

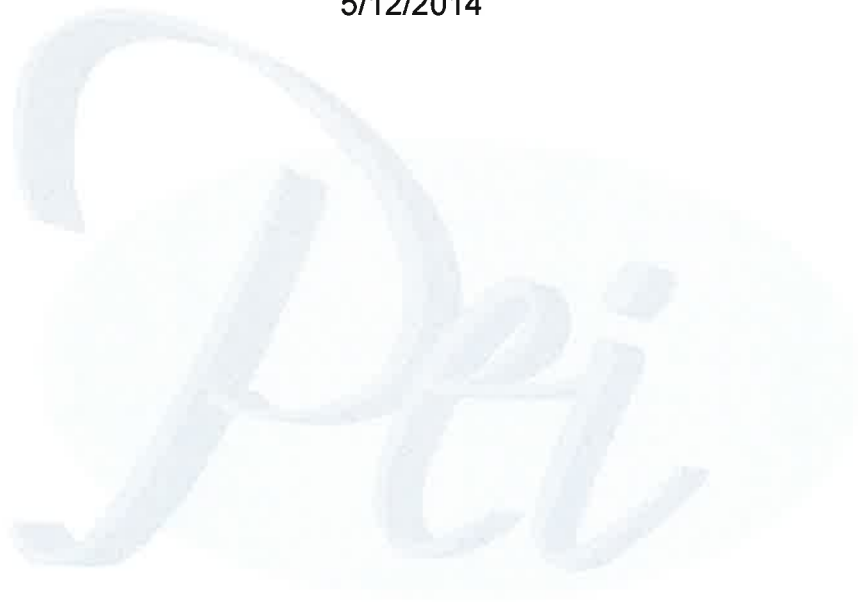


Progressive Engineering Inc.

CRANE COMPOSITES

FMVSS and CMVSS 302
Flammability of Interior Materials Test

5/12/2014



This test report contains ten (10) pages, including the cover sheet. Any additions to, alterations of, or unauthorized use of excerpts from this report are expressly forbidden.

2014-772

1. TITLE

FMVSS and CMVSS 302 Flammability of Interior Materials Test

2. OBJECTIVE

To test the interior finish materials of the motor vehicle per the safety standards mentioned in Section 6 of this report.

This test report pertains only to the specimens tested. It remains the sole responsibility of the manufacturer to provide a product consistent to that which was tested.

3. TESTED FOR

Crane Composites
2424 E. Kercher Road
Goshen, IN 46526

4. TESTING ORGANIZATION

Progressive Engineering Inc.

58640 State Road 15
Goshen, IN 46528
www.p-e-i.com

See IAS Evaluation Report TL-178 for ISO 17025 Accreditation.

5. TESTING PERSONNEL

Director of Testing - Jason R. Holdeman
Technician - Todd Miller



6. REFERENCE STANDARDS

Federal Motor Vehicle Safety Standard (FMVSS) 302 - as stated in the Code of Regulations Title 49, Volume 5, Section S571.302 (10-1-12 Edition).

Canadian Motor Vehicle Safety Standards (CMVSS) Standard 302 - Date Modified: 2012-02-06

7. TEST EQUIPMENT

- A. Pre-Conditioning Room
- B. Burn Chamber (PEI No. 269)
- C. Stop Watch

8. TEST SPECIMEN

See attached data pages for specimen descriptions.

9. TEST SPECIMEN CONSTRUCTION

The test specimens were cut into a 4" x 14" x 1/2" thick (maximum) piece for testing. (Where ideal specimen size could not be attained, the closest matching specimen size was used or the actual shape of the finished product.)

10. TEST SPECIMEN CONDITIONING

The test specimens were conditioned at 70 °F and 50% RH for a minimum of twenty-four (24) hours prior to testing.

11. TEST PROCEDURE

- A. Test specimen is mounted in between matching "U" brackets.
- B. Test specimen is then placed in metal cabinet.
- C. Bunsen burner flame is then exposed to end of test sample for fifteen (15) seconds.
- D. The time required for the flame to travel from 1-1/2" in from the open end of the "U" bracket to 1-1/2" in from the closed end of the "U" bracket is measured and recorded.
- E. The rate of burn is then calculated and recorded.

12. TEST RESULTS

See the attached data sheets for test results.

Progressive Engineering Inc.
FMVSS & CMVSS 302 FLAMMABILITY TEST

Client: Crane Composites

Sample Description: SDSC 045 skin material with an average measured thickness of 0.047". Specimen details provided by Marcus Ulmer of Crane Composites.

Samples Received on: 5/9/2014

PRECONDITIONING

	Date	Time	Temp.	Rel. Hum.
Start	5/9/2014	6:39	72deg.F.	52%
Stop	5/12/2014	1:05	72deg.F.	51%

TEST DATA

Date	Travel Time (s)	Travel Distance	Comments / Observations
5/12/2014	600.0 sec	6.3"	The specimen burned slowly producing lots of thick black smoke with no flaming drips.

TEST RESULTS

Based on the data above the following Burn Rate (B_r) was obtained. Burn rate is defined as "Travel Distance" divided by the "Travel Time" (in minutes)

Burn Rate	Pass	Fail
0.63"/min	✓	

A PASS is considered a Burn Rate (B_r) of LESS than 4" per minute.

Tested Specimen

