



# TEST REPORT

Report No. .... : WTF24F11264412A2X1C  
Job No. .... : FSW2411120454CJ  
Applicant ..... : Mid Ocean Brands B.V.  
Address ..... : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan,  
Kowloon, Hong Kong  
Manufacturer ..... : 112451  
Sample Name ..... : Hemp baseball cap 370 gr/m<sup>2</sup>  
Sample Model ..... : MO6176  
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 ..... : 2024-11-12 & 2024-12-02 & 2024-12-11  
Testing period ..... : 2024-11-12 ~ 2024-11-25 & 2024-12-02 ~ 2024-12-06 &  
2024-12-11 ~ 2024-12-17  
Date of Issue ..... : 2024-12-17  
Test Result ..... : Refer to next page (s)  
Note ..... : 1.As specified by client, only test the designated sample.  
2.This report is based on Waltek test report  
WTF24F11264412A2C for revising, and replaced report  
WTF24F11264412A2C.

## 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 Town, 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



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### 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  | Pass            |
| 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   | Pass            |
| 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  | Pass            |
| 4        | 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). | Pass            |
| 5        | 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.   | Pass            |
| 6        | Nickel content requirement in Annex XVII Item 27 of the REACH Regulation (EC) No. 1907/2006 & amendment No.552/2009 (formerly known as Directive 94/27/EC and 2004/96/EC)  | Pass            |
| 7        | As requested by the applicant, to test Colour Fastness to Rubbing in the submitted sample.   | Pass            |

### Sample photo:







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

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

| Test Item         | LOQ<br>(mg/kg) | Results (mg/kg)        |             | Limit<br>(mg/kg) |
|-------------------|----------------|------------------------|-------------|------------------|
|                   |                | No.1+No.8(R2)+No.9(R2) | No.3        |                  |
| Lead(Pb)          | 2              | ND*                    | 36          | 500              |
| <b>Conclusion</b> | --             | <b>Pass</b>            | <b>Pass</b> | --               |

| Test Item         | LOQ<br>(mg/kg) | Results (mg/kg) |             | Limit<br>(mg/kg) |
|-------------------|----------------|-----------------|-------------|------------------|
|                   |                | No.4            | No.5+No.10  |                  |
| Lead(Pb)          | 2              | ND              | ND*         | 500              |
| <b>Conclusion</b> | --             | <b>Pass</b>     | <b>Pass</b> | --               |

| Test Item         | LOQ<br>(mg/kg) | Results (mg/kg) |             | Limit<br>(mg/kg) |
|-------------------|----------------|-----------------|-------------|------------------|
|                   |                | No.6            | No.7        |                  |
| Lead(Pb)          | 2              | ND              | 56          | 500              |
| <b>Conclusion</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 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) "\*" = Results are calculated by the minimum weight of mixed components.



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## 2) Cadmium (Cd)

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

| Test Item         | LOQ<br>(mg/kg) | Results (mg/kg) |
|-------------------|----------------|-----------------|
|                   |                | No.2+No.5+No.10 |
| Cadmium(Cd)       | 2              | ND*             |
| <b>Conclusion</b> | <b>--</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) "\*" = Results are calculated by the minimum weight of mixed components.

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**3) Phthalates**

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

| Test Items                           | LOQ (%) | Results (%)     | Limit (%)                     |
|--------------------------------------|---------|-----------------|-------------------------------|
|                                      |         | No.2+No.5+No.10 |                               |
| 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:**

DBP= Dibutyl phthalate

BBP= Benzyl butyl phthalate

DEHP= Bis-(2-ethylhexyl)- phthalate

DINP= Di-isononyl phthalate

DNOP= Di-n-octyl phthalate

DIDP= Di-isodecyl phthalate

DIBP= Diisobutyl phthalate

(1) % = percentage by weight

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

(3) LOQ = Limit of quantitation

(4) "&lt;" = less than

(5) The above limit was quoted according to Annex XVII Items 51 &amp; 52 of the REACH Regulation (EC) No.

1907/2006 &amp; Amendment No. 552/2009 &amp; No. 2018/2005 (formerly known as Directive 2005/84/EC) for phthalate content in toys and child care articles.

(6) "\*" = Results are calculated by the minimum weight of mixed components.





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**4) 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.1+No.8(R2)+No.9(R2) |
| 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>            |

**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.
- "\*" = Results are calculated by the minimum weight of mixed components.

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**5) 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.5+No.10  |     |       |
| 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[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> | --  | --    |

**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) "\*" = Results are calculated by the minimum weight of mixed components.





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**6) Nickel release**

Test method: With reference BS EN1811: 2011+A1:2015, 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 (µg/cm <sup>2</sup> /week) |         |         |         | Conclusion |
|----------|--------------------------------|-----------------------------|---|---------|---------|---------|------------|
|          |                                |                             | Trial 1                                   | Trial 2 | Trial 3 | Average |            |
| No.6     | 9.10                           | 10                          | ND  | ND      | ND      | ND      | Pass       |
| No.7     | 10.60                          | 10                          | ND  | ND      | ND      | ND      | Pass       |

**Note:**

- (1) µg/cm<sup>2</sup>/week = microgram per square centimetre per week
- (2) Limit of quantitation = 0.05 µg/cm<sup>2</sup>/week
- (3) ND = Not Detected or lower than limit of quantitation
- (4) Interpretation of test results:

| Type of sample  | Nickel Release(µg/cm <sup>2</sup> /week) |       |
|---|--|-------|
|   | Pass                                     | Fail  |
| Other components in direct and prolonged contact with the skin  | <0.88                                    | ≥0.88 |
| Post assemblies and body piercings<br>(Post assemblies which are inserted into pierced parts of the human body) | <0.35                                    | ≥0.35 |



**7) Colour Fastness to Rubbing**

| <b>Colour Fastness to Rubbing</b>                           |              |             |                 |                 |                       |
|---|--------------|-------------|-----------------|-----------------|-----------------------|
| (ISO 105-X12: 2016; Size of rubbing finger: 16mm diameter.) |              |             |                 |                 |                       |
|   |              | <b>No.1</b> | <b>No.8(R2)</b> | <b>No.9(R2)</b> | <b>Client's Limit</b> |
| Length  | Dry staining | 4-5         | 4-5             | 4               | 2-3                   |
|   | Wet staining | 2-3         | 4-5             | 4-5             | 2-3                   |
| Width   | Dry staining | 4-5         | --              | --              | 2-3                   |
|   | Wet staining | 2-3         | --              | --              | 2-3                   |
| <b>Conclusion</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 No.</b> | <b>Specimen Description</b>      |
|---------------------|----------------------------------|
| 1                   | Black main fabric                |
| 2                   | Black plastic sheet              |
| 3                   | Silvery metal buckle             |
| 4                   | Silvery metal buckle             |
| 5                   | Gray fiber mesh bonded with glue |
| 6                   | Silvery metal buckle             |
| 7                   | Silvery metal buckle             |
| 8(R2)               | Black binder on inner cap        |
| 9(R2)               | Black sweatband                  |
| 10                  | Black plastic strip              |





Photograph of parts tested:







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

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