

Test Report No. SDFS2405002998FF

Date: Jun.24, 2024

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YMM CO., LTD 92-1 GEUM SA-RO,GEUMJEONG-GU,BUSAN, KOREA 46330

Sample Description	:	SPRING MATTRESSES
Other Info	:	MH10-10T,MH10-10TXL,MH10-10F,MH10-10Q,MH10-10K,MH10-10CK

The above data and information was / were submitted and identified on behalf of the client. SGS is not responsible for the authenticity, integrity and results of the data and information and / or the validity of the conclusion.

Sample Receiving Date	:	May 06, 2024
Test Performing Date	:	May 06, 2024 to Jun.24, 2024

Test Result Summary

No.	Test(s) Requested	Result(s)	Comments			
1	16 CFR Part 1633-Standard for the flammability (open flame) of Mattress sets.	PASS	Prototype Test			
2	16 CFR Part 1632—Standard for the Flammability of Mattresses and Mattress Pads to Combustion Which May Result from A Smoldering Cigarette	PASS	/			
For fu	For further details, please refer to the following page(s)					

Signed for and on behalf of Shunde Branch SGS-CSTC Co., Ltd.



Verification: check.sgsonline.com.cn

Ada Liu Approved signatory



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Sample Information

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Model Name	: MH10
Prototype Identification	: MH10-10T
Insulation	: Polyester
Construction Type	: Spring mattresses
Foam Padding	: 1.Pop 2. Ppg 3.Tdi
Barrier / Interliner	: Flame retardant viscose
Overall Size	: (99*190*25)cm
Mattress Ticking	: Polyester
Foundation	: Without Foundation

Test 1

Test Conducted:

16 CFR Part 1633 Standard for the flammability (open flame) of mattress set.

Conditioning

Prior to testing, the sample was conditioned at $65^{\circ}F \sim 77^{\circ}F$ and a relative humidity less 55% for at least 48 hours.

At time of testing: Temperature greater than 59 °F and less than 80.6 °F, and a relative humidity less than 75%.

Test Procedure and Results

PROCEDURE:

The mattress was placed on a metal test frame and catch surface under the center of an open hood. The open hood and open calorimeter test room were configured in accordance with open calorimeter layout Option A as specified in 16 CFR Part 1633.

The ignition source was the NIST Dual Burner System constructed of stainless steel tubing. The fuel used was commercial propane delivered at a rate of 12.9 l/min to the top burner for a total time of 70 seconds and a rate of 6.6 l/min to the side burner for a total time of 50 seconds.

After ignition of the burner, we monitored recorded certain properties of the test procedure. These properties are Heat Release Rate and Total heat release.

Photos and video were taken of the specimen during the procedure. Please reference PHOTOS 1 through 2 for photos of representative samples before and after testing to this standard. Sampling was monitored throughout the test at a rate of 1 second. Heat Release equipment meets and exceeds requirements by ASTM E1590 for accuracy.

The test was conducted by Donnie Huang at the following address: SGS-CSTC Standards Technical Services Co., Ltd Shunde Branch 1st Floor, Building 1 of European Industrial Park, No.1 Shunhenan Road, Wusha Section, Daliang Town, Shunde of Foshan, Guangdong Province, China (CPSC Identification



Number:1621)

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RESULTS: Specimen 1: Test Date: May 10, 2024 Data:

Measurement Type	<u>Maximum Value</u>	Time Occurred	Allowed Value	<u>Pass / Fail</u>	
Heat Release Rate (kW)	39.5	00:00:49	200	PASS	
Total Heat Release – First 10 Min (MJ)	5.5		15.0	PASS	
Total heat release (Entire Test, MJ)	9.9				
Test duration	[$$] 30 minutes				
Please reference Figure 1 and 2 for graphical representation of Heat Release Rate and Total Heat Release.					

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OBSERVATIONS:

- 10:00 Specimen was removed from conditioning room.
- 10:05 Test was started. •
- 10:07 After the ignition source extinguished, the specimen was ignited and flame was small and • spread on the side and upper surface.
- 10:35 Flame was extinguished by operator and the test was stopped.

GRAPHICAL RESULTS:



Figure 1. Heat Release Rate vs. Time Graph



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Figure 2. Total Heat Release vs. Time Graph

Specimen 2:

Test Date: May 10, 2024 **Data:**

Measurement Type	Maximum Value	Time Occurred	Allowed Value	<u>Pass / Fail</u>	
Heat Release Rate (kW)	43.7	00:00:54	200	PASS	
Total Heat Release – First 10 Min (MJ)	6.4		15.0	PASS	
Total heat release (Entire Test, MJ)	14.3				
Test duration	[$$] 30 minutes				
Please reference Figure 3 and 4 for graphical representation of Heat Release Rate and Total Heat Release.					

OBSERVATIONS:

- 11:00 Specimen was removed from conditioning room.
- 11:05 Test was started.
- 11:07 After the ignition source extinguished, the specimen was ignited and flame was small and spread on the side and upper surface.
- 11:35 Flame was extinguished by operator and the test was stopped.



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Specimen 3: Test Date: Jun.07, 2024 Data:

Measurement Type	<u>Maximum Value</u>	Time Occurred	Allowed Value	<u>Pass / Fail</u>
Heat Release Rate (kW)	37.9	00:00:58	200	PASS
Total Heat Release – First 10 Min (MJ)	5.2		15.0	PASS
Total heat release (Entire Test, MJ)	9.3			
Test duration	[$$] 30 minutes			
Places reference Figure 5 and 6 for graphical representation of Heat Palacese Data and Tatal Heat Palaces				

Please reference Figure 5 and 6 for graphical representation of Heat Release Rate and Total Heat Release.

OBSERVATIONS:

- 17:00 Specimen was removed from conditioning room.
- 17:05 Test was started.
- 17:07 After the ignition source extinguished, the specimen was ignited and flame was small and spread on the side and upper surface.
- 17:35 Flame was extinguished by operator and the test was stopped.

GRAPHICAL RESULTS:







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Figure 6. Total Heat Release vs. Time Graph



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Remark: For testing details, please refer to the enclosed video.



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Test 2

Test Conducted:

16 CFR Part 1632—Standard for the Flammability of Mattresses and Mattress Pads to Combustion Which May **Result from A Smoldering Cigarette**

I. Test Condition

C	Condition	Requirement	Actual	
Temperature		≥65° F(18°C)	(74±3)°F (23±2)℃	
Precondition	Relative humidity	≤55%	(50±5)%	
	Duration	≥48h	48h	
Test condition	Temperature	≥65 °F(18°C)	(74±3) °F (23±2) ℃	
Test condition	Relative humidity	≪55%	(50±5)%	

II. Requirements:

1. Individual cigarette requirement:

a) No obvious flaming combustion occurs.

b) The char length shall not exceed 2 inches in any direction from the nearest point of the cigarette.

2. If one or more of the cigarette location fail to meet the requirement, the mattress or mattress pad fail the test.

III. Test Results:

Flammability of Matter 16 CFR Part 1632.4 (F	r <u>esses</u> F4-72, Amei	nded)				
Surface 1	Number of Cigarettes					No. of Relights
Bare	1	2	3	4	5	
Smooth	P	P	P	-	_	0
Tape Edge	Р	Р	Р	-	-	0
Quilted	Р	Р	Р	-	-	0
Tufted Area	-	-	-	-	-	-
Sheeted						
Smooth	Р	Р	Р	-	-	0
Tape Edge	Р	Р	Р	-	-	0
Quilted	Р	Р	Р	-	-	0
Tufted Area	-	-	-	-	-	-
Surface 2		Num	ber of Cigar	ettes		No. of Relights
Bare	<u>1</u>	2	<u>3</u>	4	5	
Smooth	Р	Р	Р	-	-	0
Tape Edge	Р	Р	Р	-	-	0
Quilted	Р	Р	Р	-	-	0
Tufted Area	-	-	-	-	-	-
Sheeted						
Smooth	Р	Р	Р	-	-	0
Tape Edge	Р	Р	Р	-	-	0
Quilted	Р	Р	Р	-	-	0
Tufted Area	-	-	-	-	-	-



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	Test Report	No. SDFS2405002998FF	Date: Jun.24, 2024	Page 10 of 10
Cod	e Description:			
P:	Pass, Cigarette burned to fu	ll length		
R:	Pass, Cigarette self-extingui extinguished.	shed, replaced with a fresh ciga	arette which burned to full le	ngth or self-
F:	Failure			

Conclusion: PASS

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Photo Appendix:



End of Report



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