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2021110515



**Report No:** 2021110515  
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**Sample Accepted on:** 20.10.2021  
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**Sample ID:** ASSOS FR-5(FR-5 COLLECTIONS)

	TEST	METHOD	SPECIMEN	RESULT
*	Small Flame Applied On Upholstered Furniture	UNI 9175	ASSOS FR-5 (FR-5 COLLECTIONS)	1 IM



Seal



Customer Representative  
Hasan KUTLU



Laboratory Manager  
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**Environment**

The requirements and standards apply to equipment intended for use in

<b>X</b>	<b>Residential (domestic) environment</b>
<b>X</b>	<b>Commercial and light-industrial environment</b>
<b>X</b>	<b>Industrial environment</b>
<b>X</b>	<b>Medical environment</b>

## UNI 9175 :Small Flame Applied On Upholstered Furniture

### TEST METHOD

#### Conditions

The samples are conditioned at  $80 \pm 5$  °C of temperature and at a relative humidity of  $80 \pm 5$  % at least 72 hours, and before the test, a conditioning of  $23 \pm 2$  °C of temperature and at a relative humidity of  $50 \pm 5$  %, for a minimum of 48 hours.

There is an ignition source consisting of a flame whose height is  $40 \pm 2$  mm, with different times of application:

- Flame source ( $45 \pm 2$ ) ml/min – (20 seconds)
- Flame source ( $45 \pm 2$ ) ml/min – (80 seconds)
- Flame source ( $45 \pm 2$ ) ml/min – (140 seconds)

### PROCEDURE

The ignition source is applied to the interposed seat-back zone, 50 mm from the ends of any mark caused by an earlier test and the behavior of the assembly is observed.

The specimen passes the test if the ignition ceases within 120 seconds after the removal of the burner tube by which the flame is applied.

Conversely, if the inflammation persists after 120 seconds from the burner removal, the specimen does not pass the test.

However, it is also necessary to check that the test frame is disassembled once the test is completed, if there is internal progressive combustion (smoldering) through the entire thickness, in which case the test will not pass either.

The three tests are carried out according to the progressive order of the application time of the flame, first 20 seconds, then 80 seconds and finally 140 seconds, so that if one does not pass the test, the next application is not carried out.

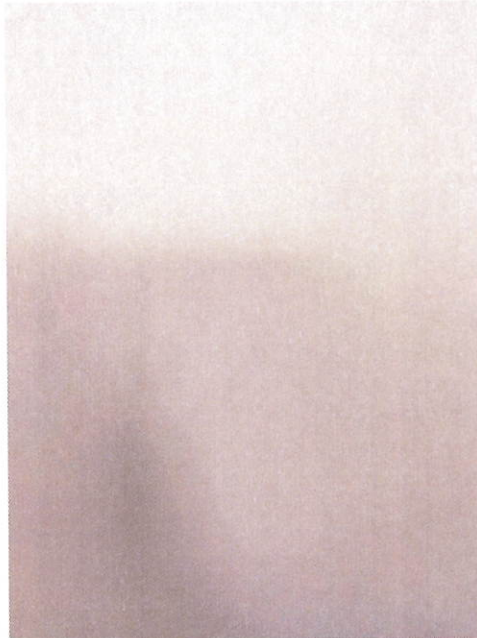
The classification of the product tested is performed as follows:

- If the product does not pass the first test (20 seconds), it should not be classified
- If the product passes the first test (20 seconds), it is classified as 3 IM
- If the product passes the first two tests (20 and 80 seconds), it is classified as 2 IM
- If the product passes all tests (20, 80 and 140 seconds), it is classified as 1 IM

**TEST RESULT**

Sample	Test results according to ignition source times								
	20 (s)	tpc	tpi	80 (s)	tpc	tpi	140 (s)	tpc	tpi
<b>ASSOS FR-5 (FR-5 COLLECTIONS)</b>	<b>PASS</b>	<b>0</b>	<b>0</b>	<b>PASS</b>	<b>0</b>	<b>0</b>	<b>PASS</b>	<b>0</b>	<b>0</b>

tpc: : post-combustion time (s)  
tpi: post-incandescence time (s)

**Conclusion: 1 IM****Overall Rating: PASS****SAMPLE IMAGE****\*\*\*End Of Report\*\*\***



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**Sample ID:** ANATOLIA FR-5

	TEST	METHOD	SPECIMEN
*	IMO Resolution MSC FTP Code Annex 1:Part 5	IMO FTP CODE	ANATOLIA FR-5



Seal



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**IMO Resolution MSC FTP Code Annex 1:Part 5****Scope**

International maritime organisation resolution MSC 307 (88) (FTP Cope) Annex 1, part 5 "test for surface flammability specifies a procedure for measuring fire characteristics of bulkhead ceiling, floor coverings and primary deck covering materials as a basis for characterising their flammability and thus their suitability for use in maritime construction.

The resolution specifies a method of test for measuring the lateral spread of flame along the surface of a specimen of a product orientated in the vertical position together with a method for determining the heat released by the specimen during exposure to a defined gradient of irradiance. It also details a classification system based on critical flux at extinguishment, heat for sustained burning, peak heat release rate and total heat release.

**Conditioning**

Temperature (°C)	23 ± 2
Relative Humidity (%)	50 ± 5

**Procedure**

The test method involved mounting each conditioning specimen in a defined gradient of radiant flux and measuring the time to ignition, spread of flame and its final extinguishment distance together with a stack thermocouple signal as an indication of heat release by the specimen during burning.

### Classification

Materials giving values for all the surface flammability criteria not exceeding those listed below are considered to meet the requirements for low flame spread in compliance with the regulations.

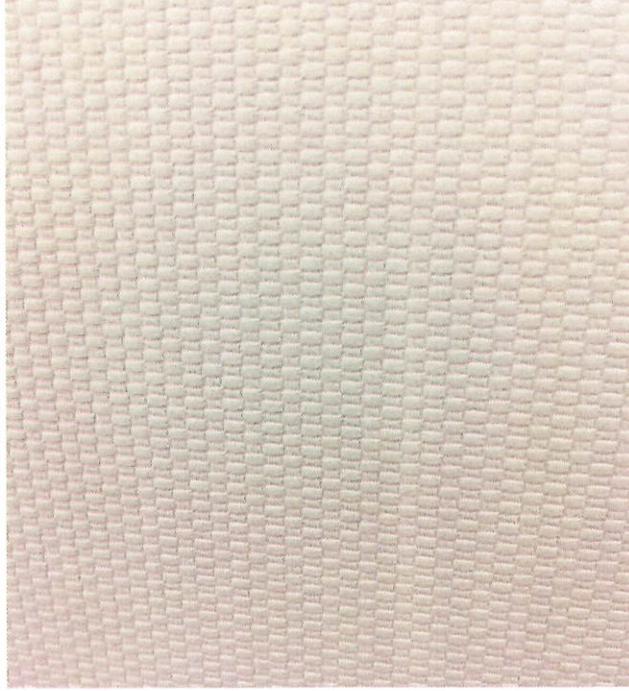
Parameter	Requirement For Bulhead, Wall & Ceiling Linings	Requirement For Floor Coverings	Requirement For Primary Deck Coverings
Heat Sustained Burning	≥1.5 MJ/m <sup>2</sup>	≥ 0.25 MJ/m <sup>2</sup>	≥ 0.25 MJ/m <sup>2</sup>
Critical Flux At Extinguishment	≥20 kW/m <sup>2</sup>	≥ 7.0 kW/m <sup>2</sup>	≥7.0 kW/m <sup>2</sup>
Peak Heat Release Rate	≤4.0 kW	≤10.0 kW	≤10.0 kW
Total Heat Release	≤0.7 MJ	≤2.0 MJ	≤2.0 MJ
Burning Drops	Zero	≤ 10	Zero

### Test Result

Parameter	Units	Specimen Number			Average
		1	2	3	
Heat For Ignition	MJ/m <sup>2</sup>	9.18	10.06	10.24	9.83
Heat For Sustained Burning	MJ/m <sup>2</sup>	12.07	15.41	11.37	12.95
Critical Flux At Extinguishment	kW/m <sup>2</sup>	26.94	25.25	29.33	27.17
Peak Heat Release Rate	kW	0.59	0.75	0.88	0.74
Total Heat Release	MJ	0.17	0.28	0.30	0.25
Burning Drops	N/A	No	No	No	N/A



**SAMPLE IMAGES**



**\*\*\* End of Report \*\*\***



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**Sample ID:** ANATOLIA FR-5

	TEST	METHOD	SPECIMEN	RESULT
*	Small Flame Applied On Upholstered Furniture	UNI 9175	ANATOLIA FR-5	1 IM



Seal



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Hava SARIYDIN

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<b>X</b>	Medical environment

## UNI 9175 :Small Flame Applied On Upholstered Furniture

### TEST METHOD

#### Condition

The samples are conditioned at  $80 \pm 5$  °C of temperature and at a relative humidity of  $80 \pm 5$  % at least 72 hours, and before the test, a conditioning of  $23 \pm 2$  °C of temperature and at a relative humidity of  $50 \pm 5$  %, for a minimum of 48 hours.

There is an ignition source consisting of a flame whose height is  $40 \pm 2$  mm, with different times of application:

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- Flame source ( $45 \pm 2$ ) ml/min – (80 seconds)
- Flame source ( $45 \pm 2$ ) ml/min – (140 seconds)

### PROCEDURE

The ignition source is applied to the interposed seat-back zone, 50 mm from the ends of any mark caused by an earlier test and the behavior of the assembly is observed.

The specimen passes the test if the ignition ceases within 120 seconds after the removal of the burner tube by which the flame is applied.

Conversely, if the inflammation persists after 120 seconds from the burner removal, the specimen does not pass the test.

However, it is also necessary to check that the test frame is disassembled once the test is completed, if there is internal progressive combustion (smoldering) through the entire thickness, in which case the test will not pass either.

The three tests are carried out according to the progressive order of the application time of the flame, first 20 seconds, then 80 seconds and finally 140 seconds, so that if one does not pass the test, the next application is not carried out.

The classification of the product tested is performed as follows:

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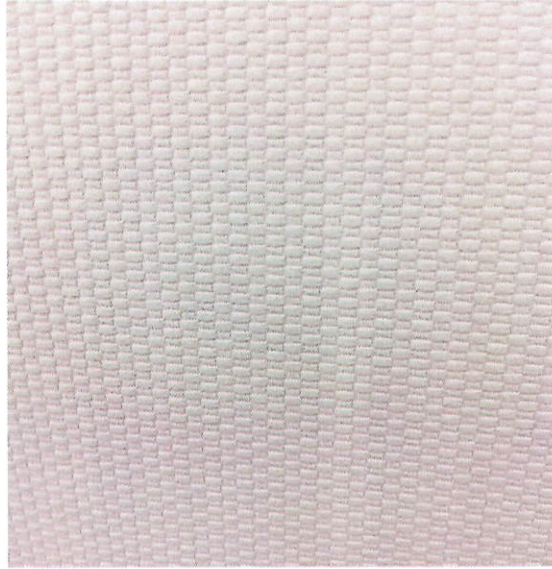
## TEST RESULT

Sample	Test results according to ignition source times								
	20 (s)	tpc	tpi	80 (s)	tpc	tpi	140 (s)	tpc	tpi
ANATOLIA FR-5	PASS	0	0	PASS	0	0	PASS	0	0

tpc: : post-combustion time (s)  
tpi: post-incandescence time (s)

**Conclusion: 1 IM**  
**Overall Rating: PASS**

## SAMPLE IMAGE



\*\*\* End of Report \*\*\*



**Overall Rating:** PASS

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**Sample ID:** ASSOS FR-5 (FR-5 COLLECTIONS)

	TEST	METHOD	SPECIMEN	RESULT
*	Specification for resistance to ignition of upholstered furniture for non-domestic seating by testing composites	BS 7176	ASSOS FR-5 (FR-5 COLLECTIONS)	PASS



Seal



Customer Representative  
Merve Nur KIRVELİ



Laboratory Manager  
Merve ÖZLÜ

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**BS 7176 - Specification For Resistance To Ignition Of Upholstered Furniture For Non-Domestic Seating By Testing Composites****SCOPE**

This Standard specifies requirements for the resistance to ignition of upholstered furniture used for seating when tested in accordance with BS 5852, BS EN 1021-1 or BS EN 1021-2, as appropriate. The levels of ignition resistance have been set after careful consideration of the fire risk of the particular end-use environment involved.

Hazard Level	Low	Medium	High
BS 5852 for Upholstered Furniture			
Ignition Source	0 and 1	0 and 5 ✓	0 and 7

Hazard category	Requirements	Typical examples
Medium hazard	Resistant to ignition source: smouldering cigarette as specified in BS EN 1021-1:2006. Resistant to ignition source: match flame equivalent as specified in BS EN 1021-2:2006. Resistant to ignition source 5 for upholstery composites as specified in BS 5852:2006, <b>Clause 11</b> .	Casinos Hospitals Hostels Hotel bedrooms Places of public entertainment Public buildings Public halls Public houses and bars Restaurants Services' messes

**Clause 11 : Methods Of Test For The Ignitability Of Upholstery Composites****Principle**

Materials forming an upholstery composite are assembled together on the test rig. This apparatus incorporates features designed to model the aspects of upholstered seating critical to ignition and so to provide a means of measuring the potential ignitability of the composite. The test specimen consists of vertically and horizontally oriented components which comprise a single combination of covering fabric, interlining (if used) and filling material. The test specimen usually comprises a single fabric, interlining (if used) and filling. If the proposed item of furniture comprises different combinations of materials in the seat, back and arms, all such combinations are tested separately on the rig.



**RESULT**

The following 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.

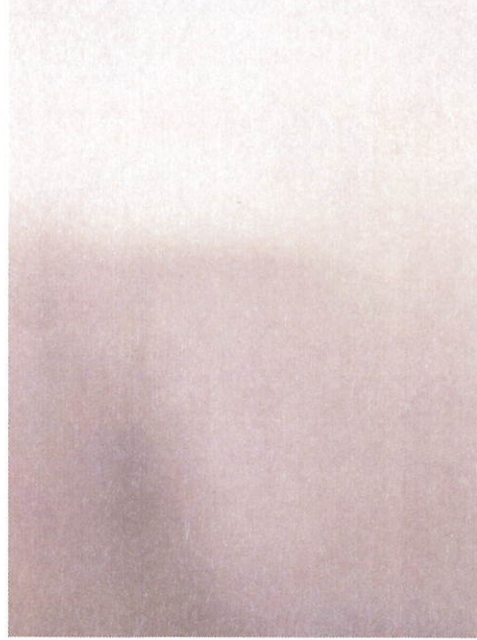
<b>BS EN 1021-1: Smoldering Ignition</b>		<b>Result</b>
Smoke ceased within	6 s	PASS
Glowing ceased at:	-	
Unsafe escalating smoldering combustion?	No	
Any detectable amounts of smoke, Heat or glowing 60 Minutes after extinction of the source:	No	
Specimen essentially consumed or smolders to extremities including thickness within the duration of the test	No	
<b>Flaming Criteria</b>	-	
Occurrence of flames?	No	

<b>BS EN 1021-2: Match Ignition</b>		<b>Result</b>
Flaming Duration:	No Ignition	PASS
<b>Smoldering Criteria</b>	-	
Unsafe escalating smoldering combustion?	No	
Any detectable amounts of smoke, Heat or glowing 60 Minutes after extinction of the source:	No	
Specimen essentially consumed or smolders to extremities including thickness within the duration of the test	No	
<b>Flaming Criteria</b>	-	
Unsafe escalating flaming combustion.	No	
Essentially consumed within the duration of the test	No	
Flame front reached extremities and/or full thickness with the duration of the test	No	
Flaming continued to burn for more than 120s after removal of the flaming source.	No	

<b>Ignition Source</b>	<b>Observations</b>	<b>Result</b>
Smouldering cigarette	No flaming or progressive smouldering was observed within one hour of placement of the cigarettes.	PASS
Match flame equivalent	Flaming ceased within the specified two minute period after removal of the butane flame and no progressive smouldering occurred.	PASS

Ignition Source	Observations	Result
5 (Wood Crib)	Flaming ceased within the specified ten minute period after ignition of the crib and no progressive smouldering occurred.	PASS

**SAMPLE IMAGE**



**\*\*\*End Of Report\*\*\***

**Overall Rating:** PASS

**Report No:** 2021051117  
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**Sample ID:** ASSOS FR-5(FR-5 COLLECTIONS)

TEST	METHOD	Specimen	RESULT
CAL 117 STANDARD FOR UPHOLSTERED SEATING	CAL 117	ASSOS FR-5(FR-5 COLLECTIONS)	PASS



Seal



Customer Representative  
Merve Nur KIRVELİ



Laboratory Manager  
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## CAL 117 (California Bureau of Home Furnishings and Thermal Insulation Technical Bulletin 117)

### Scope

The intent of this standard is to produce upholstered furniture which is safer from the hazards associated with smoldering ignition. This standard provides methods for smolder resistance of cover fabrics, barrier materials and resilient filling materials for use in upholstered furniture.

These test methods are designed for the assessment of the resistance of upholstered furniture component assemblies to combustion after exposure to smoldering cigarettes under specified conditions.

### Summary Of Method

These test methods consist of three tests used to evaluate the cigarette ignition resistance of upholstery cover fabrics, barrier (interliner) materials and resilient filling materials used in the manufacture of upholstered furniture. Each test involves a miniature assembly consisting of the component to be tested along with other specified materials, mounted on a plywood mock-up that resembles a small chair seat and back. The assembly is exposed to a lighted cigarette as an ignition source.

#### Test Conditioning

<b>Temperature</b>	21 ± 3 °C	<b>Relative Humidity</b>	55%
--------------------	-----------	--------------------------	-----

\*Condition test specimens and cigarettes prior to the test for a minimum of 24 hours at 21° ± 3 °C (70° ± 5 °F) and less than 55% relative humidity. If conditions in the test area are not the same as in the conditioning area, tests should begin within 10 minutes of removal of samples from conditioning area.

## SECTION 1: COVER FABRIC TEST

### Scope

For cover fabrics that pass this section, the first layer of filling materials located below the cover fabric shall also meet the test requirements of section 3 of this test method.

### Procedure

-Place each assembled vertical and horizontal panel in a mini-mock-up tester

-Light three cigarettes and place a lighted cigarette on each of the three test assemblies so that the cigarette lies in the crevice and against the vertical panel with equal distance of cigarette ends from either side of the assembly.

-Place a piece of sheeting material over each cigarette, smoothing it over the cigarette to ensure intimate contact. Pin the sheeting to the vertical panel about 2.5 in. (63 mm) above the crevice.

- Allow the cigarettes to burn their full lengths unless an obvious ignition of the polyurethane substrate occurs. If a cigarette extinguishes before burning its entire length, place a fresh cigarette on a new test assembly and cover with sheeting fabric until either (1) three cigarettes have burned their entire length on three individual test specimens, or (2) three cigarettes have self-extinguished on the specimen.
- If continuing ignition occurs (that is, fabric and filling materials are ignited and are smoldering and generating smoke at a rapid rate), there is no need to wait until a cigarette has burned its full length. Stop the test and extinguish the burning material. Ventilate the test room and record an ignition for the cigarette test location.
- If no obvious ignition occurs, record the vertical char on the vertical panel, to the nearest 0.1 in. (2.5 mm), measured from the original crevice position to the highest part of the destroyed or degraded fabric. Determine the original crevice position by laying a straightedge or ruler between the two marks previously marked on the edges of the vertical panel. The highest point of destroyed or degraded fabric is defined as the highest point at which any of the fabric is charred from front to back.
- Classify those fabrics that do not develop obvious ignition and exhibit a vertical char of less than 1.8 in. (45 mm) as Class I. Classify fabrics developing obvious ignition or vertical char of 1.8 in. or more as Class II.

#### Accepted Criteria

1. A single mock-up test specimen fails to meet the requirements of this test procedure if any of the following criteria occurs:
  - a) The mock-up test specimen continues to smolder after the 45 minute test duration;
  - b) A char develops more than 1.8 inches (45 mm) in any direction from the cigarette on the cover fabric measured from its nearest point.
  - c) The mock-up test specimen transitions to open flaming.
2. The cover fabric passes the test if three initial mock-up specimens pass the test, i.e., the cigarettes burn their full length and the mock-ups are no longer smoldering.
3. If more than one initial specimen fails, the cover fabric fails the test.
4. If any one of the three initial specimens fails, repeat the test on additional three specimens.
5. If all three additional specimens pass the test, the cover fabric passes the test. If any one of the additional three specimens fails, the cover fabric fails the test.

## Test Results

Specimen	Smouldering after 45 minutes	Vertical char length in inches	Cigarette burned entire length	Occurrence of flames	Result
#1	No	1,54 (40 mm)	Yes	No	PASS
#2	No	1,48 (39 mm)	Yes	No	PASS

## SECTION 2: BARRIER MATERIALS TEST

### Scope

This test method measures the tendency of the barrier material to smolder after exposure to smoldering cigarettes under specified conditions.

Upholstery cover fabrics that fail the cover fabric test described in Section 1 can be used in upholstered furniture if a barrier (interliner) material that passes this test method is used. When a barrier is required, the barrier material must cover all sides and top of the seating cushion(s).

If a test fabric fails, it must be used in a furniture structure that requires a flame-resistant barrier material inside between the outer fabric and the padding. Barrier material should be tested. The barrier material must cover all edges and tops of the padding (there are exceptions for non-detachable or irreversible cushions). Barrier materials testing is performed in much the same way as cover fabric testing. A composite assembly of standard Type 2 fabric, barrier material and standard flexible polyurethane foam is subjected to smoldering tests for smoking.

### Procedure

- Mark the position of the crevice on the side of the vertical polyurethane substrate.
- Light three cigarettes and place a lighted cigarette on each of the test assemblies so that the cigarette lies in the crevice and against the vertical panel with equal distance of cigarette ends from either side of the assembly.
- Place a piece of sheeting material over each cigarette, smoothing it over the cigarette to ensure intimate contact. Pin the sheeting to the vertical panel about 2.5 in. (63 mm) above the crevice .
- Allow the cigarettes to burn their full lengths unless an obvious ignition of the substrate occurs. If a cigarette extinguishes before burning its entire length, place a fresh cigarette on a fresh area of the test assembly and cover with sheeting fabric until either (1) three cigarettes have burned their entire length on three individual test specimens or (2) three cigarettes have self-extinguished on the sample.
- If continuing ignition occurs (that is, fabric and filling materials are ignited and are smoldering and generating smoke at a rapid rate), there is no need to wait until a cigarette has burned its full length. Stop the test and extinguish the burning material. Ventilate the test room and record an ignition for the cigarette test location.

- If no obvious ignition occurs, record the vertical char on the vertical panel to the nearest 0.1 in. (2.5 mm), measured from the original crevice position to the highest part of the destroyed or degraded cover fabric. Determine the original crevice position by laying a straightedge or ruler between the two marks previously marked on the edges of the vertical panel. The highest point of destroyed or degraded fabric is defined as the highest point at which any of the fabric is charred from front to back.

- Classify barrier materials that do not develop obvious ignition and exhibit a char length of less than 2.0 in. (51 mm) as Class A. Classify materials that develop obvious ignition or exhibit a char length of greater than 2.0 in. (51 mm) as Class B.

### Accepted Criteria

1. A single mock-up test specimen fails to meet the requirements of this test procedure if any of the following criteria occurs:

- The mock-up test specimen continues to smolder after the 45 minute test duration;
- A char develops more than two inches (50 mm) in any direction from the cigarette on the Standard Type II cover fabric measured from its nearest point.
- The mock-up test specimen transitions to open flaming.

2. A barrier material passes the test if three initial mock-up specimens pass the test, i.e., the cigarettes burn their full length and the mock-ups are no longer smoldering.

3. If more than one initial specimen fails, the barrier material fails the test.

4. If any one of the three initial specimens fails, repeat the test on additional three specimens. If all three additional specimens pass the test, the barrier material passes the test. If any one of the additional three specimens fails, the barrier material sample fails the test.

### Test Results

Specimen	Smouldering after 45 minutes	Vertical char length in inches	Cigarette burned entire length	Occurrence of flames	Result
#1	No	1,54 (40 mm)	Yes	No	PASS
#2	No	1,48 (39 mm)	Yes	No	PASS



### SECTION 3. RESILIENT FILLING MATERIAL TEST

#### Scope

This test method measures the tendency of resilient filling materials to smolder and contribute to fire propagation, when covered with smolder resistant fabric and subjected to a smoldering ignition source. The materials covered by this test method include, but not limited to:

1. Resilient foams or other filling materials,
2. Batting of natural and man-made fibers
3. Resilient pads of natural or man-made fibers.

Resilient filling materials that fail the test described in this section can be used in upholstered furniture if a barrier (interliner) material that passes Section 2 of this test method is used between the cover fabric and the filling materials.

#### Procedure

- Light three cigarettes and place a lighted cigarette on each of the three test assemblies so that the cigarette lies in the crevice and against the vertical panel with equal distance of cigarette ends from either side of the assembly.
- Place a piece of sheeting material over each cigarette, smoothing it over the cigarette to ensure intimate contact. Pin the sheeting to the vertical panel about 2.5 in. (63 mm) above the crevice.
- Allow the cigarettes to burn their full lengths unless an obvious ignition of the substrate occurs. If a cigarette extinguishes before burning its entire length, place a fresh cigarette on a new test assembly and cover with sheeting fabric until either (1) three cigarettes have burned their entire length on three individual test specimens, or (2) three cigarettes have self-extinguished on the sample.
- If continuing ignition occurs (that is, fabric and filling materials are ignited and are smoldering and generating smoke at a rapid rate), there is no need to wait until a cigarette has burned its full length. Stop the test and extinguish the burning material. Ventilate the test room and record an ignition for the cigarette test location.
- If no obvious ignition occurs, record the vertical char on the vertical panel measured from the original crevice position to the highest part of the destroyed or degraded fabric. Determine the original crevice by laying a straightedge or ruler between the two marks previously marked on the edges of the cover fabric.
- Classify fillings/paddings that do not develop obvious ignition and exhibit a vertical char length of less than 1.5 in. (38 mm) as Class A. Classify fillings/ paddings that develop obvious ignition or exhibit a vertical char length of greater than 1.5 in. (38 mm) as Class B.

#### Accepted Criteria

1. A single mock-up test specimen fails the requirements of this test procedure if any of the following criteria occurs:
  - a) The mock-up specimen continues to smolder and the test must be terminated due to intensifying smoldering.
  - b) The mock-up specimen transitions to open flaming;

c) The resilient filling material substrate (i.e., sum of both horizontal and vertical pieces) of the mock-up test specimen has more than 20% mass loss.

- Calculate the percentage of mass loss for each test specimen substrate piece from each mock-up as: Percentage mass loss = ((pre-weight (A) – post-weight (B))/pre-weight (A)) x 100%.

2. The resilient filling material passes the test if three mock-up specimens pass the test.

3. If more than one specimen fails, the resilient filling material fails the test.

4. If any one of the three initial specimens fails, repeat the test on additional three specimens. If all three additional specimens pass the test, the resilient filling material passes the test. If any one of the additional three specimens fails, the resilient filling material fails the test.

### Test Results

Specimen	Smouldering after 45 minutes	Pre-Weight (g)	Post-weight (g)	Cigarette burned entire length	Occurrence of flames	Loss Of Mass (%)	Result
#1	-	-	-	-	-	-	-
#2	-	-	-	-	-	-	-

IMAGE



**\*\*\*END OF TEST REPORT\*\*\***



**Report No:** 2021110513  
**Applicant:** FLOKSER TEKSTİL  
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**Sample Accepted on:** 20.10.2021  
**Report Date:** 05.11.2021  
**Total number of pages:** 5 (Pg)

**Sample ID:** ASSOS FR-5(FR-5 COLLECTIONS)

	TEST	METHOD	SPECIMEN	RESULT
*	IMO Resolution MSC FTP Code Annex 1:Part 5	IMO FTP CODE	ASSOS FR-5 (FR-5 COLLECTIONS)	1 IM



Seal



Customer Representative  
Hasan KUTLU



Laboratory Manager  
Hava SARIAYDIN

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<b>X</b>	<b>Residential (domestic) environment</b>
<b>X</b>	<b>Commercial and light-industrial environment</b>
<b>X</b>	<b>Industrial environment</b>
<b>X</b>	<b>Medical environment</b>

**IMO Resolution MSC FTP Code Annex 1:Part 5****Scope**

International maritime organisation resolution MSC 307 (88) (FTP Cope) Annex 1, part 5 "test for surface flammability specifies a procedure for measuring fire characteristics of bulkhead ceiling, floor coverings and primary deck covering materials as a basis for characterising their flammability and thus their suitability for use in maritime construction.

The resolution specifies a method of test for measuring the lateral spread of flame along the surface of a specimen of a product orientated in the vertical position together with a method for determining the heat released by the specimen during exposure to a defined gradient of irradiance. It also details a classification system based on critical flux at extinguishment, heat for sustained burning, peak heat release rate and total heat release.

**Conditioning**

Temperature (°C)	23 ± 2
Relative Humidity (%)	50 ± 5

**Procedure**

The test method involved mounting each conditioning specimen in a defined gradient of radiant flux and measuring the time to ignition, spread of flame and its final extinguishment distance together with a stack thermocouple signal as an indication of heat release by the specimen during burning.

### Classification

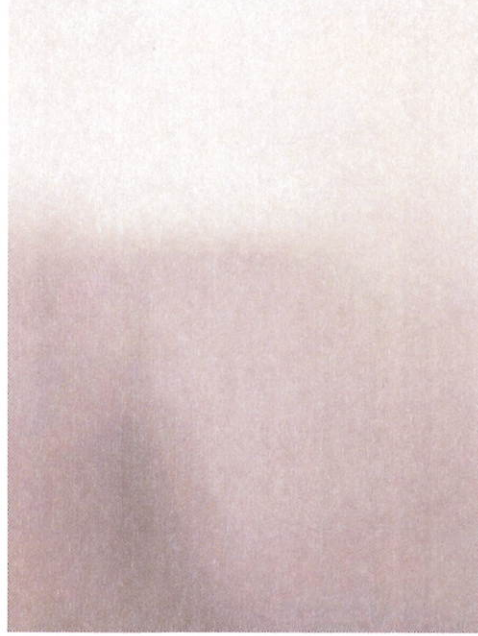
Materials giving values for all the surface flammability criteria not exceeding those listed below are considered to meet the requirements for low flame spread in compliance with the regulations.

Parameter	Requirement For Bulhead, Wall & Ceiling Linings	Requirement For Floor Coverings	Requirement For Primary Deck Coverings
Heat Sustained Burning	≥1.5 MJ/m <sup>2</sup>	≥ 0.25 MJ/m <sup>2</sup>	≥ 0.25 MJ/m <sup>2</sup>
Critical Flux At Extinguishment	≥20 kW/m <sup>2</sup>	≥ 7.0 kW/m <sup>2</sup>	≥7.0 kW/m <sup>2</sup>
Peak Heat Release Rate	≤4.0 kW	≤10.0 kW	≤10.0 kW
Total Heat Release	≤0.7 MJ	≤2.0 MJ	≤2.0 MJ
Burning Drops	Zero	≤ 10	Zero

### Test Result

Parameter	Units	Specimen Number			Average
		1	2	3	
Heat For Ignition	MJ/m <sup>2</sup>	9.25	10.12	10.19	9.85
Heat For Sustained Burning	MJ/m <sup>2</sup>	11.02	13.31	12.47	12.27
Critical Flux At Extinguishment	kW/m <sup>2</sup>	25.18	24.37	25.51	25.02
Peak Heat Release Rate	kW	0.72	0.68	0.76	0.72
Total Heat Release	MJ	0.28	0.19	0.24	0.24
Burning Drops	N/A	No	No	No	N/A

**Sample Image**



**\*\*\*End Of Report\*\*\***





**Overall Rating:** PASS

**Report No:** 2021051110  
**Applicant:** FLOKSER TEKSTİL  
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**Sample Accepted on:** 20.10.2021  
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**Total number of pages:** 5 (Pg)

**Sample ID:** ASSOS FR-5 (FR-5 COLLECTIONS)

	TEST	METHOD	SPECIMEN
*	IMO Resolution MSC FTP Code Annex 1:Part 8	IMO FTP CODE	ASSOS FR-5 (FR-5 COLLECTIONS)



Seal



Customer Representative  
Merve Nur KIRVELİ



Laboratory Manager  
Merve ÖZLÜ

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<b>X</b>	Industrial environment
<b>X</b>	Medical environment

**IMO Resolution MSC FTP Code Annex 1:Part 8 – Test for Upholstered Furniture****Conditioning**

Immediately prior to testing the samples was placed in indoor ambient conditions for 72 hours and then conditioned in a standard atmosphere of  $23\pm 2^{\circ}\text{C}$  temperature and  $50\pm 5\%$  relative humidity for at least 16 hours.

**Procedure**

The samples was tested in accordance with IMO FTP Code 2010 : Part 8 using ignition sources 0 and 1. The sponsor sampled the material and the specimens were cut from the sample received to the dimensions set out in the standard.

**Requirements**

<b>Ignition Source 0</b>	No progressive smouldering or flaming within 1 hour of the placement of the cigarette
<b>Ignition Source 1</b>	All progressive smouldering and flaming to cease within 120 sec of removal of the burner tube

## TEST RESULT

Cigarette Test – Source 0		
Specimen No.	1	2
Extinction Time (smouldering) (min)	14	15
Time of cover split	DNS	DNS
Melting (Yes/No)	No	No
Dripping (Yes/No)	No	No
Charring (Yes/No)	Yes	Yes
Progressive Smouldering (Yes/No)	No	No
Pass/Fail	PASS	PASS

*DNS= Material did not split*

Propane Flame Test – Source 1		
Specimen No	1	2
Time of Ignition (s)	2	3
Extinction time of flames after removal of burner (s)	1	2
Time to Cover Split (s)	DNS	DNS
Melting (Yes/No)	No	No
Dripping (Yes/No)	No	No
Charring (Yes/No)	Yes	Yes
Progressive Smouldering (Yes/No)	No	No
Pass/Fail	PASS	PASS

*DNS= Material did not split*

**SAMPLE IMAGES**



**\*\*\* End of Report \*\*\***



**Overall Rating:** M2, PASSED

**Report No:** 2021051112  
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**Sample Accepted on:** 20.10.2021  
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**Total number of pages:** 7 (Pg)

**Sample ID:** ASSOS FR-5(FR-5 COLLECTIONS )

	TEST	METHOD	RESULT
*	Safety against fire - Building materials - Reaction to fire tests - Electrical burner test for flexible materials	NF P92-503	PASSED
*	Safety against fire - Building materials - Reaction to fire tests - Flame retention test and flame spread rate	NF P92-504	PASSED
*	Fire Test to Building Material - Dripping test	NF P92-505	PASSED
*	Fire Safety - Building - Interior Fitting Materials - Classification According To Their Reaction To Fire	NF P92-507	PASSED

**M2**

This report can be used as a substitute for conformity to standards, and can be used in tenders and product brochures.



Seal



Customer Representative  
Merve Nur KIRVELİ



Laboratory Manager  
Merve ÖZLÜ

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<b>X</b>	Industrial environment
<b>X</b>	Medical environment



**Procedure**

NF-P92-503 to 507 standard- FR fabric test for French contract industry (also known as M1)

**NF-P92-503: Safety against fire - Building materials - Reaction to fire tests - Electrical burner test for flexible materials**

A fabric sample is placed in a metal frame above an extreme heat source at an angle of 30°. A flame is generated from the heat source directly on the surface of the fabric.

The following parameters are observed:

- How long the fabric continues to burn after the flame is removed (after flame)
- Are there burning droplets falling from the burning fabric
- Measure the length and width of the burn damage after the flame is distinguished,

**NF-P92-504: Safety against fire - Building materials - Reaction to fire tests - Flame retention test and flame spread rate**

This test must be performed if the fabric contracts or melts during the NF-P92-503 test.

A fabric sample is placed vertically in a metal frame. A flame is generated and is run horizontally along the whole surface of the fabric.

The following parameters are observed:

- How long the fabric continues to burn after the flame is removed (after flame)
- Are there burning droplets falling from the burning fabric.

**NF-P92-505: Safety against fire - Building materials - Reaction to fire tests - Drip test for thermal melting materials**

This test must only be performed if there are burning droplets falling during the NF-P92-503 and NF-P92-504 test.

A fabric sample is placed horizontally under a metal sift. Burning heat is generated on the fabric causing burning droplets to fall from the fabric onto a cotton wool pad directly beneath it.

The following parameter is observed:

- Do the burning droplets ignite the cotton wool.

French standards have also introduced a classification between M1 and M4. According to this,

M1 - Non-flammable  
M2 - Low flammability  
M3 - Moderately flammable  
M4 – Flammable





## Requirements

Following completion of the NF-P92-503 to 505, the fabric can be categorized as NF-P92-507 and classified from M1 to M4. M1 being the highest standard of FR and M4. M1 being the highest standard of FR and M4 being the lowest:

### M1:

- NF-P92-503 the after flame is max 5 seconds
- NF-P92-503 the width and length of burn damage is max 250 mm
- NF-P92-504 the after flame is max 2 seconds
- NF-P92-503 to 505 there are no burning droplets

### M2:

- NF-P92-504 the after flame is max 5 seconds
- NF-P92-503 the width and length of burn damage is max 350 mm
- NF-P92-503 to 505 there are no burning droplets

### M3:

- NF-P92-503 the width and length of burn damage is max 90 mm
- NF-P92-503 to 505 there are no burning droplets

### M4:

- If the fabric does not meet the criteria of M1,M2 or M3, it is automatically classified as M4= not flame retardant/resistant



**RESULTS**

- The test specimens have not been cleaned nor submitted to an accelerated ageing procedure.

**Conditioning**

minimum 7 days at (23 ± 2) °C and (50 ± 5) % RH or until constant mass is achieved

**ELECTRIC BURNER TEST (NF P92-503)**

	Sample 1	Sample 2	Sample 3	Sample 4	
Piercing	No	No	No	No	
Lighting time (s)	-	-	-	-	
Duration of flaming after pilot flame removal (s)	-	-	-	-	
Spread of glowing dots beyond the char area	-	-	-	-	
Fall of flaming droplets or debris	No	No	No	No	
Melting behavior, fall of non-flaming molten drips	No	No	No	No	
Destroyed or burned length (mm)	105	108	106	109	Average length 107

Ignition duration ≤ 5s	Yes
Average Length < 250 mm	Yes
Inflamed falling drippings	No

\* No flames were observed in the sample.

## FLAME SPREAD TEST (NF P92-504)

	Sample 1	Sample 2	Sample 3	Sample 4
Duration of flaming after ISO 6940 burner removal	No	No	No	No
Material's maximum duration of flaming inferior or equal to 2s	No			
Material's maximum duration of flaming inferior or equal to 5s	Yes			
Fall of not flaming molten drips	No	No	No	No
Fall of flaming molten drips	No	No	No	No

Each test has been carried out with a flame application time of 5s

- The test specimens have not been cleaned nor submitted to an accelerated ageing procedure.

**Conditioning**

minimum 7 days at  $(23 \pm 2)$  °C and  $(50 \pm 5)$  % RH or until constant mass is achieved

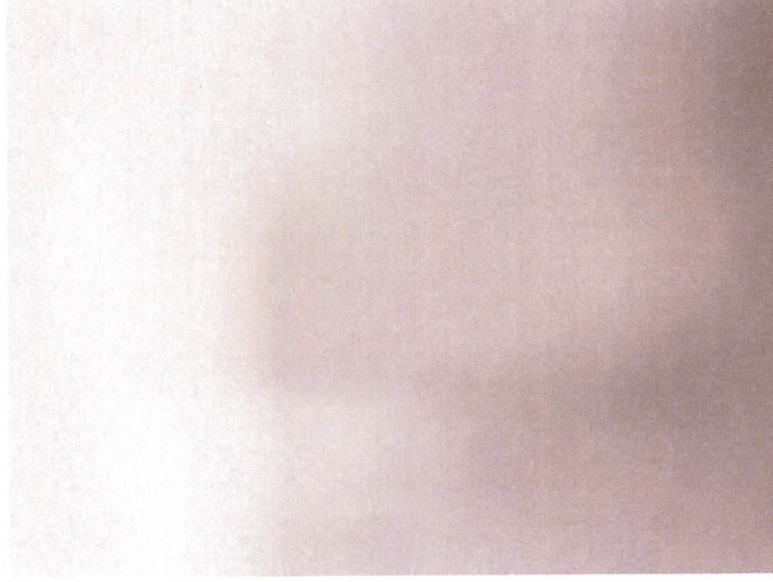
	first ignition (s)	non-flaming debris	flaming debris	ignition cotton wool
1	*	yes	yes	no
2	*	yes	yes	no
3	*	yes	yes	no
4	*	yes	yes	no

\* no ignition

Conclusion : **M2**

Overall Rating : **PASS**

**Sample Image**



**\*\*\*\* End of Report \*\*\*\***



**Overall Rating:** PASS

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**Sample Accepted on:** 20.10.2021  
**Report Date:** 05.11.2021  
**Total number of pages:** 5 (Pg)

**Sample ID:** ASSOS FR-5(FR-5 COLLECTIONS)

	TEST	METHOD	RESULT
*	Burning Behaviour Of Equipment Materials - Testing And Classification Of Upholstery Fabrics	ÖNORM B 3825	PASS
*	Fire Behavior Of Materials, With The Exception Of Construction Products	ÖNORM A 3800	PASS



Seal

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**ÖNORM B 3825: Burning Behaviour Of Equipment Materials - Testing And Classification Of Upholstery Fabrics****Test Method**

The test fabric is placed on a replica chair. A flame is directed at it. The ignition point, the afterburning time with flame and the afterglow time are documented.

**Classification**

Class	Characteristics
Hardly Flammable	No ignition
	After flame time max. 10 seconds
	After glow time max 60 seconds
	No flaming of the upholstery
Normally Flammable	Flame spread time < 3,6 mm/sec
	Upholstery burns, but self-extinguishes
Easily Flammable	Other cases

**Test Result**

Specimen: Halıkarnas FR (FR Collections);

Longitudinal direction	Sample 1	Sample 2	Sample 3
Burningtime [s]	4	3	3
After-flametime [s]	2	2	2
After-glowtime [s]	1	1	1
Flame spread rate [mm/s]	7.18	7.32	7.24
Self-extinguishing before reaching the mark	PASS	PASS	PASS
Cross direction	Sample 1	Sample 2	Sample 3
Burningtime [s]	3	4	3
After-flametime [s]	2	2	2
After-glowtime [s]	1	1	1
Flame spread rate [mm/s]	7.31	7.17	7.33
Self-extinguishing before reaching the mark	PASS	PASS	PASS

**Conclusion**

This test is a compound test at which the furniture fabric will always be tested combined with upholstery. Classification, therefore, relates only to the described arrangement of specimens and foam used.

**ÖNORM A 3800: Fire Behavior Of Materials, With The Exception Of Construction Products**

This describes a method for testing and evaluating flame resistance, smoke generation and droplet formation.

**Classification**

Class	Characteristics
Flammability Class	Hardly Flammable
Smoke Generation Classes (Q1)	Slightly Smoking
Smoke Generation Classes (Q2)	Normally Smoking
Smoke Generation Classes (Q3)	Heavily Smoking
Droplet Formation Classification (Tr1)	Not Dripping
Droplet Formation Classification (Tr2)	Dripping
Droplet Formation Classification (Tr3)	Igniting-Dripping

**Test Result****Specimen: ASSOS FR-5(FR-5 COLLECTIONS)**

Evaluation Criteria	Test		
	# 1	# 2	# 3
Ignition of the not flamed specimen [yes/no]	Yes	Yes	Yes
After-flame time [min:sec]	4	3	3
After-glow time [min:sec]	1	1	1
Undestroyed length of flamed specimen [cm]	88	80	87
Dropping	No	No	No
According to the classification criteria of ÖNORM A 3800-1, point 4.1, the tested sample can be classified as "Brennbarkeitsklasse - schwerbrennbar"			

Sample	Smoke Emission [%]
#1	14
#2	15
#3	17



**SAMPLE IMAGES**



**\*\*\*\* End of Report \*\*\*\***

