

TEST REPORT

3883 E. Eagle Drive, Anaheim, CA 92807-1722 / Phone 714-630-3003 • Fax 714-630-4443

A New Bodycote Company

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PTM&W Industries, Inc
10640 South Painter Ave.
Santa Fe Springs, Ca. 90670

ATTN: Bill Ryan

OCMTL NO.: 290248
DATE OF REPORT: 3-16-2009
PURCHASE ORDER NO: 21218
PHONE: 562-946-4511
FAX: 562-941-4773

Background:

PTM&W Industries submitted 3 samples for the purpose Flammability testing per FAA FAR Volume III, Part 25.853 (a), Appendix F, Part 1 (a) (1) (i). The samples were identified as follows:

- 1) Cured Epoxy Laminate PT 2475 1 Ply of 7781 Style Glass Cloth (0.020" Thick)
- 2) Cured Epoxy Laminate PT 2475 2 Ply of 7781 Style Glass Cloth (0.030" Thick)
- 3) Cured Epoxy Laminate PT 2475 3 Ply of 7781 Style Glass Cloth (0.040" Thick)

Reference Documents:

Flammability Test Procedure: FAR Volume III, Part 25.853 (a), Appendix F, Part 1 (a) (1) (i).
Purchase Order Number: 21218

Test Date: 03-16-2009

Test Performed By: Steve Nelson

Test Procedure:

Prior to testing, each specimen was conditioned for 24 hours at a temperature of $21 \pm 2^{\circ}\text{C}$ and $50\% \pm 5\%$ relative humidity. The specimens were each inserted in a fixture vertically that allowed the bottom edge to be 0.75 inch above the top of the burner. A burner with a tube of 0.375 inside diameter was used. The gas-adjusting valve was set to provide a vertical flame of 1.50 inch in height with methane gas. Minimum flame temperature must be 1550°F . Flame was applied for 60 seconds then removed. Flame time, burn length and flaming time of drippings, if any, were recorded. The following observations, measurements and calculations were made.

Test Results:

Flammability Test Data Per FAR Volume III, Part 25.853 (a), Appendix F, Part 1 (a) (1) (i). 1 Ply

	Sample #1	Sample #2	Sample #3	Average	Requirements
Flame Temp Degrees F.	1602	1611	1598		1550°F minimum
Flaming Particles	None	None	None	None	
Flaming Drippings	None	None	None	None	Average Extinguish Time 5 Seconds Max
Burn Length Inches	4.445	5.294	4.475	4.738	Average Burn Length 6 Inches Max
Flame Extinguish Time Seconds	0.0	0.0	0.0	0.0	Average Extinguish Time 15 Seconds Max After Flame Removed
Flame Time After Flame Started Sec.	15.7	16.3	16.8	16.3	



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Test Results:

Flammability Test Data Per FAR Volume III, Part 25.853 (a), Appendix F, Part 1 (a) (1) (i). 2 Ply

	Sample #1	Sample #2	Sample #3	Average	Requirements
Flame Temp Degrees F.	1598	1605	1603	1602	1550°F minimum
Flaming Particles	None	None	None	None	
Flaming Drippings	None	None	None	None	Average Extinguish Time 5 Seconds Max
Burn Length Inches	5.373	5.403	5.191	5.322	Average Burn Length 6 Inches Max
Flame Extinguish Time Seconds	0.0	0.0	0.0	0.0	Average Extinguish Time 15 Seconds Max
Flame Time After Flame Started Sec.	23.2	24.9	24.5	24.2	

Test Results:

Flammability Test Data Per FAR Volume III, Part 25.853 (a), Appendix F, Part 1 (a) (1) (i). 3 Ply

	Sample #1	Sample #2	Sample #3	Average	Requirements
Flame Temp Degrees F.	1613	1618	1601	1611	1550°F minimum
Flaming Particles	None	None	None	None	
Flaming Drippings	None	None	None	None	Average Extinguish Time 5 Seconds Max
Burn Length Inches	5.598	5.710	5.371	5.560	Average Burn Length 6 Inches Max
Flame Extinguish Time Seconds	0.0	0.0	0.0	0.0	Average Extinguish Time 15 Seconds Max
Flame Time After Flame Started Sec.	35.7	34.3	34.9	35.0	



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Observations:

On all three samples tested, there were no flaming particles or drippings and the flame self extinguished before the 60 second flame time was completed. The flame time after flame started reading was when the flame went out during the 60 second burn. There is no requirement for this, but is used for comparison between the three different samples.


Conclusion:

The Samples tested met the requirements of FAR Volume III, Part 25.853 (a), Appendix F, Part 1 (a) (1) (i)

Calibration of Equipment Used:

EQUIPMENT:	CONTROL NUMBER:	CALIBRATION DATE:	CALIBRATION DUE:
Burn Chamber	2049	06-30-08	06-30-09
Gas Pressure Gauge	2049B	06-30-08	06-30-09
Digital Timer	2049E	06-30-08	06-30-09
Digital Temp Readout	2049A	06-30-08	06-30-09
Conditioning Chamber	1094	11-24-08	11-24-09

This is to certify that the above tests were performed in accordance with the terms of the purchase order requirements.
Test equipment is calibrated with standards traceable to the NIST.


Gerard Minogue
Chemical Laboratory Supervisor



Test results in this report relates only to the items tested.

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