



# TEST REPORT

**Report No.** : WTF25F11304821C  
**Job No.** : FSW2511190792CJ  
**Applicant** : Mid Ocean Brands B. V.  
**Address** : Unit 711-716, 7/F., Tower A, 83 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong.  
**Manufacturer** : 112451  
**Sample Name** : 7 panels flat visor cap  
**Sample Model** : MO2866  
**Test Requested** : Refer to next page(s)  
**Test Method** : Refer to next page (s)  
**Test Conclusion** : **Pass** (Please refer to next pages for details)  
**Date of Receipt Sample** : 2025-11-19  
**Testing Period** : 2025-11-19 to 2025-11-28  
**Date of Issue** : 2025-11-28  
**Test Result** : Refer to next page (s)  
**Note** : As specified by client, only test the designated sample.

**Prepared By:**

**Waltek Testing Group (Foshan) Co., Ltd.**

Address: No.13-19, 2/F., 2nd Building, Sunlink Machinery City, Xingye 4 Road, Guanglong Industrial Park, Chihua Neighborhood Committee, Chencun, Shunde District, Foshan, Guangdong, China  
Tel:+86-757-23811398 Fax:+86-757-23811381 E-mail:info@waltek.com.cn

Signed for and on behalf of  
Waltek Testing Group (Foshan) Co., Ltd.

*Swing Liang*

Swing Liang  
Waltek Testing Group (Foshan) Co., Ltd.  
<http://www.waltek.com.cn>



WTF25F11304821C

**Summary**

Item No.	Test Requested	Test Conclusion
1	Determination of Lead content in the submitted sample in accordance with REACH regulation Annex XVII Entries 63 (EC) No. 1907/2006 and the amendment No. 836/2012 and (EU) 2015/628	<b>Pass</b>
2	Determination of Cadmium content in the submitted sample in accordance with REACH regulation Annex XVII Entries 23 (EC) No. 1907/2006 and the amendment No. 552/2009, No. 494/2011, No. 835/2012 and (EU) 2016/217	<b>Pass</b>
3	Determination of specified Phthalates content according to Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009 & No. 2018/2005	<b>Pass</b>
4	Determination of specified Polycyclic Aromatic Hydrocarbons (PAHs) content in submitted sample in accordance with Entries 50 of Annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Regulation (EU) No 1272/2013.	<b>Pass</b>
5	Determine the specified AZO Colorants contents in the submitted sample in accordance to the Entries 43 in Annex XVII of the REACH Regulation (EC) No.1907/2006 and the Amendment Regulation (EC) No.552/ 2009 & No.126/ 2013 (previously restricted under Directive 2002/61/EC).	<b>Pass</b>
6	To determine the nickel release content according to Annex XVII Item 27 of the REACH Regulation (EC) No. 1907/2006 & amendment No.552/2009.	<b>Pass</b>
7	As requested by the applicant, to test Colour Fastness to Rubbing in the submitted sample.	<b>Pass</b>



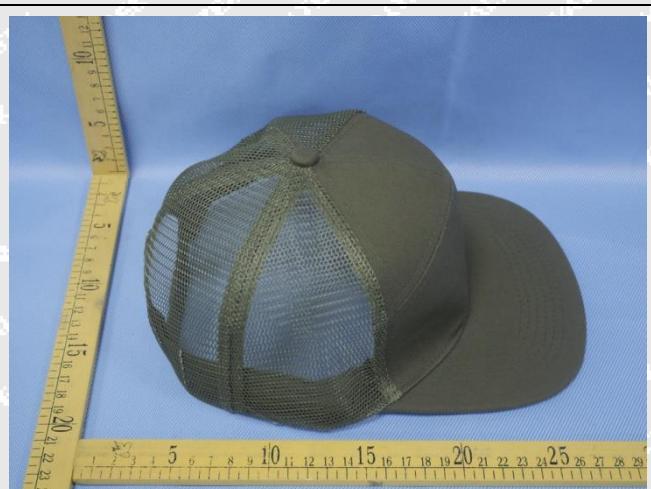
Report No.: WTF25F11304821C

Job No.: FSW2511190792CJ

**Sample photo:**



**MO2866**



**MO2866**



**MO2866**



**MO2866**



**MO2866**





Report No.: WTF25F11304821C

Job No.: FSW2511190792CJ

**Test Results:****1) Lead (Pb)**

Test Method: With reference to IEC 62321-5:2013, the analysis was performed by ICP-OES.

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.1+No.2+No.3	No.4+No.5+No.6	
Lead(Pb)	2	ND*	ND*	500
Conclusion	--	Pass	Pass	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.8+No.9+No.12	No.10+No.14+No.17	
Lead(Pb)	2	ND*	ND*	500
Conclusion	--	Pass	Pass	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.11	No.13+No.15+No.16	
Lead(Pb)	2	ND	ND*	500
Conclusion	--	Pass	Pass	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.18+No.19+No.20		
Lead(Pb)	2		ND*	500
Conclusion	--		Pass	--

**Note:**

- (1) mg/kg = milligram per kilogram
- (2) ND = Not Detected (lower than LOQ)
- (3) LOQ = Limit of quantitation
- (4) Limit of Lead was quoted from REACH regulation Annex XVII Item 63 (EC) No. 1907/2006 and the amendment No. 836/2012 and (EU) 2015/628.
- (5) "\*" = As per applicant's requirement, the testing was conducted based on mixed components by weight in equal ratio, results are calculated by the minimum weight of mixed components.



Report No.: WTF25F11304821C

Job No.: FSW2511190792CJ

## 2) Cadmium (Cd)

Test Method: With reference to IEC 62321-5:2013, the analysis was performed by ICP-OES.

Test Item	LOQ (mg/kg)	Results (mg/kg)		
		No.1+No.2+No.3	No.7+No.18+No.20	No.10+No.14 +No.17
Cadmium(Cd)	2	ND*	ND*	ND*
<b>Conclusion</b>	--	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

### Note:

(1) mg/kg = milligram per kilogram

(2) ND = Not Detected (lower than LOQ)

(3) LOQ = Limit of quantitation

(4) Limit of Cadmium according to REACH regulation Annex XVII Item 23 (EC) No. 1907/2006 and the amendment No. 552/2009, No. 494/2011 and No. 835/2012 and (EU) 2016/217.

Category	Limit (mg/kg)
Wet paint	100
Surface coating	1000
Plastic	100
Metal parts of jewellery and hair accessories	100

(5) \*\* = As per applicant's requirement, the testing was conducted based on mixed components by weight in equal ratio, results are calculated by the minimum weight of mixed components.



Report No.: WTF25F11304821C

Job No.: FSW2511190792CJ

### 3) Phthalates

Test Method: With reference to EN14372:2004, by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.

Test Items	LOQ (%)	Results	Limit (%)
		(%) No.1+No.2+No.3	
Benzyl butyl phthalate (BBP)	0.005	ND*	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND*	
Dibutyl phthalate (DBP)	0.005	ND*	
Diisobutyl phthalate (DIBP)	0.005	ND*	
Diisodecyl phthalate (DIDP)	0.01	ND*	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND*	
Di-n-octyl phthalate (DNOP)	0.005	ND*	
<b>Conclusion</b>	--	<b>Pass</b>	--

Test Items	LOQ (%)	Results	Limit (%)
		(%) No.7+No.18+No.20	
Benzyl butyl phthalate (BBP)	0.005	ND*	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND*	
Dibutyl phthalate (DBP)	0.005	ND*	
Diisobutyl phthalate (DIBP)	0.005	ND*	
Diisodecyl phthalate (DIDP)	0.01	ND*	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND*	
Di-n-octyl phthalate (DNOP)	0.005	ND*	
<b>Conclusion</b>	--	<b>Pass</b>	--



Test Items	LOQ (%)	Results (%)	Limit (%)
		No.10+No.14+No.17	
Benzyl butyl phthalate (BBP)	0.005	ND*	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND*	
Dibutyl phthalate (DBP)	0.005	ND*	
Diisobutyl phthalate (DIBP)	0.005	ND*	
Diisodecyl phthalate (DIDP)	0.01	ND*	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND*	
Di-n-octyl phthalate (DNOP)	0.005	ND*	
<b>Conclusion</b>	--	<b>Pass</b>	--

**Note:**

- (1) % = percentage by weight
- (2) ND = Not Detected or lower than limit of quantitation
- (3) LOQ = Limit of quantitation
- (4) "<" = less than
- (5) The above limit was quoted according to Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009 & No. 2018/2005 (formerly known as Directive 2005/84/EC) for phthalate content in toys and child care articles.
- (6) "\*" = As per applicant's requirement, the testing was conducted based on mixed components by weight in equal ratio, results are calculated by the minimum weight of mixed components.



Report No.: WTF25F11304821C

Job No.: FSW2511190792CJ

**4) Polycyclic Aromatic Hydrocarbons (PAHs)**

Test Method: With reference to AFPS GS 2019:01 PAK method, analysis was performed by Gas Chromatographic Mass Spectrometry (GC-MS).

Test Items	Unit	Results	LOQ	Limit
		No.1+No.2+No.3		
Benzo(a)anthracene (BaA)	mg/kg	ND*	0.2	1.0
Chrysene (CHR)	mg/kg	ND*	0.2	1.0
Benzo[b]fluoranthene (BbFA)	mg/kg	ND*	0.2	1.0
Benzo[k]fluoranthene (BkFA)	mg/kg	ND*	0.2	1.0
Benzo(a)pyrene (BaP)	mg/kg	ND*	0.2	1.0
Dibenz[a,h]anthracene (DBAhA)	mg/kg	ND*	0.2	1.0
Benzo[j]fluoranthene (BjFA)	mg/kg	ND*	0.2	1.0
Benzo[e]Pyrene (BeP)	mg/kg	ND*	0.2	1.0
<b>Conclusion</b>	--	<b>Pass</b>	--	--

Test Items	Unit	Results	LOQ	Limit
		No.10+No.14+No.17		
Benzo(a)anthracene (BaA)	mg/kg	ND*	0.2	1.0
Chrysene (CHR)	mg/kg	ND*	0.2	1.0
Benzo[b]fluoranthene (BbFA)	mg/kg	ND*	0.2	1.0
Benzo[k]fluoranthene (BkFA)	mg/kg	ND*	0.2	1.0
Benzo(a)pyrene (BaP)	mg/kg	ND*	0.2	1.0
Dibenz[a,h]anthracene (DBAhA)	mg/kg	ND*	0.2	1.0
Benzo[j]fluoranthene (BjFA)	mg/kg	ND*	0.2	1.0
Benzo[e]Pyrene (BeP)	mg/kg	ND*	0.2	1.0
<b>Conclusion</b>	--	<b>Pass</b>	--	--



Test Items	Unit	Results	LOQ	Limit
		No.18+No.20		
Benzo(a)anthracene (BaA)	mg/kg	ND*	0.2	1.0
Chrysene (CHR)	mg/kg	ND*	0.2	1.0
Benzo[b]fluoranthene (BbFA)	mg/kg	ND*	0.2	1.0
Benzo[k]fluoranthene (BkFA)	mg/kg	ND*	0.2	1.0
Benzo(a)pyrene (BaP)	mg/kg	ND*	0.2	1.0
Dibenzo[a,h]anthracene (DBAhA)	mg/kg	ND*	0.2	1.0
Benzo[jj]fluoranthene (BjFA)	mg/kg	ND*	0.2	1.0
Benzo[e]Pyrene (BeP)	mg/kg	ND*	0.2	1.0
<b>Conclusion</b>	--	<b>Pass</b>	--	--

**Note:**

(1) ND = Not Detected or lower than limit of quantitation

(2) mg/kg=milligram per kilogram=ppm

(3) LOQ = Limit of quantitation

(4) As per Entries 50 of Annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Regulation (EU)

No 1272/2013, Articles shall not be placed on the market for supply to the general public, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use, contain more than 1 mg/kg (0,0001 % by weight of this component) of any of the listed PAHs.

(5) As per Entries 50 of Annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Regulation (EU)

No 1272/2013, Toys, including activity toys, and childcare articles, shall not be placed on the market, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use, contain more than 0,5 mg/kg (0,00005 % by weight of this component) of any of the listed PAHs.

(6) \*\* = As per applicant's requirement, the testing was conducted based on mixed components by weight in equal ratio, results are calculated by the minimum weight of mixed components.



Report No.: WTF25F11304821C

Job No.: FSW2511190792CJ

**5) AZO**

Test Method: With reference to BS EN ISO 14362-1: 2017 and BS EN ISO 14362-3: 2017, analysis was performed by Gas Chromatographic Mass Spectrometry (GC-MS)

No.	Amines Substances	CAS No.	Limit (mg/kg)	Result (mg/kg)	
				No.4+No.5+No.6	
1	4-Aminobiphenyl	92-67-1	30	ND*	
2	Benzidine	92-87-5	30	ND*	
3	4-chloro-o-Toluidine	95-69-2	30	ND*	
4	2-Naphthylamine	91-59-8	30	ND*	
5	o-Aminoazotoluene	97-56-3	30	ND*	
6	2-Amino-4-nitrotoluene	99-55-8	30	ND*	
7	p-Chloroaniline	106-47-8	30	ND*	
8	2,4-diaminoanisol	615-05-4	30	ND*	
9	4,4'-Diaminodiphenylmethane	101-77-9	30	ND*	
10	3,3'-Dichlorobenzidine	91-94-1	30	ND*	
11	3,3'-Dimethoxybenzidine	119-90-4	30	ND*	
12	3,3'-Dimethylbenzidine	119-93-7	30	ND*	
13	3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	30	ND*	
14	p-cresinin	120-71-8	30	ND*	
15	4,4'-Methylen-bis-(2-chloroaniline)	101-14-4	30	ND*	
16	4,4'-Oxydianiline	101-80-4	30	ND*	
17	4,4'-Thiodianiline	139-65-1	30	ND*	
18	o-Toluidine	95-53-4	30	ND*	
19	2,4-Toluylendiamine	95-80-7	30	ND*	
20	2,4,5 – Trimethylaniline	137-17-7	30	ND*	
21	o-anisidine	90-04-0	30	ND*	
22	4-aminoazobenzene	60-09-3	30	ND*	
23	2,4-Xylidin	95-68-1	30	ND*	
24	2,6-Xylidin	87-62-7	30	ND*	
--	<b>Conclusion</b>	--	--	<b>Pass</b>	



Report No.: WTF25F11304821C

Job No.: FSW2511190792CJ

No.	Amines Substances	CAS No.	Limit (mg/kg)	Result (mg/kg)	
				No.8+No.9+No.12	
1	4-Aminobiphenyl	92-67-1	30	ND*	
2	Benzidine	92-87-5	30	ND*	
3	4-chloro-o-Toluidine	95-69-2	30	ND*	
4	2-Naphthylamine	91-59-8	30	ND*	
5	o-Aminoazotoluene	97-56-3	30	ND*	
6	2-Amino-4-nitrotoluene	99-55-8	30	ND*	
7	p-Chloroaniline	106-47-8	30	ND*	
8	2,4-diaminoanisol	615-05-4	30	ND*	
9	4,4'-Diaminodiphenylmethane	101-77-9	30	ND*	
10	3,3'-Dichlorobenzidine	91-94-1	30	ND*	
11	3,3'-Dimethoxybenzidine	119-90-4	30	ND*	
12	3,3'-Dimethylbenzidine	119-93-7	30	ND*	
13	3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	30	ND*	
14	p-cresinin	120-71-8	30	ND*	
15	4,4'-Methylen-bis-(2-chloroaniline)	101-14-4	30	ND*	
16	4,4'-Oxydianiline	101-80-4	30	ND*	
17	4,4'-Thiodianiline	139-65-1	30	ND*	
18	o-Toluidine	95-53-4	30	ND*	
19	2,4-Toluylendiamine	95-80-7	30	ND*	
20	2,4,5 – Trimethylaniline	137-17-7	30	ND*	
21	o-anisidine	90-04-0	30	ND*	
22	4-aminoazobenzene	60-09-3	30	ND*	
23	2,4-Xylidin	95-68-1	30	ND*	
24	2,6-Xylidin	87-62-7	30	ND*	
--	<b>Conclusion</b>	--	--	<b>Pass</b>	



Report No.: WTF25F11304821C

Job No.: FSW2511190792CJ

No.	Amines Substances	CAS No.	Limit (mg/kg)	Result (mg/kg)
				No.13+No.15+No.16
1	4-Aminobiphenyl	92-67-1	30	ND*
2	Benzidine	92-87-5	30	ND*
3	4-chloro-o-Toluidine	95-69-2	30	ND*
4	2-Naphthylamine	91-59-8	30	ND*
5	o-Aminoazotoluene	97-56-3	30	ND*
6	2-Amino-4-nitrotoluene	99-55-8	30	ND*
7	p-Chloroaniline	106-47-8	30	ND*
8	2,4-diaminoanisol	615-05-4	30	ND*
9	4,4'-Diaminodiphenylmethane	101-77-9	30	ND*
10	3,3'-Dichlorobenzidine	91-94-1	30	ND*
11	3,3'-Dimethoxybenzidine	119-90-4	30	ND*
12	3,3'-Dimethylbenzidine	119-93-7	30	ND*
13	3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	30	ND*
14	p-cresinin	120-71-8	30	ND*
15	4,4'-Methylen-bis-(2-chloroaniline)	101-14-4	30	ND*
16	4,4'-Oxydianiline	101-80-4	30	ND*
17	4,4'-Thiodianiline	139-65-1	30	ND*
18	o-Toluidine	95-53-4	30	ND*
19	2,4-Toluylendiamine	95-80-7	30	ND*
20	2,4,5 – Trimethylaniline	137-17-7	30	ND*
21	o-anisidine	90-04-0	30	ND*
22	4-aminoazobenzene	60-09-3	30	ND*
23	2,4-Xylidin	95-68-1	30	ND*
24	2,6-Xylidin	87-62-7	30	ND*
--	Conclusion	--	--	Pass



Report No.: WTF25F11304821C

Job No.: FSW2511190792CJ

**Note:**

- ND = Not Detected or lower than limit of quantitation
- mg/kg=Milligram per kilogram
- Limit of quantitation (mg/kg): Each 5mg/kg
- The CAS-numbers 97-56-3 and 99-55-8 are further reduced to CAS-numbers 95-53-4 and 95-80-7.
- AZO colorants that are able to form 4-aminoazobenzene, generate under the condition of this method aniline and 1,4-phenylenediamine. The presence of these colorants cannot be reliably ascertained without additional information, e.g. the chemical structure of the colorant used.
- “\*” = As per applicant's requirement, the testing was conducted based on mixed components by weight in equal ratio, results are calculated by the minimum weight of mixed components.

**6) Nickel release**

Test Method: With reference to EN1811:2023, Nickel content was determined by Inductively Coupled Argon Plasma Spectrometry.

Item No.	Sample Area (cm <sup>2</sup> )	Volume of Test Solution(ml)	Nickel release ( $\mu\text{g}/\text{cm}^2/\text{week}$ )				Conclusion
			Trial 1	Trial 2	Trial 3	Average	
No.11	22.20	23	ND	ND	ND	ND	Pass

**Note:**

- (1)  $\mu\text{g}/\text{cm}^2/\text{week}$  = microgram per square centimetre per week
- (2) Limit of quantitation = 0.05  $\mu\text{g}/\text{cm}^2/\text{week}$
- (3) ND = Not detected or less than the value of limit of quantitation
- (4) Pass =Test results comply with the limit
- (5) Interpretation of test results:

Type of sample	Nickel Release( $\mu\text{g}/\text{cm}^2/\text{week}$ )	
	Pass	Fail
Other components in direct and prolonged contact with the skin	<0.88	$\geq 0.88$
Post assemblies and body piercings (Post assemblies which are inserted into pierced parts of the human body)	<0.35	$\geq 0.35$



Report No.: WTF25F11304821C

Job No.: FSW2511190792CJ

**7) Colour Fastness to Rubbing**

<b>Colour Fastness to Rubbing</b>							
(ISO 105-X12: 2016; Size of rubbing finger: 16mm diameter.)							
		<b>No.4</b>	<b>No.5</b>	<b>No.6</b>	<b>No.8</b>	<b>No.9</b>	<b>Client's Limit</b>
Length	Dry staining	4-5	4-5	4-5	4-5	4-5	2-3
	Wet staining	3	3-4	4	4	4-5	2-3
Width	Dry staining	--	--	--	--	--	2-3
	Wet staining	--	--	--	--	--	2-3
<b>Conclusion</b>		<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	--

<b>Colour Fastness to Rubbing</b>						
(ISO 105-X12: 2016; Size of rubbing finger: 16mm diameter.)						
		<b>No.12</b>	<b>No.13</b>	<b>No.15</b>	<b>No.16</b>	<b>Client's Limit</b>
Length	Dry staining	4-5	4-5	4-5	4-5	2-3
	Wet staining	4-5	4-5	4-5	4-5	2-3
Width	Dry staining	--	--	--	--	2-3
	Wet staining	--	--	--	--	2-3
<b>Conclusion</b>		<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	--

**Note:**

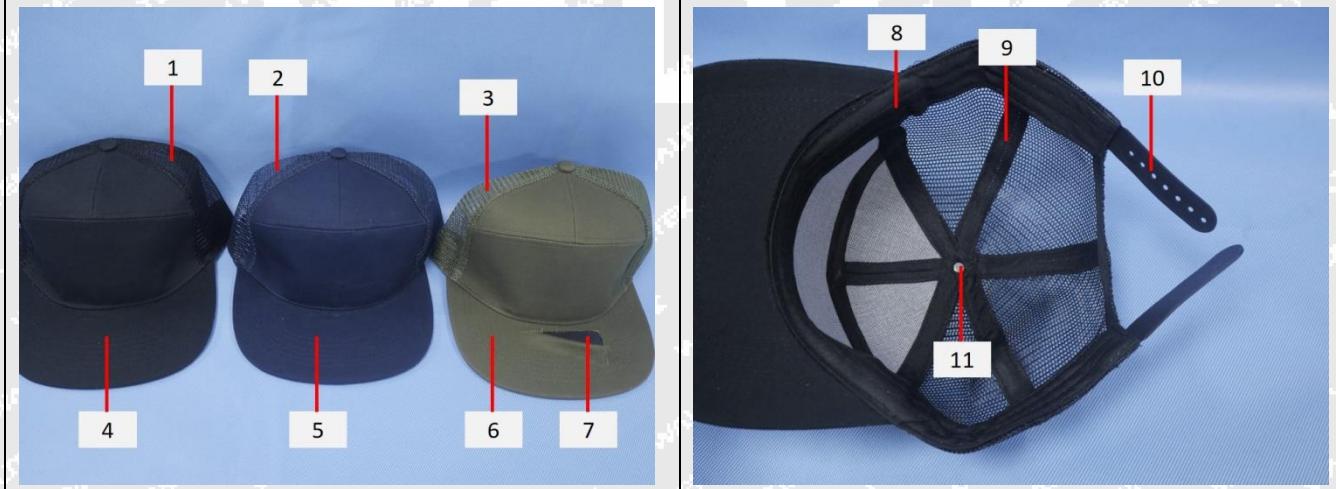
- (1) Grey Scale Rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good.

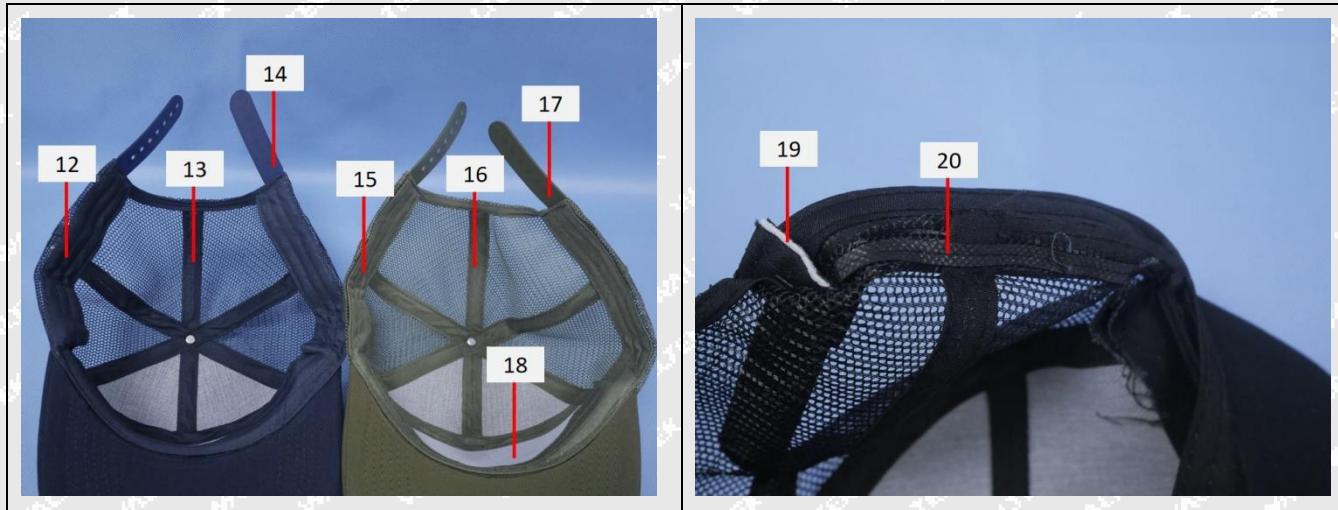
**Description for Specimen:**

<b>Specimen ID</b>	<b>Specimen No.</b>	<b>Specimen Description</b>
FSW2511190792CJ. 1	1	Black plastic net
FSW2511190792CJ. 2	2	Navy blue plastic net
FSW2511190792CJ. 3	3	Army green plastic net
FSW2511190792CJ. 4	4	Black main fabric
FSW2511190792CJ. 5	5	Navy blue main fabric
FSW2511190792CJ. 6	6	Army green main fabric
FSW2511190792CJ. 7	7	Black plastic sheet
FSW2511190792CJ. 8	8	Black sweatband

Specimen ID	Specimen No.	Specimen Description
FSW2511190792CJ. 9	9	Black binder on inner cap
FSW2511190792CJ. 10	10	Black plastic buckle
FSW2511190792CJ. 11	11	Silvery metal rivet
FSW2511190792CJ. 12	12	Navy blue sweatband
FSW2511190792CJ. 13	13	Navy blue binder on inner cap
FSW2511190792CJ. 14	14	Navy blue plastic buckle
FSW2511190792CJ. 15	15	Army green sweatband
FSW2511190792CJ. 16	16	Army green binder on inner cap
FSW2511190792CJ. 17	17	Army green plastic buckle
FSW2511190792CJ. 18	18	White plastic net
FSW2511190792CJ. 19	19	White cotton
FSW2511190792CJ. 20	20	Black plastic strip

#### Photograph of parts tested:



**Remarks:**

1. The results shown in this test report refer only to the sample(s) tested;
2. This test report cannot be reproduced, except in full, without prior written permission of the company;
3. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver;
4. The Applicant name and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which Waltek hasn't verified;
5. If the report is not stamped with the accreditation recognized seal, it will only be used for scientific research, education, and internal quality control activities, and is not used for the purpose of issuing supporting data to the society.
6. The sample material information (Model No. information) is provided by client, not verified by test laboratory. The samples of reference Model No. are not tested. Test laboratory not responsible for the accuracy, appropriateness, completeness and authenticity of the information provided by client.

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