



TEST REPORT

Reference No. : WTF20F04021485C
Applicant : Mid Ocean Brands B.V.
Address : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer : 107927
Sample Name : Trolley backpack
Model No. : MO9179
Test Requested :
1) 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
2) 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
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
4) Determine the specified AZO Colorants contents in the submitted sample in according 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).
5) As requested by the applicant, to test Colour Fastness to Rubbing in the submitted sample.
Test Method : Please refer to next page (s)
Test Conclusion : Please refer to next page (s)
Date of Receipt sample : 2020-04-22
Date of Test : 2020-04-22 to 2020-04-28
Date of Issue : 2020-04-28
Test Result : Please refer to next page (s)

Remarks:

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Swing.Liang /Technical Manager

**Test Result:****1) Cadmium (Cd)**

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

Test Item	MDL (mg/kg)	Results (mg/kg)		
		No.1+No.4	No.2	No.6+No.7
Cadmium(Cd)	2	ND*	ND	ND*
Conclusion	--	Pass	Pass	Pass

Test Item	MDL (mg/kg)	Results (mg/kg)		
		No.8	No.14+No.15	No.16+No.21
Cadmium(Cd)	2	ND	ND*	ND*
Conclusion	--	Pass	Pass	Pass

Note:

- (1) mg/kg = milligram per kilogram
- (2) ND = Not Detected (lower than MDL)
- (3) MDL = Method Detection Limit
- (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.

**2) Lead (Pb)**

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

Test Item	MDL (mg/kg)	Results (mg/kg)			Limit (mg/kg)
		No.1+No.4	No.2	No.3+No.5+No.9	
Lead(Pb)	2	ND*	ND	ND*	500
Conclusion	--	Pass	Pass	Pass	--

Test Item	MDL (mg/kg)	Results (mg/kg)			Limit (mg/kg)
		No.6+No.7	No.8	No.10	
Lead(Pb)	2	ND*	ND	ND	500
Conclusion	--	Pass	Pass	Pass	--

Test Item	MDL (mg/kg)	Results (mg/kg)			Limit (mg/kg)
		No.11+No.18	No.12+No.17	No.13	
Lead(Pb)	2	ND*	ND*	ND	500
Conclusion	--	Pass	Pass	Pass	--

Test Item	MDL (mg/kg)	Results (mg/kg)			Limit (mg/kg)
		No.14+No.15	No.16+No.21	No.19+No.22	
Lead(Pb)	2	ND*	ND*	24*	500
Conclusion	--	Pass	Pass	Pass	--

Test Item	MDL (mg/kg)	Results (mg/kg)	Limit (mg/kg)
		No.20	
Lead(Pb)	2	ND	500
Conclusion	--	Pass	--

Note:

- (1) mg/kg = milligram per kilogram
- (2) ND = Not Detected (lower than MDL)
- (3) MDL = Method Detection Limit
- (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.



3) Phthalates

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

Test Items	MDL (%)	Results (%)		Limit (%)
		No.1+No.4	No.6+No.7	
Benzyl butyl phthalate (BBP)	0.005	ND*	ND*	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND*	ND*	
Dibutyl phthalate (DBP)	0.005	ND*	ND*	
Diisobutyl phthalate (DIBP)	0.005	ND*	ND*	
Diisodecyl phthalate (DIDP)	0.01	ND*	ND*	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND*	ND*	
Di-n-octyl phthalate (DNOP)	0.005	ND*	ND*	
Conclusion	--	Pass	Pass	--

Test Items	MDL (%)	Results (%)		Limit (%)
		No.8	No.14+No.15	
Benzyl butyl phthalate (BBP)	0.005	ND	ND*	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND	ND*	
Dibutyl phthalate (DBP)	0.005	ND	ND*	
Diisobutyl phthalate (DIBP)	0.005	ND	ND*	
Diisodecyl phthalate (DIDP)	0.01	ND	ND*	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND	ND*	
Di-n-octyl phthalate (DNOP)	0.005	ND	ND*	
Conclusion	--	Pass	Pass	--

Note:

DBP= Dibutyl phthalate

DINP= Di-isononyl phthalate

DIBP= Diisobutyl phthalate

BBP= Benzyl butyl phthalate

DNOP= Di-n-octyl phthalate

DEHP= Bis-(2-ethylhexyl)- phthalate

DIDP= Di-isodecyl phthalate

(1) % = percentage by weight

(2) ND = Not detected or Less than the method detection limit

(3) MDL=Method Detection Limit

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



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



No.	Amines Substances	CAS No.	Limit (mg/kg)	Result (mg/kg)
				No.20
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	9
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

Note:

- ND = Not detected or less than the method detection limit
- mg/kg=Milligram per kilogram
- Method Detection Limit (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.
- The CAS-numbers 95-68-1 and 87-62-7 are not proscribed under REACH Regulation (EC) No 1907/2006
- “*”= Results are calculated by the minimum weight of mixed components.

**5) Colour Fastness to Rubbing**

Colour Fastness to Rubbing				
(ISO 105 X12: 2001/Cor 2002; Size of rubbing finger: 16mm diameter.)				
	No.10+No.12	No.11	No.13	Client's Limit
Dry staining	4-5*	4-5	4	2-3
Wet staining	4-5*	4-5	4-5	2-3
Conclusion	Pass	Pass	Pass	--

Colour Fastness to Rubbing			
(ISO 105 X12: 2001/Cor 2002; Size of rubbing finger: 16mm diameter.)			
	No.17+No.18	No.20	Client's Limit
Dry staining	4-5*	4-5	2-3
Wet staining	4-5*	4-5	2-3
Conclusion	Pass	Pass	--

Note:

- (1) Grey Scale Rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good.
 (2) "*" = As per applicant's requirement, the testing was conducted based on mixed components.

Test Specimen Description:

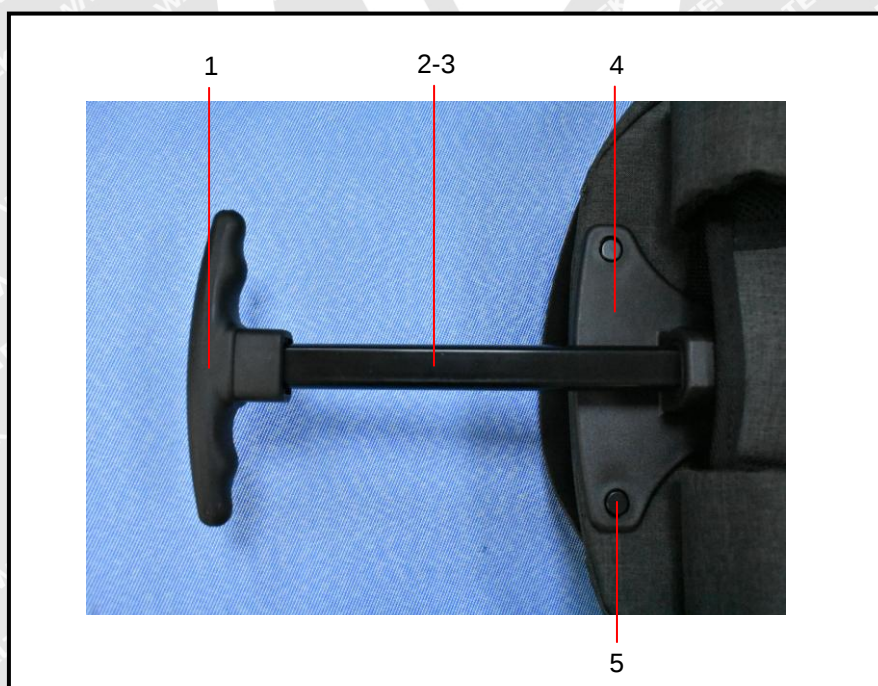
- No.1: Black plastic handle
 No.2: Black coating
 No.3: Silvery metal tube without black coating
 No.4: Black plastic sheet
 No.5: Silvery metal rivet with black coating
 No.6: Black plastic base
 No.7: Black plastic base
 No.8: Black plastic wheel
 No.9: Silvery metal rivet
 No.10: Dark grey fabric
 No.11: Black net fabric
 No.12: Black elastic band
 No.13: Black webbing
 No.14: Black plastic buckle
 No.15: Black plastic buckle
 No.16: Black plastic zipper tooth
 No.17: Black elastic band
 No.18: Black net fabric
 No.19: Dark grey metal zipper puller
 No.20: Dark grey lining
 No.21: Dark grey plastic zipper tooth
 No.22: Silvery metal zipper puller

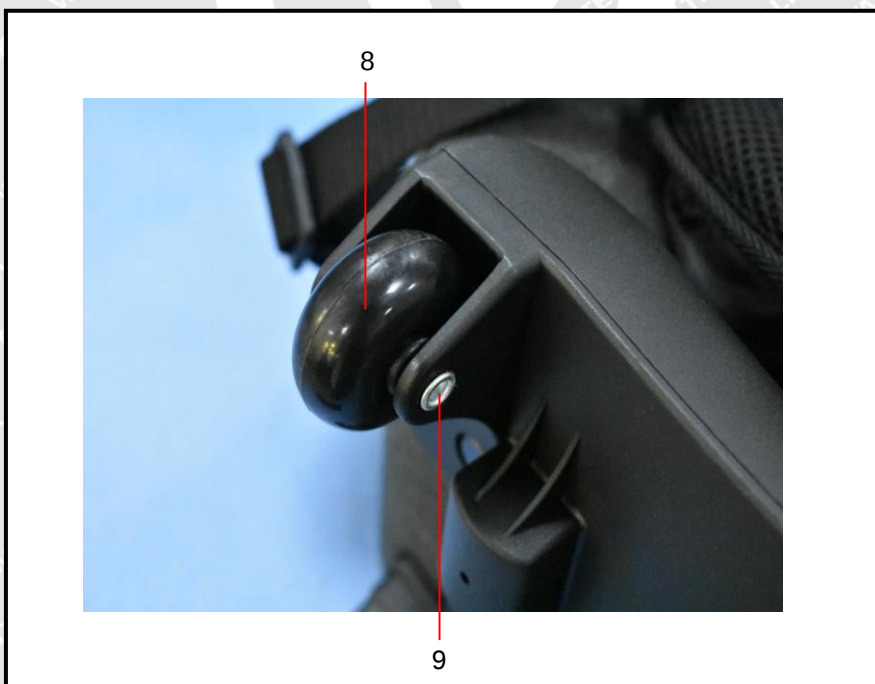
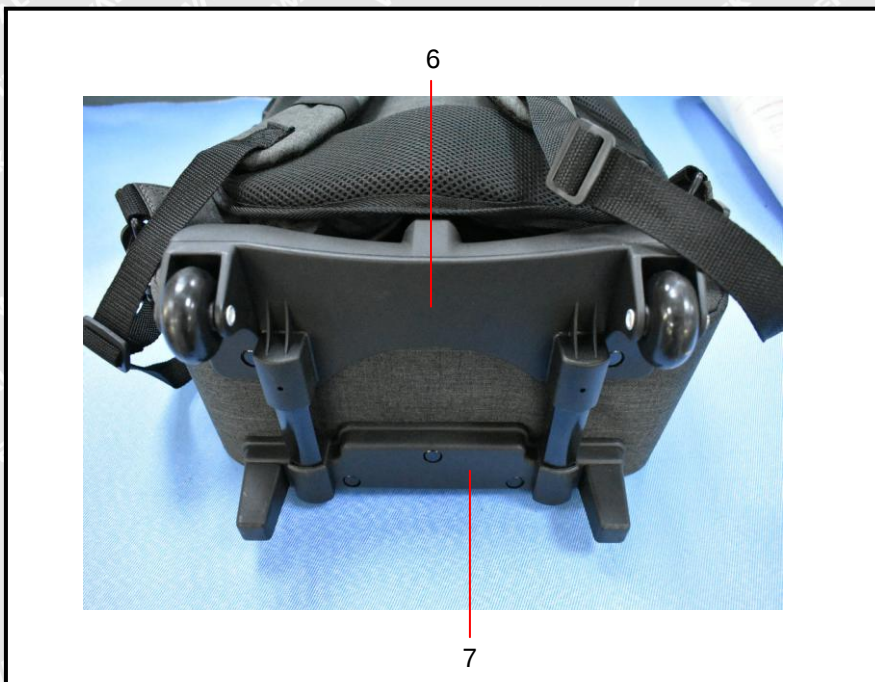


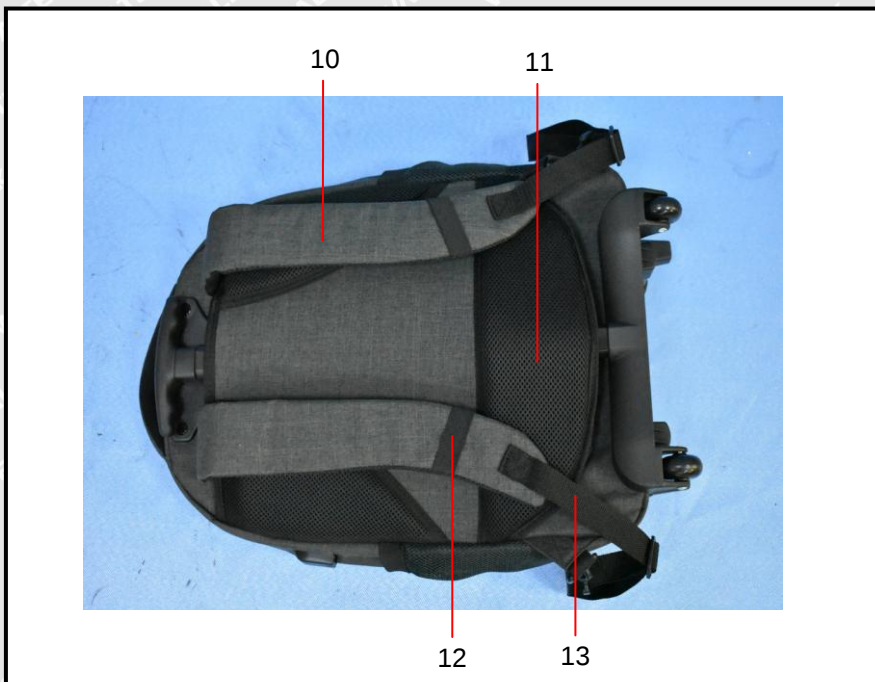
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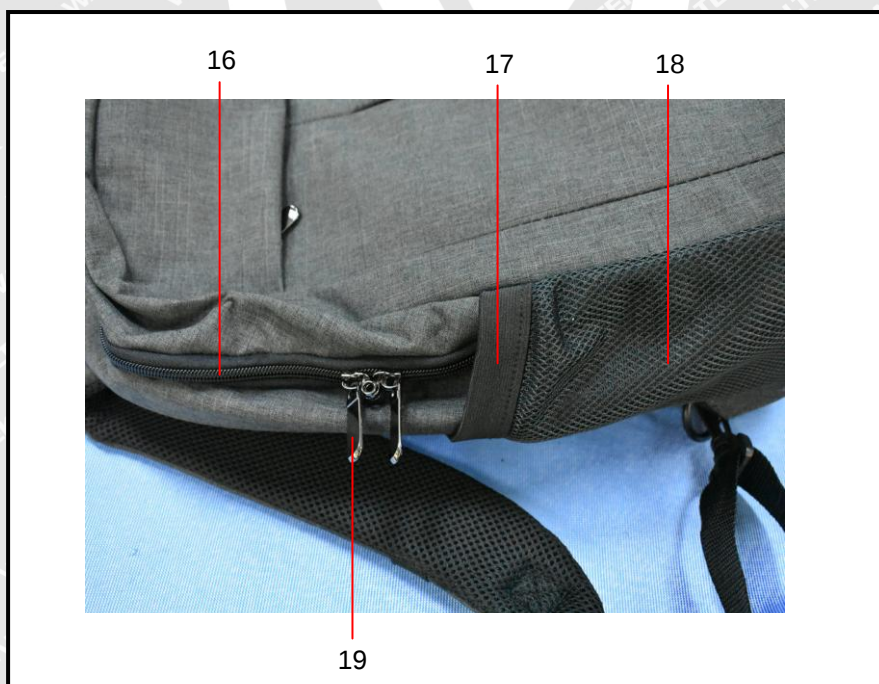


Photographs of parts tested:











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

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