



TEST REPORT

Reference No. : WTF19F05031189A3C
Applicant : Mid Ocean Brands B.V.
Address : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer : 112213
Sample Name : Set of 6 tealights, 2 Candles with glass holder, 4 candles, Decoration tealight holder, Scented candle in glass, Transparent glass holder with tealight
Model No. : CX1457, CX1458, CX1459, CX1460, CX1461, MO9030, MO9734
Test Requested : According to customer requirements, the following tests are performed.
1) Candle Fire Safety Labeling (BS EN15494:2007)
2) Burning Safety (BS EN 15493:2007)
3) Soot Release (BS EN 15426:2007)(per applicant's requirement)
4) Soot Release (BS EN 15426:2018)
Test Conclusion : Please refer to next page (s)
Date of Receipt sample : 2019-07-17
Date of Test : 2019-07-17 to 2019-07-26
Date of Issue : 2019-08-01
Test Result : Please refer to next page (s)

Remarks:

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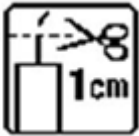
**Test Results:****1. Candle Fire Safety Labeling (BS EN 15494:2007)**

Test standard: BS EN 15494:2007 Candles – Products Safety Labels






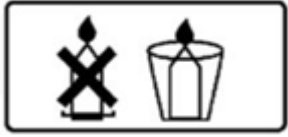

Number of sample(s) tested: Each style One set product with full packaging

Clause	Requirement	Finding	Result
2.1	<p>Safety information</p> <ul style="list-style-type: none">- Either be displayed in the format of pictogram or text- Visible and legible on the packaging or product- If not practical, an instruction leaflet shall be available at the point of sale-ext information shall be given in their own national language(s) for the selling markets	See Test Data	PASS for all style
2.2	<p>Layout of a product safety label</p> <ul style="list-style-type: none">- Shall be in Form 1 or Form 2 as stated in the standard- Safety information symbol or text shall be located below or beside the general warning sign <div><p>Safety information (as symbol (Form 1) or text (Form 2))</p><div><p>Safety information (as symbol (Form 1) or text (Form 2))</p></div></div>	<p>Form 1</p> <p>Safety Information Symbol <u>beside</u> General Warning Sign</p>	PASS for all style

**Test Data:**

In the form of Pictogram	In the form of Text	Finding
Mandatory safety information		
	Never leave a burning candle unattended	In Pictogram Present
	Burn candle out of the reach of children and pets	In Pictogram Present
	Always leave at least xx cm between burning candles. <i>Remark: xx - minimum safety distance recommended by the manufacturer</i>	In Pictogram Present
	Do not burn candles on or near anything that can catch fire.	In Pictogram Present
Optional Safety Information		
	Do not place candles in a draught	Not Present
	Do not place candles near a source of heat	Not Present
	Place candles in an upright position	Not Present
	Trim wick to about 1cm before lighting	Text Form Present (See note#)



the form of Pictogram	In the form of Text	Finding
	Always snuff out the flame. Do not blow it out	Text Form Present (See note#)
	Always use a candleholder	Text Form Present (See note#)
	Keep the wax pool clear of matches and other debris to avoid flaring	Text Form Present (See note#)
	Only use tea light in holders and warming stoves with sufficient ventilation	Not Present
	Do not move a burning candle	Text Form Present (See note#)
	Use a suitable container as these candles liquefy when burning	Not Present
	Never use liquid to extinguish	Not Present

Note #: Equipment meaning but not the exactly wording.

**2. 1 Burning Safety (BS EN 15493:2007)**

Test Standard: BS EN 15493:2007 Candles -Specification for Fire Safety

Number of sample(s) tested: 3 pieces of each style (H-1,H-4) candle for testing.

Instruction label: Provided, Candle wicks are trimmed in accordance with the label's instructions

Burn test cycle: Burn candle continuously until self extinguishing

Clause	Requirement	Result
4.1	Stability - Free-standing candles shall not tip over when tested on a slope of 10 °	PASS
4.2	Secondary ignition - No secondary ignition shall occur for more than 10 s	PASS
4.3	Flame height - Maximum 75 mm for all candles except tea lights - Maximum 30 mm for tea lights	PASS
4.4	Behaviour by self-extinguishing at the end of the burning process - Shall self extinguish at the end of the burning time - Shall not cause the container to break (if applicable)	PASS
4.5	Re-ignition after extinguishing - The wick shall not continue to glow or smoke for more than 20 s after extinguishing - The candle shall not spontaneously re-light after extinguishing	PASS

Abbreviation: NA = Not Applicable

The sample(s) were resubmitted on Jun. 04, 2019 to retest.

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**Test Data:**

Sample ID	Wax weight (in net and g)	Size (mm)
H-1-1	12.1	38×16
H-1-2	12.2	38×16
H-1-3	12.7	38×16

Sample ID	Flame height (mm)		Total burn time (hours)	Percentage of wax burnt (%)	Wax spillage (%)	Afterglow (s)
	Minimum	Maximum				
H-1-1	5	20	6	95.9	--	6
H-1-2	5	15	7	96.7	--	5
H-1-3	5	15	6	94.5	--	7

Sample ID	Wax weight (in net and g)	Size (mm)
H-4-1	8.4	39×11
H-4-2	8.3	39×11
H-4-3	7.9	39×11

Sample ID	Flame height (mm)		Total burn time (hours)	Percentage of wax burnt (%)	Wax spillage (%)	Afterglow (s)
	Minimum	Maximum				
H-4-1	10	20	3	98.8	--	7
H-4-2	15	20	3	98.8	--	7
H-4-3	10	20	3	98.7	--	8

Abbreviation: * = Failed item; NA = Not Applicable

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Exhibit:



At beginning of burning(H-1)



At end of burning(H-1-1)



At end of burning(H-1-2)



At end of burning(H-1-3)



Exhibit:



At beginning of burning(H-4)



At end of burning(H-4-1)



At end of burning(H-4-2)



At end of burning(H-4-3)

**2.2 Burning Safety (BS EN 15493:2007)**

Test Standard: BS EN 15493:2007 Candles -Specification for Fire Safety

Number of sample(s) tested: 3 pieces (H-2) of candle for testing.

Instruction label: Provided, Candle wicks are trimmed in accordance with the label's instructions

Burn test cycle: Burn candle continuously until a residual height of 10mm

Clause	Requirement	Result
4.1	Stability - Free-standing candles shall not tip over when tested on a slope of 10 °	NA
4.2	Secondary ignition - No secondary ignition shall occur for more than 10 s	PASS
4.3	Flame height - Maximum 75 mm for all candles except tea lights - Maximum 30 mm for tea lights	PASS
4.4	Behaviour by self-extinguishing at the end of the burning process - Shall self extinguish at the end of the burning time - Shall not cause the container to break (if applicable)	NA
4.5	Re-ignition after extinguishing - The wick shall not continue to glow or smoke for more than 20 s after extinguishing - The candle shall not spontaneously re-light after extinguishing	PASS

Abbreviation: NA = Not Applicable

The sample(s) were resubmitted on Jun. 04, 2019 to retest.

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**Test Data:**

Sample ID	Wax weight (in net and g)	Size (mm)
H-2-1	28.3	20×126
H-2-2	28.5	20×126
H-2-3	27.4	20×126

Sample ID	Flame height (mm)		Total burn time (hours)	Percentage of wax burnt (%)	Wax spillage (%)	Afterglow (s)
	Minimum	Maximum				
H-2-1	30	55	4	--	0.7	5
H-2-2	40	65	4	--	0.0	7
H-2-3	40	55	4	--	1.8	10

Abbreviation: * = Failed item; NA = Not Applicable

Exhibit:**At beginning of burning(H-2)****At end of burning(H-2-1)****At end of burning(H-2-2)****At end of burning(H-2-3)**

**2.3 Burning Safety (BS EN 15493:2007)**

Test Standard: BS EN 15493:2007 Candles -Specification for Fire Safety

Number of sample(s) tested: 3 pieces (H-3) of candle for testing.

Instruction label: Not provided, Candle wicks are trimmed in accordance with the label's instructions

Burn test cycle: Burn candle 4 hours, pause for minimum 1 hour

Continue to burn in cycles until a residual height of 20mm

Clause	Requirement	Result
4.1	Stability - Free-standing candles shall not tip over when tested on a slope of 10 °	PASS
4.2	Secondary ignition - No secondary ignition shall occur for more than 10 s	PASS
4.3	Flame height - Maximum 75 mm for all candles except tea lights - Maximum 30 mm for tea lights	PASS
4.4	Behaviour by self-extinguishing at the end of the burning process - Shall self extinguish at the end of the burning time - Shall not cause the container to break (if applicable)	NA
4.5	Re-ignition after extinguishing - The wick shall not continue to glow or smoke for more than 20 s after extinguishing - The candle shall not spontaneously re-light after extinguishing	PASS

Abbreviation: NA = Not Applicable

The sample(s) were resubmitted on Jun. 04, 2019 to retest.

**Test Data:**

Sample ID	Wax weight (in net and g)	Size (mm)
H-3-1	54.5	40×50
H-3-2	56.1	40×50
H-3-3	55.6	40×50

Sample ID	Flame height (mm)		Total burn time (hours)	Percentage of wax burnt (%)	Wax spillage (%)	Afterglow (s)
	Minimum	Maximum				
H-3-1	20	35	6	--	19.3	7
H-3-2	25	35	5	--	16.2	5
H-3-3	20	30	6	--	10.8	7

Abbreviation: * = Failed item; NA = Not Applicable

Exhibit:**At beginning of burning(H-3)****At end of burning(H-3-1)****At end of burning(H-3-2)****At end of burning(H-3-3)**

**3.1 Soot Release (BS EN 15426:2007, per applicant's requirement)**

Test Standard: BS EN 15426:2007 Candles -Specification for Sooting Behaviour

Number of sample(s) tested: 3 pieces of candle

Instruction label: No visible defects was found on all tested samples

Burn test cycle: The average soot index from three tests (samples) shall be less than 1.0/hour, no individual sample shall exceed 2.0/hour

Tested Sample	H-1-1	H-1-2	H-1-3
Original candle diameter (mm)	38	38	38
Original candle height (mm)	16	16	16
Net Candle weight (g)	12.1	12.2	12.7
Total measuring time, t_m (hours)	6	6	6
Soot Index, S_i	0.27	0.66	0.39
Average soot index per hour, $S_{in} (=S_i / t_m)$ Note : Acceptance criteria : $\leq 2.0/\text{hour}$	0.04	0.11	0.06
Average Soot Index from 3 samples Note : Acceptance criteria : $< 1.0/\text{hour}$	0.07		

3.2 Soot Release (BS EN 15426:2007, per applicant's requirement)

Test Standard: BS EN 15426:2007 Candles -Specification for Sooting Behaviour

Number of sample(s) tested: 3 pieces of candle

Instruction label: No visible defects was found on all tested samples

Burn test cycle: The average soot index from three tests (samples) shall be less than 1.0/hour, no individual sample shall exceed 2.0/hour

Tested Sample	H-3-1	H-3-2	H-3-3
Original candle diameter (mm)	40	40	40
Original candle height (mm)	50	50	50
Net Candle weight (g)	55.1	55.8	56.5
Total measuring time, t_m (hours)	8	8	8
Soot Index, S_i	0.72	0.62	0.66
Average soot index per hour, $S_{in} (=S_i / t_m)$ Note : Acceptance criteria : $\leq 2.0/\text{hour}$	0.09	0.08	0.08
Average Soot Index from 3 samples Note : Acceptance criteria : $< 1.0/\text{hour}$	0.08		

**3.3 Soot Release (BS EN 15426:2007, per applicant's requirement)**

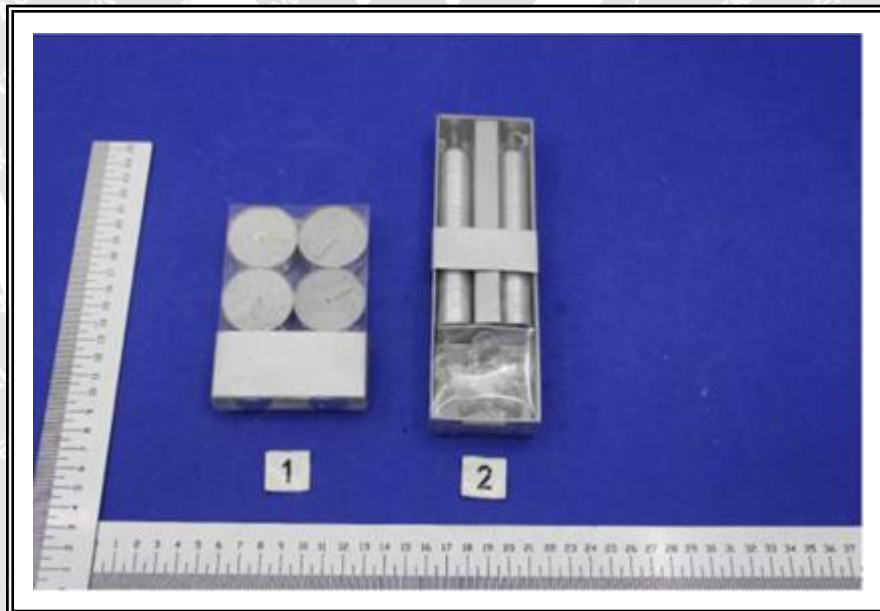
Test Standard: BS EN 15426:2007 Candles -Specification for Sooting Behaviour

Number of sample(s) tested: 3 pieces of candle

Instruction label: No visible defects was found on all tested samples

Burn test cycle: The average soot index from three tests (samples) shall be less than 1.0/hour, no individual sample shall exceed 2.0/hour

Tested Sample	H-4-1	H-4-2	H-4-3
Original candle diameter (mm)	39	39	39
Original candle height (mm)	11	11	11
Net Candle weight (g)	8.5	8.4	8.6
Total measuring time, t_m (hours)	2.6	2.4	2.5
Soot Index, S_i	1.05	0.72	0.59
Average soot index per hour, S_{ih} ($=S_i / t_m$) <i>Note : Acceptance criteria : $\leq 2.0/\text{hour}$</i>	0.40	0.30	0.24
Average Soot Index from 3 samples <i>Note : Acceptance criteria : $< 1.0/\text{hour}$</i>	0.31		

Sample Photo:



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**4. Soot Release (BS EN 15426:2018)**

Test Standard: BS EN 15426:2018 Candles -Specification for Sooting Behaviour

Number of sample(s) tested: 3 pieces

Instruction label: No visible defects was found on all tested samples

Burn test cycle: The average soot index from three tests (samples) shall be less than 1.0/hour.

Tested Sample	1	2	3
Original candle diameter (mm)	20	20	20
Original candle height (mm)	127.0	127.0	127.0
Net Candle weight (g)	32.4	31.5	31.8
Total measuring time, t_m (hours)	3	3	4
Soot Index, S_i	0.46	0.26	3.25
Average soot index per hour, S_{ih} ($=S_i / t_m$)	0.15	0.09	0.81
Average Soot Index from 3 samples <i>Note : Acceptance criteria : < 1.0/hour</i>	0.35		

5. Burning Safety (BS EN 15493:2007)

Test Standard: BS EN 15493:2007 Candles -Specification for Fire Safety

Number of sample(s) tested: 3 pieces of candle for testing.

Instruction label: Not provided, Candle wicks are trimmed in accordance with the label's instructions

Burn test cycle: Burn candle continuously until a residual height of 10mm

Clause	Requirement	Result
4.1	Stability - Free-standing candles shall not tip over when tested on a slope of 10 °	NA
4.2	Secondary ignition - No secondary ignition shall occur for more than 10 s	PASS
4.3	Flame height - Maximum 75 mm for all candles except tea lights - Maximum 30 mm for tea lights	PASS
4.4	Behaviour by self-extinguishing at the end of the burning process - Shall self extinguish at the end of the burning time - Shall not cause the container to break (if applicable)	NA
4.5	Re-ignition after extinguishing - The wick shall not continue to glow or smoke for more than 20 s after extinguishing - The candle shall not spontaneously re-light after extinguishing	PASS



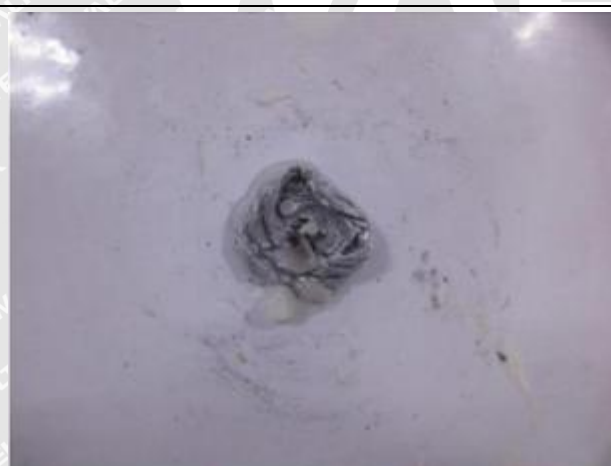
Abbreviation: NA = Not Applicable

Test Data:

Sample ID	Wax weight (in net and g)	Size (mm)
A1	31.1	20×126
A2	30.9	20×126
A3	31.3	20×126

Sample ID	Flame height (mm)		Total burn time (hours)	Percentage of wax burnt (%)	Wax spillage (%)	Afterglow (s)
	Minimum	Maximum				
A1	30	60	3	/	24.8	4s
A2	30	40	2	/	50.8	7s
A3	35	50	4	/	0.6	4s

Abbreviation: * = Failed item; NA = Not Applicable

Remark: CTT190712461EN is replaced by this report.**Exhibit:****At end of burning(A1)****At end of burning(H-3-1)****At end of burning(A3)**



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Sample Photo:



===== End of Report =====

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