

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

LABORATORIES

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PTM & W INDUSTRIES, INC.

10640 SOUTH PAINTER AVENUE SANTA FE SPRINGS, CA 90670

OCMTL NO.:

220705 04-19-02

DATE OF REPORT:

PURCHASE ORDER NO:

12852

PHONE:

562-946-4511

ATTN: CHARLES E. OWEN

FAX: 562-941-4773

TYPE OF TEST:

VERTICAL FLAMMABILITY (15 SECONDS BURN TEST)

MATERIAL IDENTIFICATION:

SUPPLIED LAMINATING SYSTEMS; RETARDANT EPOXY

LOT/BATCH/SERIAL NO.:

PT5355; RESIN WITH PART "B" HARDENER-FIRE

SPECIFICATION/REVISION:

FAR 25.853; APPENDIX: "F"

TEST PROCEDURE:

PART 1 (a) (1) (i) (4)

SPECIMEN CONDITIONS:

24 HOURS @ 70 +/- 5°F FOR 50 +/- 5% R.H.

TEST TEMPERATURE:

1650°F ACTUAL; (FLAME TEMPERATURE 1550°F MINIMUM);

NATURAL GAS

DATE OF TEST:

04-16-02

SAMPLE I.D.	BURN LENGTH FLAME TIME		FLAME TIME
	(Inches)	(Drippings for Seconds)	(After Burn for Seconds)
1	0.110	0	0
2	0.110	0	0
3	0.110	0	0
MAXIMUM REQUIREMENTS:	6 Inches	3 Seconds	15 Seconds

The above test results MET the requirements of the specification as noted above.

EQUIPMENT:	CONTROL NUMBER:	CALIBRATION DATE:	CALIBRATION DUE:
STOPWATCH	1953	07-24-01	07-24-02
THERMOMETER	1275	11-06-01	11-06-02

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.

John A. Brunét

Director of Quality

Darrell C. Reed

Senior Quality Engineer



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PTM & W INDUSTRIES, INC.

10640 SOUTH PAINTER AVENUE SANTA FE SPRINGS, CA 90670

OCMTL NO.: 220705

04-18-02

DATE OF REPORT: **PURCHASE ORDER NO:**

12852

PHONE:

562-946-4511

ATTN: CHARLES E. OWEN

562-941-4773 FAX:

TYPE OF TEST:

VERTICAL FLAMMABILITY (15 SECONDS BURN TEST)

MATERIAL IDENTIFICATION:

SUPPLIED LAMINATING SYSTEMS: RETARDANT EPOXY

LOT/BATCH/SERIAL NO.:

PT5355; RESIN WITH PART "B1" HARDENER-FIRE

SPECIFICATION/REVISION:

FAR 25.853; APPENDIX: "F"

TEST PROCEDURE:

PART 1 (a) (1) (i) (4)

SPECIMEN CONDITIONS:

24 HOURS @ 70 +/- 5°F FOR 50 +/- 5% R.H.

TEST TEMPERATURE:

1650°F ACTUAL; (FLAME TEMPERATURE 1550°F MINIMUM);

NATURAL GAS

DATE OF TEST:

04-16-02

SAMPLE I.D.	BURN LENGTH FLAME TIME		FLAME TIME
	(Inches)	(Drippings for Seconds)	(After Burn for Seconds)
1	0.110	0	0
2	0.110	0	0
3	0.110	0	0
MAXIMUM REQUIREMENTS:	6 Inches	3 Seconds	15 Seconds

The above test results MET the requirements of the specification as noted above.

EQUIPMENT:	CONTROL NUMBER:	CALIBRATION DATE:	CALIBRATION DUE:
STOPWATCH	1953	07-24-01	07-24-02
THERMOMETER	1275	11-06-01	11-06-02

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.

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PTM & W INDUSTRIES, INCORPORATED **10640 SOUTH PAINTER AVENUE** SANTA FE SPRINGS. CALIFORNIA 90670

ATTN: SCOTT STETLER

PAGE: 1 OF 4

DATE: MAY 24, 2005

OCMTL No:

250765 PURCHASE ORDER:: 17013

PHONE: 562 946-4511

> FAX: 562 941-4773

BACKGROUND:

PTM & W Industries, Inc. submitted panels for Flammability testing per FAR Volume III, Part 25.853 (a)(1)(ii) The sample was identified as follows:

1) 10 Layer Panel 181 Cloth / PT 5355 W / B-2

REFERENCE DOCUMENTS:

Purchase Order Number, 17013

Flammability Test Procedure. FAR Volume III, Part 25.853 (a)(1)(ii) Titled: "Flammability of Interior Materials."

TESTING:

Prior to testing, each specimen, was conditioned for 24 hours at a temperature of 21± 2°C and a relative humidity of 50 ± 5 .

The specimens were each inserted between two matching U-shaped frames. The U-shaped frames and sample were placed horizontally so that the frame holds both sides and one end, and that the open end is .075 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 12 seconds then removed. Flame time, burn length and flaming time of drippings, if any, were recorded.

Flammability testing consisted of testing the supplied sample in triplicate with the flame applied to the bottom edge. The following observations, measurements and calculations were made.

TEST RESULTS:

FLAMMABILITY TEST DATA PER FAR VOLUME III, PART 25.853

	Specimen #1	Specimen #2	Specimen #3	Average	Requirements
Flame Temp	1722	1710	1622	1684	1500 ° F
Flame Time Seconds	2.1	1.5	1.1	1.57	Must not exceed 15 seconds
Flaming Drippings	None	None	None	None	Must extinguish before 3 seconds
Burn Length Inches	1.04	0.42	0.75	0.74	Maximum Burn Length 8.0 inches

OBSERVATIONS:

No drippings. Flame Time after flame source removed did not exceed maximum limits.

CONCLUSION:

The Samples tested met the requirements of FAR Volume III, Part 25.853 (a)(1)(ii).



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PTM & W INDUSTRIES, INCORPORATED 10640 SOUTH PAINTER AVENUE SANTA FE SPRINGS, CALIFORNIA 90670

ATTN: SCOTT STETLER

PAGE: 2 OF 4

DATE: May 24, 2005

OCMTL No: 250765 PURCHASE ORDER:: 17013

PHONE: **562 946-4511**

FAX: 562 941-4773

Calibration of Equipment Used:

EQUIPMENT:	CONTROL NUMBER:	CALIBRATION DATE:	CALIBRATION DUE:
Burn Chamber	02049	09-08-04	03-08-06
Gas Pressure Gauge	02049B	09-08-04	03-08-06
Digital Timer	02049E	09-08-04	03-08-06

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.



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PAGE: 3 OF 4

DATE: MAY 24, 2005

OCMTL No: 250765
PURCHASE ORDER:: 17013

PHONE: **562 946-4511**

FAX: **562 941-4773**

PTM & W INDUSTRIES, INCORPORATED 10640 SOUTH PAINTER AVENUE SANTA FE SPRINGS, CALIFORNIA 90670

ATTN: SCOTT STETLER

BACKGROUND:

PTM & W Industries, Inc. submitted panels for Flammability testing per FAR Volume III, Part 25.853 (a)(1)(ii) The sample was identified as follows:

1) 5 Layer Panel 181 Cloth / PT 5355 W / B-2

REFERENCE DOCUMENTS:

Purchase Order Number . 17013

Flammability Test Procedure. FAR Volume III, Part 25.853 (a)(1)(ii) Titled: "Flammability of Interior Materials."

TESTING:

Prior to testing, each specimen was conditioned for 24 hours at a temperature of $21\pm2^{\circ}$ C and a relative humidity of $50\pm5\%$ and was tested under these conditions.

The specimens were each inserted between two matching U-shaped frames. The U-shaped frames and sample were placed horizontally so that the frame holds both sides and one end, and that the open end is .075 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 12 seconds then removed. Flame time, burn length and flaming time of drippings, if any, were recorded.

Flammability testing consisted of testing the supplied sample in triplicate with the flame applied to the leading edge. The following observations, measurements and calculations were made.

TEST RESULTS:

FLAMMABILITY TEST DATA PER FAR VOLUME III, PART 25.853

	Specimen #1	Specimen #2	Specimen #3	Average	Requirements
Flame Temp	1760	1738	1692	1730	1500 ° F
Flame Time Seconds	71.9	59.3	89.3	73.5	Must not exceed 15 seconds
Flaming Drippings	None	None	None	None	Must extinguish before 3 seconds
Burn Length Inches	5.52	3.60	7.22	5.45	Maximum Burn Length 8.0 inches

OBSERVATIONS:

No drippings. Flame Time after flame source removed exceeded maximum limits.

CONCLUSION:

The Samples tested did not meet the requirements of FAR Volume III, Part 25.853 (a)(1)(ii).



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PAGE: 4 OF 4

DATE: MAY 24, 2005

OCMTL No: 250765

PURCHASE ORDER:: 17013

PHONE: 562 946-4511

ATTN: SCOTT STETLER

FAX: 562 941-4773

Calibration of Equipment Used:

PTM & W INDUSTRIES, INCORPORATED

SANTA FE SPRINGS, CALIFORNIA 90670

10640 SOUTH PAINTER AVENUE

EQUIPMENT:	CONTROL NUMBER:	CALIBRATION DATE:	CALIBRATION DUE:
Burn Chamber	02049	09-08-04	03-08-06
Gas Pressure Gauge	02049B	09-08-04	03-08-06
Digital Timer	02049E	09-08-04	03-08-06

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.

The test results in this report relate only to the items tested.

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