



**Underwriters
Laboratories Inc.®**

Northbrook
March 7, 2008

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Subject: Testing Project on 2lb Density Wall Foam

Dear Mr. Fitzgerald

All testing work associated with project number 07CA58423, File number SV16961 has been completed. Please see the attached data results. The total project cost will be \$2200.

Client supplied all of the test samples for testing by UL. UL did not select the samples or determine whether the samples provided by client were representative of other manufactured products. UL tested the samples in accordance with requirements established by the Client. The test results apply only to the samples actually tested by UL.

In no event shall UL be responsible to anyone for whatever use or nonuse is made of the information contained in this Report and in no event shall UL, its employees or its agents, incur any obligation or liability for damages, including, but not limited to, consequential damages arising out of or in connection with the use, or inability to use, the information contained in this Report.

The sole purpose of this investigation is to develop information and data on the 2lb density wall foam by means of Horizontal burning foamed material test. No conclusions are to be made from the data obtained. The information obtained by this investigation is to be submitted only to Lapolla Industries for their use.

Thank you for the opportunity to provide your company with these services. Please do not hesitate to contact us if you should have any questions or comments

Very truly yours,

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Appendix

HORIZONTAL BURNING FOAMED MATERIAL TEST;
HBF, HF-1 OR HF-2

UL 94(5th Ed), Section 12
(ASTM D4986, ISO 9772)

Set#: 1		Material: FL 500 Wall Foam, 1/2lb density					Color: NC		
Density (g/cc):		Specimen Review: <input checked="" type="checkbox"/> Radius < 2.0 mm			<input checked="" type="checkbox"/> Width 50±1 mm				
<input checked="" type="checkbox"/> Conditioned >40h/23±2°C/50±5%RH									
#	Thk (mm)	t ₁ (s)	t ₁ +t ₂ (s)	L _{1,2} (mm)	t _b (s)	L _b (mm)	V _{BR} (mm/min)	X ₁	
1	13.30	0	0	15	-	-	-	1	
2	13.45	0	0	12	-	-	-	1	
3	13.42	0	0	17	-	-	-	1	
4	12.47	0	0	15	-	-	-	1	
5	11.28	0	0	15	-	-	-	1	
<input checked="" type="checkbox"/> Conditioned 168±4h/70±1°C									
#	Thk (mm)	t ₁ (s)	t ₁ +t ₂ (s)	L _{1,2} (mm)	t _b (s)	L _b (mm)	V _{BR} (mm/min)	X ₁	
6	13.37	0	0	57	6	27	-	1,5,6	
7	13.80	0	0	100	33	75	-	1,5,6	
8	11.58	0	0	57	10	27	-	1,5,6	
9	14.05	0	0	70	12	45	-	1,5,6	
10	15.10	0	0	40	11	15	-	1,5,6	
Notes:						Flame Class: HBF			

t₁ = Afterflame t₂ = Afterglow L_{1,2} = Overall Damaged Length
t_b = Duration of burning beyond 25 mm gauge mark
L_b = Damaged Length beyond 25 mm gauge mark (L_{1,2} - 25)
V_{BR} = Burning Rate = 60L_b/t_b

Observations (X₁)

- (1) Specimen did not drip.
- (2) Specimen dripped particles which did not ignite cotton.
- (3) Specimen dripped particles which ignited cotton.
- (4) Glowing combustion which travels past the 60 mm gauge mark
- (5) Determined between the 25 mm and 125 mm gauge mark.
- (6) Ceased to burn before the 125 mm gauge mark; rate not determined.
- (7) Misc. -----

Micrometer: ----- Timer: ----- Hood: ----- Oven: -----
Lab Ambient: 23 °C (25±10°C) and 48 %RH (60±15%RH)

Appendix

HORIZONTAL BURNING FOAMED MATERIAL TEST;
HBF, HF-1 OR HF-2

UL 94(5th Ed), Section 12
(ASTM D4986, ISO 9772)

Set#: 2		Material: FL 2000 Wall Foam, 2lb density				Color: NC		
Density (g/cc):		Specimen Review: <input checked="" type="checkbox"/> Radius < 2.0 mm		<input checked="" type="checkbox"/> Width 50±1 mm				
<input checked="" type="checkbox"/> Conditioned >40h/23±2°C/50±5%RH								
#	Thk (mm)	t ₁ (s)	t ₁ +t ₂ (s)	L _{1,2} (mm)	t _b (s)	L _b (mm)	V _{BR} (mm/min)	X ₁
1	12.35	0	0	15	-	-	-	1
2	13.00	0	0	17	-	-	-	1
3	12.87	0	0	18	-	-	-	1
4	12.85	0	0	15	-	-	-	1
5	13.60	0	0	17	-	-	-	1
<input checked="" type="checkbox"/> Conditioned 168±4h/70±1°C								
#	Thk (mm)	t ₁ (s)	t ₁ +t ₂ (s)	L _{1,2} (mm)	t _b (s)	L _b (mm)	V _{BR} (mm/min)	X ₁
6	12.77	0	0	20	-	-	-	1
7	12.91	0	0	20	-	-	-	1
8	12.35	0	0	20	-	-	-	1
9	13.85	0	0	18	-	-	-	1
10	12.22	0	0	15	-	-	-	1
Notes:						Flame Class: HF-1		

t₁ = Afterflame t₂ = Afterglow L_{1,2} = Overall Damaged Length
t_b = Duration of burning beyond 25 mm gauge mark
L_b = Damaged Length beyond 25 mm gauge mark (L_{1,2} - 25)
V_{BR} = Burning Rate = 60L_b/t_b

Observations (X₁)

- (1) Specimen did not drip.
- (2) Specimen dripped particles which did not ignite cotton.
- (3) Specimen dripped particles which ignited cotton.
- (4) Glowing combustion which travels past the 60 mm gauge mark
- (5) Determined between the 25 mm and 125 mm gauge mark.
- (6) Ceased to burn before the 125 mm gauge mark; rate not determined.
- (7) Misc. -----

Micrometer: ----- Timer: ----- Hood: ----- Oven: -----
Lab Ambient: 23 °C (25±10°C) and 49 %RH (60±15%RH)

