Control 60-60A shall be applied to foam plastic insulation as shown in Table 1 of this report. Before application of Flame Control 60-60A, the spray foam plastic insulation shall be allowed to cool and cure for a minimum of one hour or as required by the foam plastic manufacturer, as applicable. The surface of the foam plastic shall be free of dirt, debris, and other contaminants and shall be firm and dry before application.

Flame Control 60-60A shall be thoroughly mixed using a high-speed drill mixer before application. The coating shall be applied by airless spray, brush, or roller in a single coat to the spray foam insulation in a uniform manner. The applications shall occur at temperatures ranging from 50°F to 90°F (10°C to 32°C) unless special instructions are provided by the manufacturer for applications at colder temperatures. For applications with a relative humidity at the time of application greater than 65 percent, fans shall be used to circulate the air for proper curing.

4.0 PRODUCT DESCRIPTION

Flame Control 60-60A intumescent coating is manufactured in white, gray, and black colors by Flame Control Coatings, LLC. The coating is water-based and supplied in 5-gallon

(18.9 L) pails weighing 62 lbs. (28.1 kg) and 55-gallon (208 L) drums weighing 682 lbs. (309 kg). The coating material has a maximum shelf life of 12 months when stored in factory sealed containers. The material shall be protected from freezing, and it is recommended to be stored at temperatures above 50°F (10°C). Flame Control 60-60A has a drying time of 1 to 2 hours to touch and 2 to 4 hours to recoat.

5.0 IDENTIFICATION

Flame Control 60-60A's pails and drums are identified by the Flame Control Coating's name and address, product name (Flame Control 60-60A), date of manufacture, product shelf life, conditions for storage and evaluation report number (ER-596). The IAPMO Uniform Evaluation Service Mark of Conformity may also be used as shown below:

IAPMO UES ER-596

6.0 SUBSTANTIATING DATA

6.1 Manufacturer's descriptive literature and installation instructions.

6.2 Data in accordance with the ICC-ES Acceptance Criteria for Fire-protective Coatings Applied to Spray-applied Foam Plastic Insulation Installed Without a Code-Prescribed Thermal Barrier, AC456, dated October 2015, editorially revised July 2024.

6.3 Testing in accordance with NFPA 286.

6.4 Data in accordance with IAPMO/ANSI ES1000-2020, Standard for Building Code Compliance of Spray-Applied Polyurethane Foam.

6.5 Data in accordance with 2019 ICC 1100 Standard for Spray-applied Polyurethane Foam Plastic Insulation.

6.6 Test reports are from laboratories in compliance with ISO/IEC 17025.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on Flame Control 60-60A intumescent coatings to the conformance to the codes shown in Section 1.0 of this report and documents the product's certification. Flame Control 60-60A is produced at the location noted in Section 2.4 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

TABLE 1 (continued on next four pages)
FOAM PLASTIC PRODUCTS APPROVED FOR USE WITH FLAME CONTROL 60-60A AS ASSEMBLIES NOT REQUIRING A PRESCRIPTIVE 15-MINUTE THERMAL BARRIER

Manufacturer's Name	Product Name	Product Density (pcf)	Evaluation Report[1, 2]	Application of Flame Control 60-60A			Maximum Thickness of Spray Foam (inches)	
				Minimum Installed Thickness (mils)		Theoretical Application Rate (gallons/100 square feet)[3]		
				Wet Film	Dry Film		Vertical	Overhead
Alpha Polymers	AP 200	2.0	ER-960	14	9	0.87	8	10
Alpha Polymers	AP 210	2.0	ESR-5242	14	9	0.87	8	12
AMBIT Polyurethane	AMBI-SEAL 5.0	0.5	CCRR-393	14	9	0.87	10	14
AMBIT Polyurethane	AMBI-TITE 204 HFO	2.0	ESR-4427	14	9	0.87	8	12
BASF	Spraytite 158	2.0	CCRR-1031 and ESR-2642	20	13	1.3	7.5	11.5
BASF	Spraytite SP	2.0	CCRR-1031 and ESR-2642	20	13	1.3	7.5	11.5
Barnhardt Manufacturing Inc. DBA-NCFI Polyurethanes	InsulStar Light 12-008	0.5	CCRR-0323	14	9	0.87	10	14
Barnhardt Manufacturing Inc. DBA-NCFI Polyurethanes	InsulStar Light 12-075	0.7	CCRR-0323	14	9	0.87	10	14
Barnhardt Manufacturing Inc. DBA-NCFI Polyurethanes	InsulBloc SmartSPF	2.0	ER-667	14	9	0.87	8	12
Barnhardt Manufacturing Inc. DBA-NCFI Polyurethanes	InsulStar SmartSPF	2.0	ER-667	14	9	0.87	8	12
Barnhardt Manufacturing Inc. DBA-NCFI Polyurethanes	InsulStar 1.7 SmartSPF	1.7	ER-667	14	9	0.87	8	12
Carlisle	Foamsulate 50	0.5	ER-351	14	9	0.87	6	10
Carlisle	Foamsulate OCX	0.5	ER-394	20	13	1.3	7.5	11.5
Carlisle	Foamsulate 50 HY	0.5	ER-540	14	9	0.87	6	10
Carlisle	Foamsulate Closed Cell	2.0	ER-626	14	9	0.87	6	10
Carlisle	Foamsulate HFO	2.0	ER-650	14	9	0.87	6	10
Carlisle	Sealtite PRO OCX	0.5	ER-615	20	13	1.3	7.5	11.5
Carlisle	Sealtite PRO No Mix	0.5	ER-616	14	9	0.87	6	10
Carlisle	Sealtite PRO Closed Cell	2.0	ER-621	14	9	0.87	6	10
Carlisle	SealTte Pro High Yield	0.5	ER-623	14	9	0.87	6	10

TABLE 1 (continued)

Manufacturer's Name	Product Name	Product Density (pcf)	Evaluation Report[1, 2]	Application of Flame Control 60-60A			Maximum Thickness of Spray Foam (inches)	
				Minimum Installed Thickness (mils)		Theoretical Application Rate (gallons/100 square feet)[3]		
				Wet Film	Dry Film		Vertical	Overhead
Carlisle	Sealtite PRO One Zero	2.0	ER-640	14	9	0.87	6	10
Carlisle	Foamsulate HFO	2.0	ER-650	14	9	0.87	6	10
Creative Polymer Solutions	Accufoam OC	0.5	ER-699	16	11	1.0	10	14
Creative Polymer Solutions	Accufoam CC-HFO	2.0	ER-833	14	9	0.87	7.5	9.5
Creative Polymer Solutions	Accufoam AF1	0.5	ER-842	16	11	1.0	10	14
Creative Polymer Solutions	Accufoam CC 1.7 HFO	2.0	ER-894	14	9	0.87	7.5	9.5
Dynamo Polyurethane Systems	Dynamo 500	0.5	CCRR-491	16	11	1.0	10	14
Dynamo Polyurethane Systems	Dynamo 2000	2.0	CCRR-491	14	9	0.87	8	10
Elastochem	Insulthane 450	0.45	CCRR-396	14	9	0.87	8	10
Elastochem	Insulthane Extreme	2.0	CCRR-396	14	9	0.87	8	10
Enerlab USA	Ecothane 2.0	2.0	ER-937	14	9	0.87	8	12
Everest Systems	Opticell 0.5	0.5	ER-893	14	9	0.87	10	14
Firestable Insulation Company	StableBase Max R HFO	2.0	ER-877	14	9	0.87	7.5	9.5
Gaco	Gaco One Pass Low F1880	2.2	CCRR-1106	12	8	0.75	6	10
Gaco	Gaco 183M	2.0	CCRR-1002	12	8	0.75	6	10
Gaco	Gaco EZ Spray F4500	0.55	CCRR-1107	12	8	0.75	6	10
General Coatings	Ultra-Thane 050-MAX	0.5	CCRR-358	14	9	0.87	10	14
General Coatings	Ultra-Thane 050-MAX PRO	0.5	CCRR-358	14	9	0.87	10	14
General Coatings	Ultra-Thane 050	0.5	CCRR-358	14	9	0.87	10	14
General Coatings	Ultra-Thane 205 HFO	2.0	CCRR-375	14	9	0.87	8	10
General Coatings	Ultra-Thane 205 HFO Hight-Lift	2.0	CCRR-375	14	9	0.87	8	10
General Coatings	Ultra-Thane 205 HFO MAX	2.0	CCRR-375	14	9	0.87	8	10

TABLE 1 (continued)

Manufacturer's Name	Product Name	Product Density (pcf)	Evaluation Report[1, 2]	Application of Flame Control 60-60A			Maximum Thickness of Spray Foam (inches)	
				Minimum Installed Thickness (mils)		Theoretical Application Rate (gallons/100 square feet)[3]		
				Wet Film	Dry Film		Vertical	Overhead
General Coatings	Ultra-Thane 205 HFO Premium	2.1	CCRR-375	14	9	0.87	8	10
Holcim Solutions and Products	Enverge Nexseal 2.0	2.0	ER-374	12	8	0.75	6	10
Holcim Solutions and Products	Enverge Nexseal 2.0 LE	2.0	ER-374	12	8	0.75	6	10
Holcim Solutions and Products	Enverge EasySeal 0.5	0.5	ER-492	14	9	0.87	10	14
Holcim Solutions and Products	Enverge Sucraseal 0.5	0.5	ER-787	12	8	0.75	6	10
Holcim Solutions and Products	EnvergeOne-Pass (1850)	2.0	ER-858	12	8	0.75	6	10
Holcim Solutions and Products	EnvergeOne-Pass	2.0	ER-859	12	8	0.75	6	10
Huntsman Building Solutions	Classic	0.5	ESR-1826	14	9	0.87	10	14
Huntsman Building Solutions	Classic Ultra	0.5	ESR-1826	14	9	0.87	10	14
Huntsman Building Solutions	Classic Ultra Select	0.5	ESR-1826	14	9	0.87	10	14
Huntsman Building Solutions	Foam LOK 450	0.5	ESR-4242	14	9	0.87	10	14
Huntsman Building Solutions	Foam LOK 500	0.5	CCRR-1091	14	9	0.87	10	14
Huntsman Building Solutions	Icynene Classic 45	0.5	ESR-5498	14	9	0.87	10	14
Huntsman Building Solutions	Icynene OC No-Mix	0.5	CCRR-1123	14	9	0.87	10	14
Huntsman Building Solutions	Heatlok HFO Pro Closed Cell	2.0	ER-565	18	12	1.12	5.5	9.5
Huntsman Building Solutions	Heatlok HFO EZ	2.0	ER-871	18	12	1.12	5.5	9.5
Huntsman Building Solutions	Icynene HFO 200	2.0	ER-926	18	12	1.12	5.5	9.5
Huntsman Building Solutions	Heatlok HFO High Lift	2.0	ESR-4073	18	12	1.12	5.5	9.5
Huntsman Building Solutions	Heatlok XT-s	2.0	ESR-3824	14	9	0.87	7	10
NSF Polymers	OC-OG	0.5	ER-869	16	11	1.0	10	14
NSF Polymers	OC 365	0.5	ER-913	16	11	1.0	10	14
NSF Polymers	R-Max	2.0	ER-868	14	9	0.87	7.5	9.5
ProFoam	ProSeal	2.0	ER-881	14	9	0.87	8	12

TABLE 1 (continued)

Manufacturer's Name	Product Name	Product Density (pcf)	Evaluation Report[1, 2]	Application of Flame Control 60-60A			Maximum Thickness of Spray Foam (inches)	
				Minimum Installed Thickness (mils)		Theoretical Application Rate (gallons/100 square feet)		
				Wet Film	Dry Film		Vertical	Overhead
ProFoam	ProSeal Plus	1.7	ER-881	14	9	0.87	8	12
Quadrant Performance Materials	EnviroSeal CC	2.0	ER-854	14	9	0.87	8	10
Quadrant Performance Materials	EnviroSeal CC Platinum Max	2.0	ER-942	14	9	0.87	8	10
Rhino Linings	Thermal Guard CC2 ECO	2.0	ESL-1121	14	9	0.87	5.5	9.5
Rhino Linings	Thermal Guard OC.5 B-D	0.5	ESR-2100	14	9	0.87	6	10
Spray Foam Genie	SFG 2.0 CC	2.0	ER-924	14	9	0.87	8	12
Spray Foam Genie	SFG 1.7 CC	1.7	ER-924	14	9	0.87	8	12
Sustainable Polymer Products	CellTech OCA	0.5	ER-823	16	11	1.0	10	14
Sustainable Polymers	.50 OCX	0.5	ER-512	20	13	1.3	7.5	11.5
SWD	108	0.4	CCRR-1051	14	9	0.87	8	12
SWD	Quik-Shield 108 OC YM	0.4	CCRR-1051	14	9	0.87	8	12
SWD	Quik-Shield 112	2.0	CCRR-1011	20	13	1.3	9.5	9.5
SWD	Quik-Shield 118	2.0	CCRR-1093	20	13	1.3	9.5	9.5
SWD	Quik-Shield 144	2.0	CCRR-391	20	13	1.3	9.5	9.5
SWD	Quik-Shield YETI	2.0	CCRR-478	20	13	1.3	9.5	9.5
SWD	Quik-Shield GOBLIN	2.0	CCRR-507	20	13	1.3	9.5	9.5
Thermoseal	5G	2.0	ER-698	14	9	0.87	6	10
Thermoseal	HFO	2.0	ER-698	14	9	0.87	6	10
Universal Polymers Corporation	UPC 500 Classic	0.5	CCRR-358	14	9	0.87	10	14
Universal Polymers Corporation	UPC 500 MAX	0.5	CCRR-358	14	9	0.87	10	14
Universal Polymers Corporation	UPC 500 MAX PRO	0.5	CCRR-358	14	9	0.87	10	14
Universal Polymers Corporation	UPC 2.0 HFO	2.0	CCRR-375	14	9	0.87	8	10
Universal Polymers Corporation	UPC 2.0 HFO High Lift	2.0	CCRR-375	14	9	0.87	8	10

TABLE 1 (continued)

Manufacturer's Name	Product Name	Product Density (pcf)	Evaluation Report[1, 2]	Application of Flame Control 60-60A			Maximum Thickness of Spray Foam (inches)	
				Minimum Installed Thickness (mils)		Theoretical Application Rate (gallons/100 square feet)		
				Wet Film	Dry Film		Vertical	Overhead
Universal Polymers Corporation	UPC 2.0 HFO MAX	2.0	CCRR-375	14	9	0.87	8	10
Universal Polymers Corporation	UPC 2.0 HFO Premium	2.0	CCRR-375	14	9	0.87	8	10
Xcelus Building Systems	XLS 200	2.0	CCRR-397	14	9	0.87	8	10

For SI: 1mil = 0.0254 mm, 1 inch = 25.4 mm, 1 pcf = 16.02 kg/m^3

Notes:

1. Approval of Flame Control 60-60A for use with any insulation product listed herein is conditional upon that insulation product's current approval for use with Flame Control 60-60A. Users shall independently verify the current validity of any evaluation report referenced herein.
2. ER – Evaluation Reports from IAPMO Uniform Evaluation Service
   CCRR – Code Compliance Research Reports from Intertek
   ESR – Evaluation Service Reports from ICC-ES
   ESL – Evaluation Service Listing from ICC-ES
3. Theoretical coating application rates are based strictly on minimum wet film thickness requirements and shall be increased for site-specific conditions such as foam plastic surface texture, overspray loss, container and other residues, application technique and environmental conditions.