

Tested For: Rebecca Johnson
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3M Center Bldg 230-BE-16
Maplewood, MN 55144
USA

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Received: 1/26/2021
Completed: 2/25/2021
Code: A2
Test Report: 3-42295-2

Key Test: ASTM E662 6S

762

Client's Identification:

Lot No.: LA-D100-2874-7. Style: DP8610NS. Composition: 2K Acrylic Adhesive. Product End Use: Rail Applications for Structural Adhesive. Adhesive sandwiched between 2 pieces of IRC cement board. Adhesive thickness 0.01".

Category: Smoke Density Specifier: Transit Guidelines & Regs.
CODE: 762(6S); 867(9S); 972(12S)

LE 2018; V 04/19

PC: 24H+ME /jd SM/mg

TEST PERFORMED: ASTM E662 - Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials (NFPA Designation No. 258), as modified by the transportation industry (see "Acceptance Criteria")

PRODUCT CATEGORY: Various

APPROXIMATE THICKNESS OF MATERIAL (as measured by SGS North America): 0.548"

RESULTS ARE REPORTED:

- ☒ Initially
- ☐ After 24 hours water leaching [CODE +250]
- ☐ After _____ dry cleaning cycle/s [CODE +20/c]
- ☐ After _____ laundering cycle/s [CODE +15/c]
- ☐ After Dynamic Fatigue [CODE +1500]

BRIEF DESCRIPTION OF TEST: Two separate tests are conducted on three specimens. In one test, the face of each specimen is exposed to a radiant heat source of 2.5 W/cm² (non-flaming mode). In a second test, completely new specimens are subjected to both the radiant heat source and six small igniting flames (flaming mode). As smoke accumulates in the test chamber, the percent light obscuration is converted to a smoke density value. The highest value within a test period of 4 minutes is recorded along with interim values at 90 seconds.

At the conclusion of the test, a minus adjustment is made (clear beam reading) for any particles deposited on the optical windows.

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RESULTS:

	<u>Specimen #</u>	<u>Flaming Mode</u>	<u>Non-Flaming Mode</u>
90 Seconds:	1	0	0
Maximum Specific	2	0	0
Optical Density	3	0	0
	4	NR	NR
	5	NR	NR
	6	<u>NR</u>	<u>NR</u>
	Avg:	0	0
4 Minutes:	1	0 (0)	0 (0)
Maximum Specific	2	0 (0)	0 (0)
Optical Density	3	0 (0)	0 (0)
	4	NR (NR)	NR (NR)
	5	NR (NR)	NR (NR)
	6	<u>NR (NR)</u>	<u>NR (NR)</u>
	Avg:	0 (0)	0 (0)

CORRECTION FACTOR: At the conclusion of each test, combustion particles are removed from the glass protecting the photodetector. The corrected value in parentheses is used to recognize the slight change in light obscuration.

ABBREVIATION WHICH MAY BE USED:

NR = Not required.
 NA = Not available.

REMARKS: None.

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ACCEPTANCE CRITERIA: The requirement (pass/fail criteria) is based on the product description as listed in the three primary documents (listed below) which set forth the fire test procedures for flammability and smoke emissions.

1. Federal Railroad Administration Test Procedures & Performance Criteria, Federal Register Notice [LE 2002; V 1/17]
2. UMTA Recommended Fire Safety Practices for Transit Bus & Van Materials Selection Docket #90-A [LE 1993; V 1/17]
3. NFPA 130 Section 8.4 Flammability & Smoke Emission; Table 8.4.1 [LE 2017; V 1/17]

CONCLUSION: The reader is referred to the attached summaries of these documents to determine if the results of the product tested herein fall within the maximum permitted for that product.

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified above.

MAR 19 2021

AUTHORIZED SIGNATURE
SGS NORTH AMERICA

/jab 196

Bobby Brown

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☐ ASTM D3675; ☐ ASTM E162; ☒ ASTM E662 REQUIREMENTS SPECIFIED BY FEDERAL GUIDELINES 49 CFR PART 238

Category	Function of Material	ASTM E662		ASTM E162
		Max Specific Density		Max Flame Spread
		90 Seconds	4 Minutes	
Cushions, Mattresses	All	100	175	25* **
Fabrics	Seat upholstery, mattress ticking & covers, curtains, draperies, wall coverings, & window shades	NR	200	N/A
Other Vehicle Components	Seat & mattress frames, wall & ceiling panels, seat & toilet shrouds, tray & other tables, partitions, shelves, opaque windscreens, end caps, roof housings, & component boxes & covers	100	200	35*
	Flexible cellular foams used in armrests & seat padding	100	175	25* **
	Thermal & acoustic insulation	NR	100	25*
	HVAC ducting	NR	100	35*
	Floor covering	100	200	N/A
	Light diffusers, windows & transparent plastic windscreens	100	200	100
Elastomers	Window gaskets, door nosings, inter-car diaphragms, roof mats, & seat springs	100	200	N/A
Structural Components	Flooring, Other	N/A	N/A	N/A

NR = Not required

N/A = Not applicable; Another test applies

* In addition, flaming running and/or dripping not permitted.

** ASTM D3675

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☐ ASTM D3675; ☐ ASTM E162; ☒ ASTM E662 REQUIREMENTS SPECIFIED BY FEDERAL TRANSIT ADMINISTRATION DOCKET 90-A

Category	Function of Material	ASTM E662		ASTM E162
		Max Specific Density		Max Flame Spread
		90 Seconds	4 Minutes	
Seating	Cushion	100	200	25* **
	Frame	100	200	35*
	Shroud	100	200	35*
	Upholstery - Coated	NR	250	N/A
	Upholstery - Uncoated	NR	100	N/A
Panels	Wall	100	200	35*
	Ceiling	100	200	35*
	Partition	100	200	35*
	Windscreen	100	200	35*
	HVAC Ducting	NR	100	35*
	Light Diffuser	100	200	100
Flooring	Wheel Well & Structural	NR	NR	N/A
	Carpeting	NR	NR	N/A
Insulation	Thermal	NR	100	25*
	Acoustic	NR	100	25*
Miscellaneous	Firewall	NR	NR	N/A
	Exterior Shell	100	200	35*

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☐ ASTM D 3675; ☐ ASTM E162; ☒ ASTM E662 REQUIREMENTS SPECIFIED BY NFPA 130

Category	Function of Material	ASTM E662		ASTM E162
		Max Specific Density		Max Flame Spread
		90 Seconds	4 Minutes	
Cushioning	All individual flexible cushioning materials used in seat cushions, mattresses, mattress pads, armrests, crash pads, & grab rail padding	100	175	25* **
Fabrics	Seat upholstery, mattress ticking & covers, curtains, draperies, window shades, & woven seat cushion suspensions	NR	200	N/A
Other Vehicle Components	Seat & mattress frames, wall & ceiling lining & panels, seat & toilet shrouds, toilet seats, trays & other tables, partitions, shelves, opaque windscreens, combustible signage, end caps, roof housings, articulation bellows, exterior shells, nonmetallic skirts, & component boxes & covers	100	200	35*
	Thermal & acoustical insulation	NR	100	25*
	HVAC ducting	NR	100	25*
	Floor covering	100	200	N/A
	Light diffusers, windows, & transparent plastic windscreens	100	200	100
	Adhesives & sealants	200	200	35*
Elastomers	Window gaskets, door nosings, inter- car diaphragms, seat cushion suspension diaphragms, & roof mats	100	200	N/A
Wire & Cable	All	N/A	N/A	N/A
Structural Components	Flooring, other	NR	NR	N/A

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