SGS

9/12/2022 Tested For: Michael Haltiwanger Phone: (803) 413-8418 Received: BRN Sleep Products USA, LLC. Fax: Completed: 9/26/2022 3771 Cameron Road Mobile: Code: S Orangeburg, SC 29115 PO#: **Test Report:** 3-48964-0 USA **Email:** michael.haltiwanger@brnbed.com **Key Test:** CFR 16 Part 1633 3 Sets 990 Client's Identification: Style: Go Sleep - 8 inch. 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: _____

Type: □ Smooth; □ Tufted; ☑ Quilted; □ Other: _____

Specimen Composite:
 Covering Material (Ticking): INSBC

Fire Blocking Layer (Interliner): INSBC

Filling Material(s): INSBC

Insulator Pad: INSBC

Core: Bonnell Coil

Specimen Composite:

Covering Material (Ticking): _____

Foundation:

Not supplied;

Supplied

Identification #: _

Fire Blocking Layer (Interliner): _____

Additional Information: Zippered Outer

Other Material(s): _____

INSBC = Information not supplied by client

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Tested For: Michael Haltiwanger Phone: (803) 413-8418 Received: 9/12/2022

BRN Sleep Products USA, LLC. Fax: Completed: 9/26/2022

3771 Cameron Road Mobile: Code: S

Orangeburg, SC 29115 **PO#: Test Report:** 3-48964-0

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

Key Test: CFR 16 Part 1633 3 Sets

TEST CATEGORY REQUESTED:			
 ☑ Qualified Prototype (3 mattress sets) ☐ Confirming Prototype (1 mattress set) ☐ Production Quality Assurance (1 mattress set) ☐ Experimental ☐ Subordinate Prototype (1 mattress set): ☐ Ticking Substitution ☐ Other Component Substitution (explain): ☐ Manufacturer Specification Change (explain): ☐ Objective Data Prototype (explain): 			
Note: As defined by CFR Title 16 Part 1633, a "mattress set" can ewith 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)	72	71	72
Humidity (% RH): (Specified <75% RH)	47	49	50
Time lag between conditioning room and test start (minutes): (Specified: 20 min max)	8	8	7

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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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Key Test: CFR 16 Part 1633 3 Sets

RESULTS:

	Categories	Set #1	Set #2	Set #3
	Peak (kW):	35.1	34.3	35.0
Rate of Heat	Time Peak Rate occurred (seconds):	44	50	55
Release	Total Heat Release (MJ) at 10 minutes [or test end, if sooner than 10 minutes]:	4.0	3.5	4.4
Took Food	Time (mm:ss):	30:00	30:00	30:00
Test End	Code:	(2)	(2)	(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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Key Test: CFR 16 Part 1633 3 Sets

REMARKS: None.

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

Set #	Time (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 of mattress with very light smoke conditions
	10:00	Small fire spreading outward on top and front of mattress
	15:00	Small fire continuously burning and spreading outward
	20:00	Small fire spreading leftward on front of mattress only
	25:00	Small fire remains on front of mattress with very light smoke conditions
	30:00	End of test
2	00:06	Cover material ignited
	01:10	Burner removed; smoke from top of mattress
	05:00	Very small fire on top and front of mattress with very light smoke conditions
	10:00	Small fire spreading outward on top and front of mattress
	15:00	Small fire continues to burn and spread outward on top and front of mattress
	20:00	Small fire spreading leftward on top and front with very light smoke conditions
	25:00	Small fire continues to burn and spread leftward on top and front of mattress
	30:00	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	Small fire spreading outward on top and front of mattress
	15:00	Small fire continues to spread outward with light smoke coming from top of mattress
	20:00	Fire continuously spreading outward with increasing smoke conditions
	25:00	Fire continues to burn on top and front of mattress with continued increasing smoke
	30:00	End of test

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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
—28F70AF28D7845C

10/3/2022

AUTHORIZED SIGNATURE SGS NORTH AMERICA /jab/dv Test Technician: Vincent Timmons

__os Tm

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

Summary

Videos (see below links)

Test #1: https://vimeo.com/753926597

Test #2: https://vimeo.com/753939157

Test #3: https://vimeo.com/753991034

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Program: Main Fireroom Application (Version 1.1.6.0)

Test Method : CFR 1633 Report # : 3-48964-0

Client : BRN Sleep Products USA, LLC

Mattress ID # : Go Sleep - 8"
Test Date : 9/26/2022
Test Time : 11:38 AM
Operator : Vinny Timmons

Results

Specimen	1	2	3
Initial Room Temperature (°F)	72	71	72
Initial Room Humidity (%)	47	49	50
Peak Rate of Heat Release (kW)	35.1	34.3	35.0
Peak RHR Time (s)	44	50	55
Total Heat Release at 10 minutes (MJ)	4.0	3.5	4.4
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	No	No

Conclusion: Based on the above results:

[X] Passes [] Fails

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

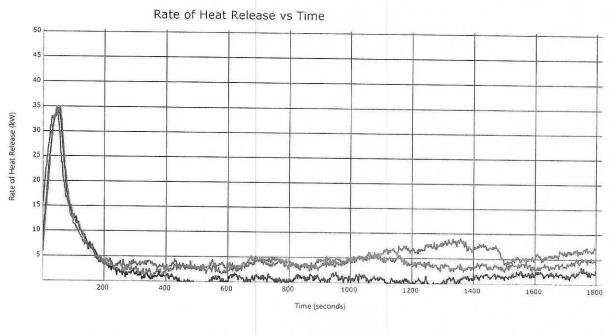
Vinny Timmons

AUTHORIZED SIGNATURE



Program: Main Fireroom Application (Version 1 1.6.0)

Test Method Test Report # : CFR 1633 : 3-48964-0



---Specimen 1

----Specimen 2

---Specimen 3

