

Number of pages in this package 16

TEST LOCATION:	
<input checked="" type="checkbox"/> UL or Affiliate	
Company Name	Underwriters Laboratories, Inc.
Address	333 Pfingsten Road Northbrook, IL 60016

CLIENT INFORMATION	
Company Name	Baums Castorine Co. Inc.
Address	200 Matthew St Rome, NY 13440 USA

AUDIT INFORMATION:			
<input checked="" type="checkbox"/>	Description of Tests	Per Standard No.	*NFPA 18 Edition 2006 ISSUED 2005-07-05 UL 711-6 Edition 2002-08-14
<input checked="" type="checkbox"/>	Tests Conducted by	See Below	See Below
		Printed name	Signature
	Reviewed and accepted by Responsible Engineer	Craig S. Thames	Craig S. Thames
		Printed Name	Signature

TESTS TO BE CONDUCTED:			
Test No.	Done	Test Name	[] Comments/Parameters [] Tests Conducted by ++
1	2007-05-23	Class A Fire Extinguishment	2 consecutive 3A wood Cribs. No re-ignition after 15 min. Conducted by M.Lesiak
2	2007-05-22	Class B Fire Extinguishment	2 consecutive 20B Pan tests 5 minute extinguishment required conducted by Baum's Castorine's fire fighter: Jacek Kobiesa

*NFPA 18 – Refers to the Standard on Wetting Agents, 2006 Edition.

Test Equipment- See "TEST EQUIPMENT INFORMATION"

Samples – See "TEST SAMPLE IDENTIFICATION"

Instructions -

+ - When all tests are conducted by one person, printed name and signature can be inserted here instead of including printed name and

signature on each page containing data. Must indicate number of pages in the data package.

++ - When test conducted by more than one person, printed name and signature of person conducting the test can be inserted next to the test name instead of including printed name and signature on each page containing data. Must indicate number of pages in the data package.

Special Instructions -

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TEST EQUIPMENT INFORMATION

Inst. ID No.	Instrument Type	Test Number +, Test Title or Conditioning	Function /Range	Last Cal. Date	Next Cal. Date
207F04P G/20231	Pressure Gauge	1	0-300 psi	2007-01-10	2008-01-31
235F07P G/44919	Pressure Gauge	2	0-300 psig	2007-04-13	2008-04-30
46FA2DT M/21465	Digital Temp. Meter	2	0-1999 F	2007-02-06	2008-02-29
61F02SC L/22121	Scale	2	0-5000 lb	2007-03-26	2008-03-31
57F01SC L/21858	Scale	1,2	0-1200 grams	2007-03-26	2008-03-31
52F00SC L/21860	Scale	2	0-150 lbs.	2007-03-26	2008-03-31
10FA3SC L/21839	Scale	1	0-800 lbs	2007-03-26	2008-03-31
99F65SW /21606	Stopwatch	1,2	10 Hours	2007-03-07	2008-03-31
27F07MT /43436	Measuring Tape	1,2	0-25 ft	2007-01-08	2008-01-31
6F65WM/ 20316	Wood Moisture Meter	1	6-60%	2007-02-08	2008-02-29

+ - If Test Number is used, the Test Number must be identified on the data sheet pages or on the Data Sheet Package cover page.

The M&TE used for tests have minimum required accuracy and range/functions, and were calibrated to assure these levels.

Test equipment information is recorded on UL's Laboratory Project Management (LPM)/Laboratory Equipment Management (LEM) database. (This statement may be selected only if datasheets are completed electronically at a UL facility)

Critical Consumables:	
Critical consumables are compliant with test standard requirements.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

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TEST SAMPLE IDENTIFICATION:

The table below is provided to provide correlation of sample numbers to specific product related information. Refer to this table when a test identifies a test sample by "Sample No." only.

Sample Card No.	Date Received	Test No.	Samp. No.	Manufacturer, Product Identification and Ratings
0882191 -001	02/12/2007	1,2	1,2,3	Baums Castorine , (3)5 gallon pails of " Novacool UEF Wetting Agent " wetting agent, Lot No. 06-335

[] Unless specified otherwise in the individual Methods, the tests shall be conducted under the following ambient conditions. Confirmation of these conditions shall be recorded at the time the test is conducted.

Ambient Temperature, C _____ ± _____ Relative Humidity, % _____ ± _____ Barometric Pressure, mBar _____ ± _____

[] No general environmental conditions are specified in the Standard(s) or have been identified that could affect the test results or measurements.

[x] The tests shall be conducted under the ambient conditions where specified in the individual Methods. Confirmation of these conditions shall be recorded at the time the test is conducted. Otherwise, where ambient conditions are not specified in the individual Methods, no general environmental conditions are specified in the Standard(s) or have been identified that could affect the test results or measurements.

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CLASS A FIRE TEST – WOOD CRIB TEST:

NFPA 18, Sec 5.3.4.1
2006 Edition
UL 711, Sec. 7.2

The test shall be conducted utilizing a 9.5 L (2.5 gal) listed 2A rated water extinguisher. 2 consecutive extinguishments (3A cribs)

Wetting agent solutions at the concentrations specified by the manufacturer shall be evaluated to, and comply with, the requirements of UL711 for Class A fires utilizing a **3A wood crib**.

The test shall be conducted utilizing a 9.5 L (2.5 gal) listed 2A rated water extinguisher.

A wood crib is to consist of layers of 38 by 38 mm trade size [2 by 2 (1-1/2 by 1-1/2 in)] or size 38 by 89 mm trade size [2 by 4 (1-1/2 by 3-1/2 in)] kiln-dried spruce or fir lumber having a **moisture content of 9 to 13 percent** as determined by the Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials, ASTM D4442, in which samples are dried to constant weight in an oven at a temperature of 103 ±2°C (217 ±3°F). A hand-held meter employed in accordance with the Standard Test Methods for Use and Calibration of Hand-Held Moisture Meters, ASTM D4444, is also used to provide a means of sampling moisture content prior to testing. The alternate layers are to consist of specified sizes and lengths of lumber placed at right angles to one another. The individual wood members in each layer are to be evenly spaced in forming a square determined by the specified length of the wood members. The length, size, and number of individual wood members and their arrangement in the crib are to be as specified in **Table 2**.

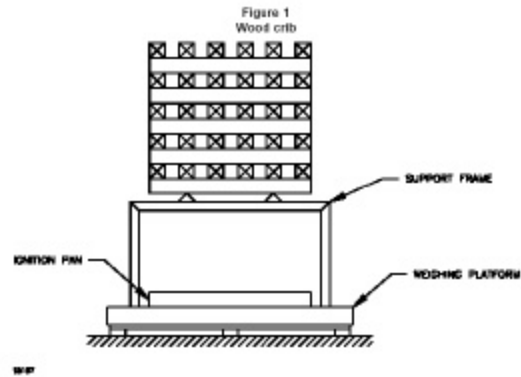
Table 2

Wood-crib construction

Classification and rating	Number of wood members	Trade size and length of wood members		Arrangement of wood members in crib
		mm	(in)	
3-A	144	38 by 38 by 735	(2 by 2 by 29)	18 layers of 8

The crib is to be on an angle iron frame, mounted on a weighing platform as shown in **Figure 1**, at a height of 400 mm (16 in) above the floor or grade level. The wood members forming the outside edges of the crib are to be stapled or nailed together to provide strength to resist forces exerted by the extinguisher discharge.

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CLASS A FIRE TEST – WOOD CRIB TEST (CONT):

NFPA 18, Sec 5.3.4.1
2006 Edition
UL 711, Sec. 7.2

The net mass of the crib is to be determined prior to commencement of the test and a value equivalent to 55 percent of this mass is to be calculated.

Ignition of the crib is to be accomplished by the burning of commercial grade heptane, see 8.2.4, in a pan placed symmetrically under the vertical axis of the crib. The steel pans for all sizes are to be square. The dimensions of the pan and the amount of fuel to be burned are to be as specified in **Table 3**.

Table 3
Wood-crib ignition arrangement

Classification and rating	Flammable liquid pan size		Heptane charge Liters
	mm	(in)	
3-A	635 by 635 by 100	(25 by 25 by 4)	2.8

When supplementary operations are required to activate an extinguisher (such as puncturing of cartridges or opening of valves on expellant gas containers), they are to be performed at a time in advance of attack on the fire consistent with normal operating procedure for the extinguisher and to ensure that the extinguisher is operated at, and not in excess of its normal operating pressure.

The liquid fuel is to be ignited and burned out. The crib fire is to be attacked when its mass has been reduced to 55 ±1 percent of its original mass. The crib is to be attacked from the front from an initial distance of a minimum 1.8 m (6 ft). Then the operator is able to reduce the distance of attack and direct the discharge at the sides, top, and bottom of the crib. In no case is the discharge to be directed at the back of the crib. Discharge is to be continuous until the extinguisher is completely discharged.

During the test the following observations are to be made and recorded:

- Burnout time of commercial grade heptane charge;

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- Application of extinguisher;
- Fire under control or extinguished;
- End of effective discharge; and
- Wind velocities and weather conditions when tests are conducted outdoors.

When the fire is under control or extinguished, observations are to be made and recorded concerning the presence and location of any glowing embers and the increase or decrease of the intensity of such glowing combustion until the fire reignites or is completely extinguished within a period of 15 minutes after discharge of the extinguisher. In the event of reignition, the time is to be recorded.

At the end of the test, the amount of extinguishing agent used and the condition of the charred members of the crib are to be noted and recorded.

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CLASS A FIRE TEST – WOOD CRIB TEST (CONT):

NFPA 18, Sec 5.3.4.1
2006 Edition
UL 711, Sec. 7.2

Test Number: 1 0.4% premix concentration

Net Mass Of Crib (lbs)	148
Calculation: 55% of Crib Mass (lbs)	81.4
Moisture Content (%)	11.1

Event	Time (min:sec)	Observations
Start of Test	00:00	-
Burnout of heptane charge	2:33	-
Application of extinguisher (55% of Crib Mass)	7:26	-
Fire under control or extinguished	0:25	-
End of effective discharge	0:40	Coals: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Glowing Combustion: <input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Decreasing
Re-ignition Time	2:40	-
End of Test (15 minute max)	2:40	Fire reignigthed

Results: Acceptable
 Not Acceptable (see Notes)
 No Test (see Notes)

Notes:

Test Performed: 2007-05-22

Reignition toward back of crib on 3rd side attacked toward lower center region.

[X] Tests Conducted by	Michael Lesiak	Michael Lesiak
	Printed name	Signature

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CLASS A FIRE TEST – WOOD CRIB TEST (CONT):

NFPA 18, Sec 5.3.4.1
2006 Edition
UL 711, Sec. 7.2

Test Number: 2 0.4% premix concentraion

Net Mass Of Crib (lbs)	147
Calculation: 55% of Crib Mass (lbs)	80.85
Moisture Content (%)	10.7

Event	Time (min:sec)	Observations
Start of Test	00:00	-
Burnout of heptane charge	3:00	-
Application of extinguisher (55% of Crib Mass)	6:42	-
Fire under control or extinguished	0:15 after	-
End of effective discharge	0:35	Coals: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Glowing Combustion: <input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Decreasing
Re-ignition Time	-	-
End of Test (15 minute max)	15:00	Crib completely extinguished with no chance for reignition.

Results: Acceptable
 Not Acceptable (see Notes)
 No Test (see Notes)

Notes:

Test Performed: 2007-05-23

<input checked="" type="checkbox"/> Tests Conducted by	Michael Lesiak	Michael Lesiak
	Printed name	Signature

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CLASS A FIRE TEST – WOOD CRIB TEST (CONT): **NFPA 18, Sec 5.3.4.1**
2006 Edition
UL 711, Sec. 7.2

Test Number: 3 0.4% premix concentraion

Net Mass Of Crib (lbs)	156
Calculation: 55% of Crib Mass (lbs)	85.8
Moisture Content (%)	11.2

Event	Time (min:sec)	Observations
Start of Test	00:00	-
Burnout of heptane charge	2:35	-
Application of extinguisher (55% of Crib Mass)	7:25	-
Fire under control or extinguished	0:20 after	-
End of effective discharge	8:25	Coals: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Glowing Combustion: <input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Decreasing
Re-ignition Time	-	-
End of Test (15 minute max)	15:00	Crib completely extinguished with no chance for reignition.

Results: **Acceptable**
 Not Acceptable (see Notes)
 No Test (see Notes)

Notes:

Test Performed: 2007-05-23

[X] Tests Conducted by	Michael Lesiak	Michael Lesiak
	Printed name	Signature

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Class B FIRE EXTINGUISHMENT TEST

NFPA 18, Sec 5.3.5, 2006 Edition
UL 711, Sec. 8.2

TEST NUMBER: 1

Product	Novacool U.E.F	Lot No.	06-335
Premix Concentration (%) :	0.4		
Test Fuel:	Commercial Grade Heptane		
Test Application Density (gpm/ft ²):	10/17.36 (0.49)		
Nozzle Flow Rate (gpm):	8.5		
Pan Dimensions (L x W x H) (inches):	50 X 50 X 12		
Freeboard (inches):	6		
Water Depth (inches):	4		
Fuel Depth (inches):	2		
Premix Temperature (°F):	64		
Air Temperature (°F):	64		
Water Temperature (°F):	70		
Fuel Temperature (°F):	70		
Inlet Pressure (psig)	<input checked="" type="checkbox"/> Tanktop <input type="checkbox"/> Nozzle	100	
Location	<input checked="" type="checkbox"/> Indoors <input type="checkbox"/> Outdoors	UL Building 3	
Agent Solution Application Time (minutes)			

Event	Time, min:s	Observations
Preburn:	1:00	-
Agent Solution On:	0:00	-
Extinguishment:	No	5 minute maximum
Agent Solution Off:	5:00	-
Test Over:	5:00	Flames still present toward the sides of the pan after 5 minute period.

Results: Acceptable
 Not Acceptable (see Notes)
 No Test (see Notes)

Notes:

Test Date May 21, 2007

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Form Issued: 2006-09-28
Form Revised: 2006-09-28

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Only those products bearing the UL Mark should be considered as being covered by UL.

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<input checked="" type="checkbox"/> Tests Conducted by	Jacek Kobiesa	Jacek Kobiesa
	Printed name	Signature

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CLASS B FIRE EXTINGUISHMENT TEST

NFPA 18, Sec 5.3.5, 2006 Edition
UL 711, Sec. 8.2

TEST NUMBER: 2

Product	Novacool U.E.F		Lot No.	06-335
Premix Concentration (%) :	0.4			
Test Fuel:	Commercial Grade Heptane			
Test Application Density (gpm/ft ²):	10/17.36 (0.576)			
Nozzle Flow Rate (gpm):	10			
Pan Dimensions (L x W x H) (inches):	50 X 50 X 12			
Freeboard (inches):	6			
Water Depth (inches):	4			
Fuel Depth (inches):	2			
Premix Temperature (°F):	64			
Air Temperature (°F):	64			
Water Temperature (°F):	70			
Fuel Temperature (°F):	70			
Inlet Pressure (psig)	<input checked="" type="checkbox"/> Tanktop <input type="checkbox"/> Nozzle	61 psi		
Location	<input checked="" type="checkbox"/> Indoors <input type="checkbox"/> Outdoors	Building 3		
Agent Solution Application Time (minutes)	5:00			

Event	Time, min:s	Observations
Preburn:	1:00	-
Agent Solution On:	0:00	-
Extinguishment:	3:01	-
Agent Solution Off:	3:01	-
Test Over:	3:01	Fire Completely extinguished

Results: Acceptable
 Not Acceptable (see Notes)
 No Test (see Notes)

Notes:

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Test Performed on May 21, 2007 using aspirated nozzle supplied by customer, modified from Class B fire test no. 1 to give larger bore diameter, 1/16 in. larger.

[X] Tests Conducted by	Jacek Kobiesa	Jacek Kobiesa
	Printed name	Signature

CLASS B FIRE EXTINGUISHMENT TEST

NFPA 18, Sec 5.3.5, 2006 Edition
UL 711, Sec. 8.2

TEST NUMBER: 3

Product	Novacool U.E.F	Lot No.	06-335
Premix Concentration (%):	0.4		
Test Fuel:	Commercial Grade Heptane		
Test Application Density (gpm/ft ²):	10/17.36 (0.576)		
Nozzle Flow Rate (gpm):	10		
Pan Dimensions (L x W x H) (inches):	50 X 50 X 12		
Freeboard (inches):	6		
Water Depth (inches):	4		
Fuel Depth (inches):	2		
Premix Temperature (°F):	70		
Air Temperature (°F):	70		
Water Temperature (°F):	70		
Fuel Temperature (°F):	70		
Inlet Pressure (psig)	[X] Tanktop [] Nozzle	61 psi	
Location	[X] Indoors [] Outdoors	Building 3	
Agent Solution Application Time (minutes)	5:00		

Event	Time, min:s	Observations
Preburn:	1:00	-
Agent Solution On:	0:00	-
Extinguishment:	-	-
Agent Solution Off:	5:00	-
Test Over:	5:00	Fire Not extinguished at end of 5 minute period.

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Results: Acceptable
 Not Acceptable (see Notes)
 No Test (see Notes)

Notes:

Test Performed on May 22, 2007 using aspirated nozzle supplied by customer, modified from Class B fire test no. 1 to give larger bore diameter, 1/16 in. larger.

<input checked="" type="checkbox"/> Tests Conducted by	Jacek Kobiesa	Jacek Kobiesa
	Printed name	Signature

CLASS B FIRE EXTINGUISHMENT TEST

NFPA 18, Sec 5.3.5, 2006 Edition
UL 711, Sec. 8.2

TEST NUMBER: 4

Product	Novacool U.E.F	Lot No.	06-335
Premix Concentration (%):	0.5		
Test Fuel:	Commercial Grade Heptane		
Test Application Density (gpm/ft ²):	10/17.36 (0.576)		
Nozzle Flow Rate (gpm):	10		
Pan Dimensions (L x W x H) (inches):	50 X 50 X 12		
Freeboard (inches):	6		
Water Depth (inches):	4		
Fuel Depth (inches):	2		
Premix Temperature (°F):	70		
Air Temperature (°F):	70		
Water Temperature (°F):	70		
Fuel Temperature (°F):	70		
Inlet Pressure (psig)	<input checked="" type="checkbox"/> Tanktop <input type="checkbox"/> Nozzle	61 psi	
Location	<input checked="" type="checkbox"/> Indoors <input type="checkbox"/> Outdoors	Building 3	
Agent Solution Application Time (minutes)	5:00		

Event	Time, min:s	Observations
Preburn:	1:00	-
Agent Solution On:	0:00	-
Extinguishment:	2:42	-

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Agent Solution Off:	2:42	-
Test Over:	2:42	Fire completely extinguished

Results: Acceptable
 Not Acceptable (see Notes)
 No Test (see Notes)

Notes:

Test Performed on May 22, 2007 using aspirated nozzle supplied by customer, modified from Class B fire test no. 1 to give larger bore diameter, 1/16 in. larger.

[X] Tests Conducted by	Michael Lesiak	Signature
	Printed name	

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CLASS B FIRE EXTINGUISHMENT TEST

**NFPA 18, Sec 5.3.5, 2006 Edition
UL 711, Sec. 8.2**

TEST NUMBER: 5

Product	Novacool U.E.F	Lot No.	06-335
Premix Concentration (%) :	0.5		
Test Fuel:	Commercial Grade Heptane		
Test Application Density (gpm/ft²):	10/17.36 (0.576)		
Nozzle Flow Rate (gpm):	10		
Pan Dimensions (L x W x H) (inches):	50 X 50 X 12		
Freeboard (inches):	6 Text		
Water Depth (inches):	4		
Fuel Depth (inches):	2		
Premix Temperature (°F):	70		
Air Temperature (°F):	70		
Water Temperature (°F):	70		
Fuel Temperature (°F):	70		
Inlet Pressure (psig)	<input checked="" type="checkbox"/> Tanktop <input type="checkbox"/> Nozzle	61 psi	
Location	<input checked="" type="checkbox"/> Indoors <input type="checkbox"/> Outdoors	Building 3	
Agent Solution Application Time (minutes)	5:00		

Event	Time, min:s	Observations
Preburn:	1:00	-
Agent Solution On:	0:00	-
Extinguishment:	1:25	-
Agent Solution Off:	1:25	-
Test Over:	1:25	Fire completely extinguished

Results: **Acceptable**
 Not Acceptable (see Notes)
 No Test (see Notes)

Notes:

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Test Performed on May 22, 2007 using aspirated nozzle supplied by customer, modified from Class B fire test no. 1 to give larger bore diameter, 1/16 in. larger.

<input checked="" type="checkbox"/> Tests Conducted by	Michael Lesiak
	Printed name Signature

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