



Confidential Report

Our Ref: 23/60265/10/22





Wira House, West Park Ring Road, Leeds, LS16 6QL, UK.
Telephone: +44 (0) 113 259 1999
Email: onestopshop@bttg.co.uk
Website: www.bttg.co.uk

Date: 20 October 2022

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Client: **Dunlopillo (Vietnam) Limited**

35 Huu Nghi Blvd
Singapore Industrial Park
Thuan An District
Binh Duong Province
Vietnam

Job Title: Fire Test on One Thin Mattress Sample

Clients Order Ref: --

Date of Receipt: 14 October 2022

Date Test Started: 20 October 2022

Description of Sample: One mattress sample, consisting of two mattresses, each measuring approximately 45cm x 45cm x 21cm, referenced by the client as;

Marine Mattress DVL_ID00287

Work Requested: We were asked to make the following fire test:

IMO FTP Code 2010:Part 9

- * subcontracted test, UKAS accredited
- ** subcontracted test, EN ISO/IEC 17025 accredited
- *** not UKAS accredited

Note: This report relates only to the items tested.



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Client: **Dunlopillo (Vietnam) Limited**

Product Description

Company Name	Dunlopillo (Vietnam) Ltd
FABRIC	
Type of Material, i.e. Mattress, Blankets, Quilts, Pillows, Thin, Light Mattresses or Removable Covers, etc.;	Mattress
Name and/or Identification of the Product Tested	MARINE MATTRESS DVL_ID00287
Materials of the Product and its Composite Ratio (i)	Polyester
Composition of Weave (ii)	Knitted
Density (Number/Inch) the Number of Threads per Inch in both warp and weft; and	NA
Yarn Number Count	NA
Thickness (mm)	5
Mass per Unit Area (kg/m ²)	250 g/m²
Colour and Tone (iii)	White
Method and Quantity of Fire Retardant Treatment	FR BS 5852-source 1
FILLINGS	
Quilting Layers 1 & 5	
Material (Name of the Manufacturer, Type Designation);	FR PU Quilting D25:10mm (Supplier: NS Millenium Vietnam Co. Ltd., PU)
Weight per Unit Volume (kg/m ³)	25
Method and Quantity of Fire Retardant Treatment	BS 5852-2; 1982; source 5
Material (Name) of the manufacture, type designation)	FR Poly fibre BSPU W215cm WG150gm/m² 100% polyester, thickness: 1.5cm-2.0cm supplier: Shinin, fibre

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Weight per unit Volume (kg/m ³)	15
Method and Quantity of Fire Retardant Treatment	FR Padding
Layer 2 & 4 from top	
Material (name of the manufacture, type destination)	Grey felt 800g, 80% polyester, 15% polypropylene fibre, 5% other, thickness: 4-6mm, Supplier: Uy Vu
Weight per Unit Volume (kg/m ³)	16
Method and Quantity of Fire Retardant Treatment	N/A
Layer 3 from top	
Material (name of the manufacture, type destination)	Steel wire (Heshan Hang Kei steel wire, spring unit)
Weight per unit Volume (kg/m ³)	85.94
Method and Quantity of Fire Retardant Treatment	N/A

- (i) Such as wool, nylon, polyester, etc.
- (ii) Such as plain, weave, twilled.
- (iii) If the product has a pattern, the representative colour shall be described.



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FIRE TESTS ACCORDING to IMO FTP Code 2010:Part 9 Test for Bedding Components

Cleansing Procedure

The mattress received no pre-treatment.

Conditioning

The sample was conditioned for 72 hours in indoor ambient conditions and then for at least 16 hours in an atmosphere of $23 \pm 2^\circ\text{C}$ and $50 \pm 5\%$ R.H.

Procedure

The sample was sampled and tested in accordance with IMO FTP Code 2010:Part 9.

Cigarette Specification

Dimensions (mm)	69mm x 8.0mm
Mass (g)	0.84
Smouldering Rate (mins/secs)	10m 02s



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Requirements

Smouldering Ignition Sources

Progressive smouldering is considered to have occurred if any of the following occurs:-

- a) Smoulders more than 1 hour
- b) Unsafe escalating combustion
- c) Test assembly consumed
- d) Smoulders through thickness or to extremities
- e) Charring more than 25 mm from edge of cotton wool
- f) Occurrence of flames by a smouldering ignition source

Flame as Ignition Sources

Ignition is considered to have occurred if any of the following occurs:-

- a) Occurrence of flames imitated by smouldering
- b) Flaming for more than 150 sec.
- c) Unsafe escalating combustion
- d) Test specimen burns more than 66% consumed within 150s after removal of igniting flame
- e) Smoulders or burns through thickness or to extremities



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Results

Criteria for Progressive Smouldering	Specimen 1		Specimen 2	
	Cigarette Source 0	Match Source 1	Cigarette Source 0	Match Source 1
Criteria for Progressive Smouldering				
Smoulders more than 1 hour	No	No	No	No
Unsafe escalating combustion	No	No	No	No
Smoulders until essentially consumed	No	No	No	No
Smoulders to the extremities of specimen (*)	No	No	No	No
Charring more than 25 mm from source	No	No	No	No
Performance	Pass	Pass	Pass	Pass
Criteria for Flaming Ignition				
Occurrence of flames initiated by smouldering	No	No	No	No
Flaming for more than 150s	No	No	No	No
Unsafe escalating combustion	No	No	No	No
More than 66% test assembly consumed	No	No	No	No
Burns to the extremities of specimen (*)	No	No	No	No
Extent of Damage (mm)				
Width	30	22	30	31
Length	75	12	77	20
Depth	16	10	17	10
Performance	Pass	Pass	Pass	Pass
Observations				

Acronym

DNP – Did not propagate
ES – Escalating smouldering
BTE – Burnt to extremities

EC – Escalating combustion
DNS – Material did not split

ME – Manually extinguished
DNO – Did not observe time of event

(*) For samples thicker than 25mm and/or mattresses, it also includes the full thickness of the specimen.



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Note

The test results relate only to the ignitability of the combination of materials under the particular conditions of test; they are not intended as a means of assessing the full potential fire hazard of the materials in use.

Comment

The results meets the requirements according to IMO 2010 FTP Code, Part 9.

Where required to make a judgement to any pass/fail criteria an estimation of uncertainty of measurement has been taken into account. Under our Policy we have used a non-binary decision rule.

See our decision rules Policy (<http://www.bttg.co.uk/decision-rules-policy>) for further information.

Uncertainty Budget

The overall uncertainty budget IMO FTP Code 2010:Part 9 is as follows:-

Measurements: $\pm 2\text{mm}$
Timing: ± 2 seconds

Reported by:  B Bland, Technical Customer Service Officer

Countersigned by:  P Doherty, Manager

Enquiries concerning this report should be addressed to Customer Services.



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