SGS

Received: Tested For: Michael Haltiwanger Phone: (803) 413-8418 9/12/2022 BRN Sleep Products USA, LLC. Fax: Completed: 9/27/2022 3771 Cameron Road Mobile: Code: U Orangeburg, SC 29115 PO#: **Test Report:** 3-48966-0 USA **Email:** michael.haltiwanger@brnbed.com **Key Test:** CFR 16 Part 1633 3 Sets 990 Client's Identification: Style: Go Sleep - Majestic. Identification #: INSBC. (see continuation) Category: Mattress set, open flame test (CPSC) LE 2019; V 7/21 DK PC: 48H CODE: 330/660/990 TEST PERFORMED: CFR Title 16 Part 1633 - Standard for the Flammability (Open Flame) of Mattress Sets CLIENT'S IDENTIFICATION (Continuation): **Mattres** Type: □ Smooth; ⊠ Tufted; □ Quilted; □ Other: \_\_\_\_\_ Specimen Composite: Covering Material (Ticking): INSBC Fire Blocking Layer (Interliner): INSBC Filling Material(s): INSBC Insulator Pad: INSBC Core: Pocket Coil Additional Information: Zippered Outer Foundation: 

Not supplied; 

Supplied Identification #: \_ Specimen Composite: Covering Material (Ticking): \_\_\_\_\_ Fire Blocking Layer (Interliner): Other Material(s): \_\_\_\_\_ INSBC = Information not supplied by client

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BRN Sleep Products USA, LLC. Fax: Completed: 9/27/2022

3771 Cameron Road Mobile: Code: U

Orangeburg, SC 29115 PO#: Test Report: 3-48966-0

USA Email: michael.haltiwanger@brnbed.com

**Key Test:** CFR 16 Part 1633 3 Sets

TEST CATEGORY REQUESTED:			
<ul><li>☑ Qualified Prototype (3 mattress sets)</li><li>☐ Confirming Prototype (1 mattress set)</li></ul>			
<ul><li>☐ Production Quality Assurance (1 mattress set)</li><li>☐ Experimental</li></ul>			
<ul><li>☐ Subordinate Prototype (1 mattress set):</li><li>☐ Ticking Substitution</li></ul>			
<ul><li>☐ Other Component Substitution (explain):</li><li>☐ Manufacturer Specification Change (explain):</li></ul>			
☐ Objective Data Prototype (explain):			
Note: As defined by CFR Title 16 Part 1633, a "mattress set" can exwith a foundation. The sale of mattresses tested without foundation			
TEST ROOM (CONFIGURATION):			
Dimensions: 10 ft. x 12 ft. x 8 ft. high			
Conditions:	<u>Set #1</u>	<u>Set #2</u>	<u>Set #3</u>
Temperature (°F): (Specified: >59 °F and <80.6 °F)	71	72	72
Humidity (% RH): (Specified <75% RH)	42	42	42
Time lag between conditioning room and test start (minutes): (Specified: 20 min max)	8	7	8

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**Key Test:** CFR 16 Part 1633 3 Sets

BRIEF DESCRIPTION OF TEST: A mattress set is placed on a support system. Flames from a multi-hole propane burner impinge on the side of the mattress set for a period of 50 seconds, and flames from a second multi-hole burner impinge on the top of the mattress set for a period of 70 seconds. The recording instrumentation in the exhaust duct evaluates the combustion product and a formula calculates the highest heat release value recorded during the test period. It also records the total heat released during the entire test. The test continues until failure occurs or 30 minutes have elapsed.

### **TEST CATEGORIES:**

### Qualified Prototype:

Three mattress sets must demonstrate compliance with the Acceptance Criteria.

# Confirmed Prototype:

One mattress set must demonstrate compliance with the Acceptance Criteria, and the manufacturing specifications (construction and components) of the mattress set must be the same as the manufacturing specifications for an existing Qualified Prototype mattress set.

# Subordinate Prototype:

A mattress set that is based on a Qualified Prototype or Confirmed Prototype. There is no requirement for a Subordinate Prototype to be tested. This test exemption is qualified by section 1633.4, which comments upon the use of different tickings; different components; different materials; different designs; or different methods of assembly. The qualification to permit these changes states that a reasonable basis should be offered to indicate that such changes would not cause the test criteria to be exceeded. Therefore, it is assumed that a test conducted on one set of a Subordinate Prototype would support the reasonable basis theory.

# **Production Quality Control:**

This test is an ongoing quality control test to determine if one or more actual production mattress sets conform to the Qualified Prototype.

### Experimental:

Experimental mattress set to evaluate manufacturing specifications.

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3771 Cameron Road Mobile: Code: U

Orangeburg, SC 29115 **PO#: Test Report:** 3-48966-0

USA **Email:** michael.haltiwanger@brnbed.com

**Key Test:** CFR 16 Part 1633 3 Sets

### **RESULTS:**

	Categories	Set #1	Set #2	Set #3
	Peak (kW):	38.1	36.7	41.6
Rate of Heat	Time Peak Rate occurred (seconds):	48	49	52
Release	Total Heat Release (MJ) at 10 minutes [or test end, if sooner than 10 minutes]:	4.0	5.1	4.8
Took Find	Time (mm:ss):	30:00	20:30	30:00
Test End	Code:	(2)	(3)	(2)

#### CODES EXPLAINED:

- (1) Extinguished by technician when maximum criteria values were exceeded.
- (2) Maximum test period (30 minutes).
- (3) All combustion ceased Thermal Imaging Camera used.

## ABBREVIATIONS WHICH MAY BE USED:

NT = Not tested, as noncompliance was found with a previous set

NA = Not available

NR = Not required to be tested

ACCEPTANCE CRITERIA: For each mattress set --

Peak Rate of Heat Release	Total Heat Release at 10 minutes
200 kW maximum	15 MJ maximum

CONCLUSION: Based on the reported Results and cited Acceptance Criteria:

- 3 Mattress set/s demonstrate/s COMPLIANCE with the Acceptance Criteria
- 0 Mattress set/s demonstrate/s NONCOMPLIANCE with the Acceptance Criteria

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3771 Cameron Road Mobile: Code: U

Orangeburg, SC 29115 **PO#: Test Report:** 3-48966-0

USA **Email:** michael.haltiwanger@brnbed.com

**Key Test:** CFR 16 Part 1633 3 Sets

REMARKS: None.

OBSERVATIONS (all observations are stated in relationship to flame impingement point):

0.1"	Time	
Set #	(mm:ss)	Observations
1	00:06	Cover material ignited
	01:10	Burner removed; smoke from top of mattress
	05:00	Small fire on top and front edge of mattress
	10:00	Small fire continues to burn on top and front of mattress
	15:00	Flame size decreasing; fire only on top of mattress
	20:00	Very small pocket of fire on top of mattress
	25:00	No visible smoke or fire
	30:00	End of test
2	00:06	Cover material ignited
		-
	01:10	Burner removed; smoke from top of mattress
	05:00	Small fire on top of mattress
	10:00	Flame size decreasing; very small pocket of fire on top of mattress
	15:00	No visible smoke or fire; 1st picture taken with Thermal Imaging Camera
	20:00	No visible smoke or fire; 2 <sup>nd</sup> picture taken with Thermal Imaging Camera
	20:30	End of test
3	00:06	Cover material ignited
	01:10	Burner removed; smoke from top of mattress
	05:00	Small fire burning on top and front of mattress
	10:00	Flame size decreasing; fire only on top of mattress
	15:00	Small pocket of fire on top of mattress
	20:00	Small pocket of fire continues to burn on top of mattress
	25:00	Very small pocket of fire remains on top of mattress
	30:00	End of test

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BRN Sleep Products USA, LLC. Fax: Completed: 9/27/2022

3771 Cameron Road **Mobile: Code:** U

Orangeburg, SC 29115 **PO#: Test Report:** 3-48966-0

Test Technician: Vincent Timmons

TM

USA **Email:** michael.haltiwanger@brnbed.com

**Key Test:** CFR 16 Part 1633 3 Sets

CERTIFICATION: I certify that the above results were obtained after testing specimens in accordance with the procedures and equipment specified above.

—DocuSigned by: Theresa MacMillan

10/3/2022

AUTHORIZED SIGNATURE SGS NORTH AMERICA /jab/dv

28F70AF28D7845C

Enclosures: Graph (Rate of Heat Release vs. Time)

Summary

Videos (see below links)

Test #1: <a href="https://vimeo.com/754370042">https://vimeo.com/754370042</a>

Test #2: https://vimeo.com/754432698

Test #3: https://vimeo.com/754412129



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Program: Main Fireroom Application (Version 1 1.6.0)

Test Method

: CFR 1633

Report #

: 3-48966-0

Client

: BRN SLEEP PRODUCTS USA LLC

Mattress ID #

: GO SLEEP MAJESTIC

Test Date

: 9/27/2022

**Test Time** 

: 12:10 PM

Operator

: Vinny Timmons

### Results

Specimen	1	2	3
Initial Room Temperature (°F)	71	72	72
Initial Room Humidity (%)	42	42	42
Peak Rate of Heat Release (kW)	38.1	36.7	41.6
Peak RHR Time (s)	48	49	52
Total Heat Release at 10 minutes (MJ)	4.0	5.1	4.8
Peak RHR exceeds 200 kW	No	No	No
Total HR at 10 min exceeds 15 MJ	No	No	No
Test terminated early by operator	No	Yes	No

Conclusion: Based on the above results:

[X] Passes

[ ] Fails

CERTIFICATION: I certify that the above results were obtained after testing the specimens in accordance with the procedures and equipment specified by 16 CFR 1633

Vinny Timmons

**AUTHORIZED SIGNATURE** 

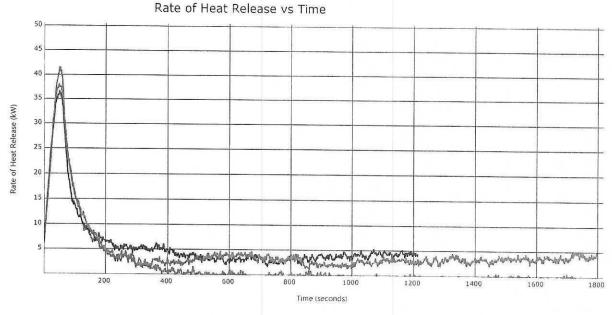


Program: Main Fireroom Application (Version 1.16.0)

Test Method Test Report #

: CFR 1633 : 3-48966-0

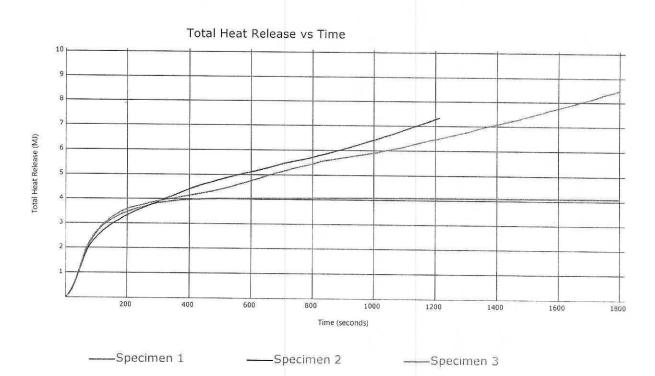




——Specimen 1

---Specimen 2

—Specimen 3



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