



*Progressive Engineering Inc.*

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## **CRANE COMPOSITES**

FMVSS and CMVSS 302  
Flammability of Interior Materials Test

2/2/2021



This test report contains eight (8) pages, including the cover sheet. Any additions to, alterations of, or unauthorized use of excerpts from this report are expressly forbidden.

2021-6047

## 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](http://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 (10-1-19 Edition).

**Canadian Motor Vehicle Safety Standards (CMVSS) Standard 302**

**Transport Canada Technical Standards Document No. 302**, Revision 0R

## 7. TEST EQUIPMENT

- A. Pre-Conditioning Room
- B. Burn Chamber (PEI No. 269)
- C. Digital Timers (PEI No's. 812 and 948)

*Note: Devices were calibrated on 8/26/2020. Individual calibration files are kept on file at PEI for each number shown.*

## 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:** NCC S85 Fiberglass Panel material with an average measured thickness of .228". PEI personnel cut the specimen down to the required 4" x 14" size. Specimen details provided by Marcus Ulmer of Crane Composites.

**Samples Received on:** 2/1/2021

**PRECONDITIONING**

	Date	Time	Temp.	Rel. Hum.
Start	2/1/2021	12:27	72°F	49%
Stop	2/2/2021	2:51	72°F	49%

**TEST DATA**

Date	Travel Time (s)	Travel Distance	Comments / Observations
2/2/2021	0.0 sec	0.0"	The specimen ignited briefly and self-extinguished before the start point, producing a very small amount of lite gray 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 (Br)	Pass	Fail
0.00"/min.	✓	

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

Tested Specimen



***Progressive Engineering Inc.***  
**FMVSS & CMVSS 302 FLAMMABILITY TEST**

**Client:** Crane Composites

**Sample Description:** NCC T60 Fiberglass Panel material with an average measured thickness of .186". PEI personnel cut the specimen down to the required 4" x 14" size. Specimen details provided by Marcus Ulmer of Crane Composites.

**Samples Received on:** 2/1/2021

**PRECONDITIONING**

	Date	Time	Temp.	Rel. Hum.
Start	2/1/2021	12:27	72°F	49%
Stop	2/2/2021	2:51	72°F	49%

**TEST DATA**

Date	Travel Time (s)	Travel Distance	Comments / Observations
2/2/2021	0.0 sec	0.0"	The specimen did not ignite producing a very small amount of lite gray smoke, only upon burner removal.

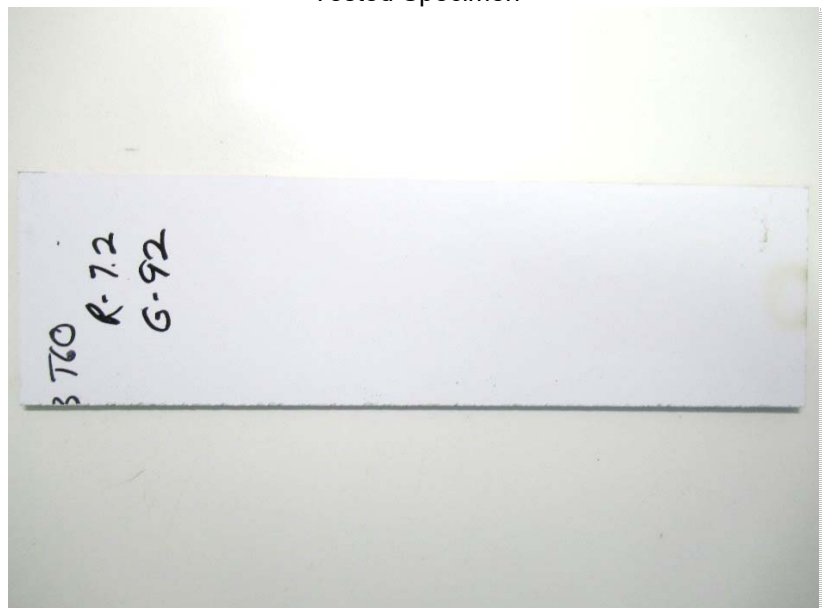
**TEST RESULTS**

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 (Br)	Pass	Fail
0.00"/min.	✓	

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

Tested Specimen



***Progressive Engineering Inc.***  
**FMVSS & CMVSS 302 FLAMMABILITY TEST**

**Client:** Crane Composites

**Sample Description:** NS C85 Fiberglass Panel material with an average measured thickness of .217". PEI personnel cut the specimen down to the required 4" x 14" size. Specimen details provided by Marcus Ulmer of Crane Composites.

**Samples Received on:** 2/1/2021

**PRECONDITIONING**

	Date	Time	Temp.	Rel. Hum.
Start	2/1/2021	12:27	72°F	49%
Stop	2/2/2021	2:51	72°F	49%

**TEST DATA**

Date	Travel Time (s)	Travel Distance	Comments / Observations
2/2/2021	0.0 sec	0.0"	The specimen burned briefly and self-extinguished before the start point, producing dark gray smoke with no flaming drips.

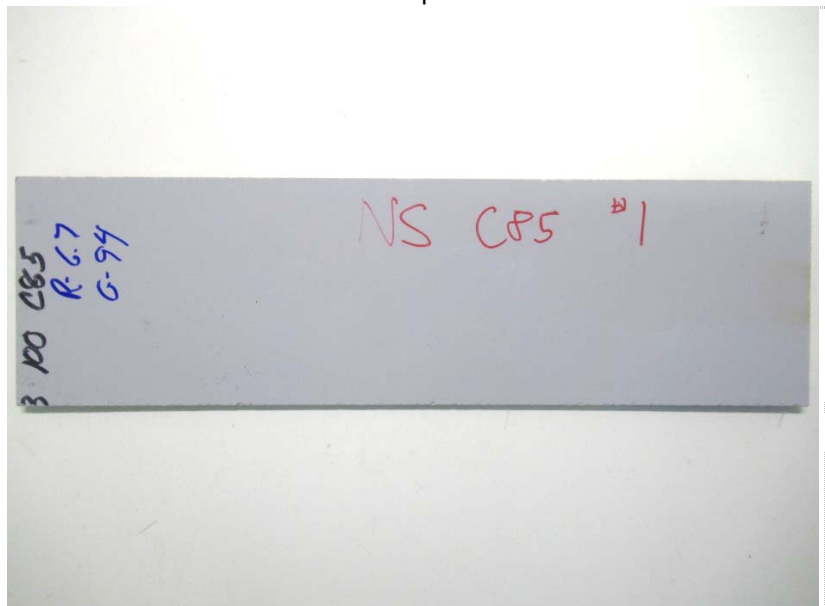
**TEST RESULTS**

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 (Br)	Pass	Fail
0.00"/min.	✓	

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

Tested Specimen



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**Client:** Crane Composites

**Sample Description:** NS D85 Fiberglass Panel material with an average measured thickness of .180". PEI personnel cut the specimen down to the required 4" x 14" size. Specimen details provided by Marcus Ulmer of Crane Composites.

**Samples Received on:** 2/1/2021

**PRECONDITIONING**

	Date	Time	Temp.	Rel. Hum.
Start	2/1/2021	12:27	72°F	49%
Stop	2/2/2021	2:51	72°F	49%

**TEST DATA**

Date	Travel Time (s)	Travel Distance	Comments / Observations
2/2/2021	600.0 sec	3.8"	The specimen burned slowly, producing lots of dark gray smoke with no flaming drips and was manually extinguished.

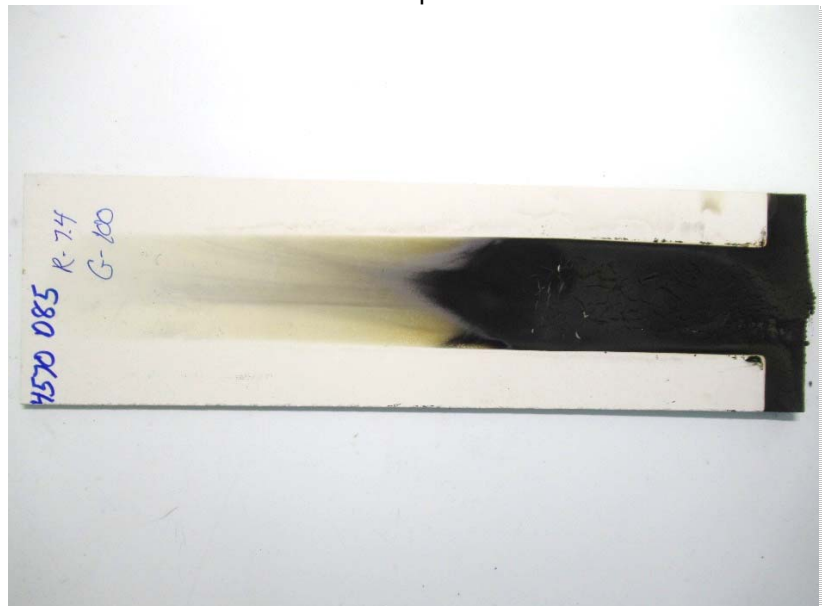
**TEST RESULTS**

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 (Br)	Pass	Fail
0.38"/min	✓	

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

Tested Specimen



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**Client:** Crane Composites

**Sample Description:** NC E85 Fiberglass Panel material with an average measured thickness of .172". PEI personnel cut the specimen down to the required 4" x 14" size. Specimen details provided by Marcus Ulmer of Crane Composites.

**Samples Received on:** 2/1/2021

**PRECONDITIONING**

	Date	Time	Temp.	Rel. Hum.
Start	2/1/2021	12:27	72°F	49%
Stop	2/2/2021	2:51	72°F	49%

**TEST DATA**

Date	Travel Time (s)	Travel Distance	Comments / Observations
2/2/2021	600.0 sec	3.5"	The specimen burned slowly, producing lots of dark gray smoke with no flaming drips and was manually extinguished.

**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 (Br)	Pass	Fail
0.35"/min	✓	

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

Tested Specimen

