

## TEST REPORT

Test Report # 21W-009514 Date of Report Issue: July 9, 2021  
Date of Sample Received: June 17, 2021 Pages: Page 1 of 33

### CLIENT INFORMATION:

Company: Spector & Co.  
Address: -



### SAMPLE INFORMATION:

Description: RENEW OVERNIGHTER BACKPACK  
Assortment: NOMAD MUST HAVE  
Model/style No.: BGR100  
PO No.: Po 71761 & 31738  
SKU No.: -  
Item No./Item Name: -  
Factory/Supplier: USB059  
Country of Origin: China  
Country of Distribution: United States, Canada  
Testing Period: 06/21/2021-06/29/2021,07/05/2021-07/09/2021

### OVERALL RESULT:

 **PASS with information**

Please refer to the following pages for test result summary and appropriate notes.

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Test(s) marked with 'φ' was subcontracted to external laboratory.

The test result(s) and conclusion(s) in this report relate only to the sample(s) as received and method /regulation section(s) tested as described herein. If it is not further specified in the report, the decision rule for stating conformity is based on the QIMA decision rule.

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**TEST RESULTS SUMMARY:**

At the request of the client, the following tests were conducted:

CONCLUSION	TEST(S) CONDUCTED
PASS	California Proposition 65, Total Lead in Paints and Surface Coatings
PASS	California Proposition 65, Total Lead in Substrate Materials
PASS	Canadian Surface Coating Materials Regulations SOR/2016-193, Total Lead and Mercury in Paints and Surface Coatings
PASS	Canadian Consumer Products Containing Lead Regulations (SOR/2018-83), Total Lead Content
PASS	California Proposition 65, Total Cadmium in Paints and Surface Coatings
PASS	California Proposition 65, Total Cadmium in Substrate Materials
Information only	Client's requirement, Total Nickel content
Information only	Client's Requirement, Total Tungsten content
PASS	CPSC 16 CFR 1307 Prohibition of Children's Toys and Child Care Articles Containing Specified Phthalates (DBP, BBP, DEHP, DINP, DHEXP / DnHP, DCHP, DIBP, DPENP)
PASS	California Proposition 65, Phthalates (DBP, BBP, DEHP, DINP, DIDP, DnHP)
PASS	Client's Requirement, Phthalates content
PASS	Color Fastness to Water
PASS	Color Fastness to Crocking
PASS	Color Fastness to Light
Information only	Dimensions
Information only	Article Weight
PASS	Defects
PASS	Workmanship
Information only	Fabric Weight Per Unit Area
PASS	Tensile Strength
PASS	Tearing Strength
PASS	Seam Strength
PASS	Bursting Strength
PASS	Abrasion Resistance
PASS	Pilling Resistance
PASS	Water Repellency-Spray Test
PASS	Water Resistance-Rain Test
PASS	Zipper Strength
PASS	Zipper Operability



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PASS	SOR/2016-194 and Method F01 Flammability of Textile Products
Information only	Fiber Content



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*Test(s) marked with 'φ' was subcontracted to external laboratory.*

*The test result(s) and conclusion(s) in this report relate only to the sample(s) as received and method /regulation section(s) tested as described herein.*

*If it is not further specified in the report, the decision rule for stating conformity is based on the QIMA decision rule.*

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**DETAILED RESULTS:**

**California Proposition 65, Total Lead in Paints and Surface Coatings**

Test Method: CPSC-CH-E1003-09.1

Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	9	---	---	---	---	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Total Lead (Pb)	ND	---	---	---	---	<b>90</b>
<b>Conclusion</b>	PASS	---	---	---	---	

*Note:*

mg/kg =Milligrams per kilogram

LT = Less than

ND = Not detected (Reporting Limit = 15mg/kg)

*Remark:*

The specification is quoted from client's requirement.



**DETAILED RESULTS:**

**California Proposition 65, Total Lead in Substrate Materials**

Test Method: CPSC-CH-E1001-08.3 (Metal), CPSC-CH-E1002-08.3 (Non-Metal)  
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1	2+3+4	5+7+17	6	8+14	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Total Lead (Pb)	ND	ND	ND	ND	ND	<b>100</b>
<b>Conclusion</b>	PASS	PASS	PASS	PASS	PASS	

Specimen No.	10	11	12	13	15+16	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Total Lead (Pb)	ND	47	ND	ND	ND	<b>100</b>
<b>Conclusion</b>	PASS	PASS	PASS	PASS	PASS	

*Note:*

mg/kg = Milligrams per kilogram

LT = Less than

ND = Not detected (Reporting Limit = 15 mg/kg)

Composite results are based on specimen of least mass resulting in highest potential concentration.

*Remark:*

The specification is quoted from client's requirement.

Data Consolidation Reference:

Specimen No.	Transferred from		Date of Issue
	Report No.	Specimen No.	
6	21W-009510	2	June 24, 2021
10	21W-008406	16	June 24, 2021
11	21W-008406	17	June 24, 2021



**DETAILED RESULTS:**

**Canadian Surface Coating Materials Regulations SOR/2016-193, Total Lead and Mercury in Paints and Surface Coatings**

Test Method: ASTM F963-17 Clause 8.3.1

Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	9	---	---	---	---	Total Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Total Lead (Pb)	ND	---	---	---	---	<b>90</b>
Total Mercury (Hg)	ND	---	---	---	---	<b>10</b>
<b>Conclusion</b>	PASS	---	---	---	---	

*Note:*

mg/kg=Milligrams per kilogram

LT = Less than

ND = Not detected (Reporting Limit: Pb=15 mg/kg; Hg = 10 mg/kg)



**DETAILED RESULTS:**

**Canadian Consumer Products Containing Lead Regulations (SOR/2018-83), Total Lead Content**

Test Method: ASTM F963-17 Clause 8.3.1

Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1	8+14	10	11	12	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Total Lead (Pb)	ND	ND	ND	47	ND	<b>90</b>
<b>Conclusion</b>	PASS	PASS	PASS	PASS	PASS	

Specimen No.	13	15+16	---	---	---	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Total Lead (Pb)	ND	ND	---	---	---	<b>90</b>
<b>Conclusion</b>	PASS	PASS	---	---	---	

*Note:*

mg/kg=Milligrams per kilogram)

LT = Less than

ND = Not detected (Reporting Limit = 15 mg/kg)

Composite results are based on specimen of least mass resulting in highest potential concentration.

Data Consolidation Reference:

Specimen No.	Transferred from		Date of Issue
	Report No.	Specimen No.	
10	21W-008406	16	June 24, 2021
11	21W-008406	17	June 24, 2021



**DETAILED RESULTS:**

**California Proposition 65, Total Cadmium in Paints and Surface Coatings**

Test Method: ASTM F963-17 Clause 8.3.1

Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	9	---	---	---	---	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Total Cadmium (Cd)	ND	---	---	---	---	<b>75</b>
<b>Conclusion</b>	PASS	---	---	---	---	

*Note:*

mg/kg =Milligrams per kilogram

LT = Less than

ND = Not detected (Reporting Limit = 15 mg/kg)

*Remark:*

The specification is quoted from client's requirement.





**DETAILED RESULTS:**

**California Proposition 65, Total Cadmium in Substrate Materials**

Test Method: ASTM F963-17 Clause 8.3.1

Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1	2+3+4	5+7+17	6	8+14	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Total Cadmium (Cd)	ND	ND	ND	ND	ND	<b>75</b>
<b>Conclusion</b>	PASS	PASS	PASS	PASS	PASS	

Specimen No.	10	11	12	13	15+16	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Total Cadmium (Cd)	ND	ND	ND	ND	ND	<b>75</b>
<b>Conclusion</b>	PASS	PASS	PASS	PASS	PASS	

*Note:*

mg/kg = Milligrams per kilogram

LT = Less than

ND = Not detected (Reporting Limit = 15 mg/kg)

Composite results are based on specimen of least mass resulting in highest potential concentration.

*Remark:*

The specification is quoted from client's requirement.

Data Consolidation Reference:

Specimen No.	Transferred from		Date of Issue
	Report No.	Specimen No.	
6	21W-009510	2	June 24, 2021
10	21W-008406	16	June 24, 2021
11	21W-008406	17	June 24, 2021



**DETAILED RESULTS:**

**Client's requirement, Total Nickel content**

Test Method: US EPA 3052:1996 & US EPA 6010D:2014  
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	10+11	12+13	---	---	---	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Total Nickel(Ni)	ND	ND	---	---	---	
<b>Conclusion</b>	Information only	Information only	---	---	---	

*Note:*

mg/kg = Milligrams per kilogram

ND = Not detected (report limit = 30mg/kg)

Composite results are based on specimen of least mass resulting in highest potential concentration.

Data Consolidation Reference:

Specimen No.	Transferred from		Date of Issue
	Report No.	Specimen No.	
10+11	21W-008406	16+17	June 24, 2021



**DETAILED RESULTS:**

**Client's Requirement, Total Tungsten content**

Test Method: US EPA 3052:1996 & US EPA 6010D:2014  
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	10+11	12+13	---	---	---	Limit (mg/kg)
Test Item	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Total Tungsten (W)	40	87	---	---	---	
<b>Conclusion</b>	Information only	Information only	---	---	---	

*Note:*

mg/kg = Milligrams per kilogram

LT = Less than

ND = Not detected (Reporting Limit = 15 mg/kg)

Composite results are based on specimen of least mass resulting in highest potential concentration.

Data Consolidation Reference:

Specimen No.	Transferred from		Date of Issue
	Report No.	Specimen No.	
10+11	21W-008406	16+17	June 24, 2021



**DETAILED RESULTS:**

**CPSC 16 CFR 1307 Prohibition of Children’s Toys and Child Care Articles Containing Specified Phthalates (DBP, BBP, DEHP, DINP, DHEXP / DnHP, DCHP, DIBP, DPENP)**

Test Method: CPSC-CH-C1001-09.4  
 Analytical Method: Gas Chromatography with Mass Spectrometry

Specimen No.		1	8+14	9	15+16	Limit (mg/kg)
Test Item	CAS No.	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	ND	1000
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	ND	ND	1000
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	ND	ND	1000
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	ND	ND	1000
Di-n-hexyl phthalate (DHEXP / DnHP)	84-75-3	ND	ND	ND	ND	1000
Dicyclohexyl phthalate (DCHP)	84-61-7	ND	ND	ND	ND	1000
Diisobutyl phthalate (DIBP)	84-69-5	ND	ND	ND	ND	1000
Di-n-pentyl phthalate (DPENP)	131-18-0	ND	ND	ND	ND	1000
<b>Conclusion</b>		PASS	PASS	PASS	PASS	

*Note:*  
 mg/kg = Milligrams per kilogram  
 LT = Less than  
 ND = Not detected (Reporting Limit = 150 mg/kg)  
 Composite results are based on specimen of least mass resulting in highest potential concentration.



**DETAILED RESULTS:**

**California Proposition 65, Phthalates (DBP, BBP, DEHP, DINP, DIDP, DnHP)**

Test Method: CPSC-CH-C1001-09.4  
 Analytical Method: Gas Chromatography with Mass Spectrometry

Specimen No.		1	2+3+4	5+7+17	6	Limit ( mg/kg)
Test Item	CAS No.	Result ( mg/kg)	Result ( mg/kg)	Result ( mg/kg)	Result ( mg/kg)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	ND	1000
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	ND	ND	1000
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	223	ND	ND	1000
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	ND	ND	1000
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	ND	ND	ND	ND	1000
Di-n-hexyl phthalate (DnHP)	84-75-3	ND	ND	ND	ND	1000
<b>Conclusion</b>		PASS	PASS	PASS	PASS	

*Note:*

mg/kg (Milligrams per kilogram) = 0.0001 % m/m (Percent by mass)  
 LT = Less than  
 ND = Not detected (Reporting Limit = 150 mg/kg)  
 Composite results are based on specimen of least mass resulting in highest potential concentration.

*Remark:*

The specification is quoted from client's requirement.

Data Consolidation Reference:

Specimen No.	Transferred from		Date of Issue
	Report No.	Specimen No.	
6	21W-009510	2	June 24, 2021



**DETAILED RESULTS:**

**California Proposition 65, Phthalates (DBP, BBP, DEHP, DINP, DIDP, DnHP)**

Test Method: CPSC-CH-C1001-09.4  
 Analytical Method: Gas Chromatography with Mass Spectrometry

Specimen No.		8+14	9	15+16	---	Limit ( mg/kg)
Test Item	CAS No.	Result ( mg/kg)	Result ( mg/kg)	Result ( mg/kg)	Result ( mg/kg)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	---	1000
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	ND	---	1000
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	ND	---	1000
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	ND	---	1000
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	ND	ND	ND	---	1000
Di-n-hexyl phthalate (DnHP)	84-75-3	ND	ND	ND	---	1000
<b>Conclusion</b>		PASS	PASS	PASS	---	

*Note:*

mg/kg (Milligrams per kilogram) = 0.0001 % m/m (Percent by mass)  
 LT = Less than  
 ND = Not detected (Reporting Limit = 150 mg/kg)  
 Composite results are based on specimen of least mass resulting in highest potential concentration.

*Remark:*

The specification is quoted from client's requirement.



**DETAILED RESULTS:**

**Client's Requirement, Phthalates content**

Test Method: CPSC-CH-C1001-09.4  
 Analytical Method: Gas Chromatography with Mass Spectrometry

Specimen No.		1	2+3+4	5+7+17	6	Limit ( mg/kg)
Test Item	CAS No.	Result ( mg/kg)	Result ( mg/kg)	Result ( mg/kg)	Result ( mg/kg)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	ND	1000
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	ND	ND	1000
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	223	ND	ND	1000
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	ND	ND	1000
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	ND	ND	ND	ND	1000
Di-n-hexyl phthalate (DHEXP / DnHP)	84-75-3	ND	ND	ND	ND	1000
Di-n-octyl phthalate (DNOP)	117-84-0	ND	ND	ND	ND	1000
Diethyl phthalate (DEP)	84-66-2	ND	ND	ND	ND	1000
Diisobutyl phthalate (DIBP)	84-69-5	ND	ND	ND	ND	1000
Dicyclohexyl phthalate (DCHP)	84-61-7	ND	ND	ND	ND	1000
Di-n-pentyl phthalate (DPENP/DnPP)	131-18-0	ND	ND	ND	ND	1000
<b>Conclusion</b>		PASS	PASS	PASS	PASS	

**Note:**  
 mg/kg (Milligrams per kilogram) = 0.0001 % m/m (Percent by mass)  
 LT = Less than  
 ND = Not detected (Reporting Limit = 150 mg/kg)  
 Composite results are based on specimen of least mass resulting in highest potential concentration.

**Remark:**  
 The specification is quoted from client's requirement.



Data Consolidation Reference:

Specimen No.	Transferred from		Date of Issue
	Report No.	Specimen No.	
6	21W-009510	2	June 24, 2021





**DETAILED RESULTS:**

**Client's Requirement, Phthalates content**

Test Method: CPSC-CH-C1001-09.4  
 Analytical Method: Gas Chromatography with Mass Spectrometry

Specimen No.		8+14	9	15+16	---	Limit ( mg/kg)
Test Item	CAS No.	Result ( mg/kg)	Result ( mg/kg)	Result ( mg/kg)	Result ( mg/kg)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	---	1000
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	ND	---	1000
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	ND	---	1000
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	ND	---	1000
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	ND	ND	ND	---	1000
Di-n-hexyl phthalate (DHEXP / DnHP)	84-75-3	ND	ND	ND	---	1000
Di-n-octyl phthalate (DNOP)	117-84-0	ND	ND	ND	---	1000
Diethyl phthalate (DEP)	84-66-2	ND	ND	ND	---	1000
Diisobutyl phthalate (DIBP)	84-69-5	ND	ND	ND	---	1000
Dicyclohexyl phthalate (DCHP)	84-61-7	ND	ND	ND	---	1000
Di-n-pentyl phthalate (DPENP/DnPP)	131-18-0	ND	ND	ND	---	1000
<b>Conclusion</b>		PASS	PASS	PASS	---	

**Note:**  
 mg/kg (Milligrams per kilogram) = 0.0001 % m/m (Percent by mass)  
 LT = Less than  
 ND = Not detected (Reporting Limit = 150 mg/kg)  
 Composite results are based on specimen of least mass resulting in highest potential concentration.

**Remark:**  
 The specification is quoted from client's requirement.



**DETAILED RESULTS:**

**Color Fastness to Water**

Test Method: AATCC 107-2013

Specimen No.	18-Shell	18-Belt	18-Lining net	18-Lining	18-Mesh fabric	Client's requirement
Items	Result (Grade)	Result (Grade)	Result (Grade)	Result (Grade)	Result (Grade)	
Change in shade	4.5	4.5	4.5	4.5	4.5	-
Staining on multi-fiber stripe						
-Acetate	4.5	4.5	4.5	3.5	4.5	Min. 3.5
-Cotton	4.5	4.5	4.5	4.5	4.5	Min. 3.5
-Nylon	4.5	4.0	4.5	3.5	4.5	Min. 3.5
-Polyester	4.5	4.5	4.5	4.5	4.5	Min. 3.5
-Acrylic	4.5	4.5	4.5	4.5	4.5	Min. 3.5
-Wool	4.5	4.5	4.5	4.5	4.5	Min. 3.5
Self staining	---	---	---	4.5	---	Min. 3.5
Conclusion	PASS	PASS	PASS	PASS	PASS	-

Remark: Grey scale rating is based on the 5-step of 1 to 5, where 1 is bad and 5 is good.

**Color Fastness to Crocking**

Test Method: AATCC 8-2016

Specimen No.	18-Shell	18-Belt	18-Lining net	18-Lining	18-Mesh fabric	Client's requirement
Items	Result (Grade)	Result (Grade)	Result (Grade)	Result (Grade)	Result (Grade)	
Dry staining	4.5	4.5	4.5	4.5	4.5	Min. 4.0
Wet staining	4.0	4.5	4.5	4.5	4.5	Min. 2.5
Conclusion	PASS	PASS	PASS	PASS	PASS	-

Remark: Grey Scale rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good.



**DETAILED RESULTS:**

**Color Fastness to Light**

Test Method: AATCC 16.3-2014; Option 3; Xenon Arc Lamp.

Specimen No.	18-Shell	18-Belt	18-Lining net	18-Lining	18-Mesh fabric	Client's requirement
Items	Result (Grade)	Result (Grade)	Result (Grade)	Result (Grade)	Result (Grade)	
After 20 AFU Change in shade	4.5	4.5	4.5	4.5	4.5	Min. 4.0
Conclusion	PASS	PASS	PASS	PASS	PASS	-

Remarks: Grey scale rating is based on the 5-step of 1 to 5, where 1 is bad and 5 is good.

**Dimensions**

Test Method: IHTM, Standard Measure

Specimen No.	18	---	---	---	---	Requirement
Items	Result (cm)	Result (cm)	Result (cm)	Result (cm)	Result (cm)	
Length	48	---	---	---	---	N/A
Width	33	---	---	---	---	N/A
Height	18	---	---	---	---	N/A
Conclusion	Information only	---	---	---	---	

**Article Weight**

Test Method: With reference to IHTM-TXHZ-010

Specimen No.	18		
Items	Client's requirement	Result	Conclusion
Article Weight (g/piece)	N/A	767	Information only



**DETAILED RESULTS:**

**Defects**

Test Method: ASTM D3990 – 12(2016); Visual Examination

Specimen No.	18	Requirement
Item	Result	
Observation	No major defect	Satisfactory
Conclusion	PASS	-

**Workmanship**

Test Method: IHTM; Visual Examination

Specimen No.	18	Requirement
Item	Result	
Observation	No major poor workmanship	Satisfactory
Conclusion	PASS	-

**Fabric Weight Per Unit Area**

Test Method: ASTM D3776/D3776M-20, Option C

Specimen No.	19	20	22	---	---	Client's requirement
Items	Result	Result	Result	Result	Result	
(g/m <sup>2</sup> )	421	77.5	80.8	---	---	N/A
(oz/yd <sup>2</sup> )	12.4	2.29	2.38	---	---	N/A
Conclusion	Information only	Information only	Information only	---	---	-



## DETAILED RESULTS:

### Tensile Strength

Test Method: ASTM D5034-09(Reapproved 2017)

Specimen No.	19	Client's requirement (lbs)
Items	Result (lbf)	
Warp	318.7	Min. 25
Weft	191.8	Min. 25
Conclusion	PASS	-

Remark: All the warp and weft specimens were jaw broken.

### Tensile Strength

Test Method: ASTM D5034-09(Reapproved 2017)

Specimen No.	20	Client's requirement (lbs)
Items	Result (lbf)	
Warp	150.4	Min. 25
Weft	100.5	Min. 25
Conclusion	PASS	-

Remark: All the weft specimens were jaw broken.



**DETAILED RESULTS:**

**Tearing Strength**

Test Method: ASTM D1424-09(R2013); Elmendorf

Specimen No.	19	20	---	---	---	Client's requirement
Items	Result	Result	Result	Result	Result	
Warp yarns torn (lbf)	>14.1	4.8	---	---	---	Min. 1.5
Weft yarns torn (lbf)	13.6	4.2	---	---	---	Min. 1.5
Conclusion	PASS	PASS	---	---	---	-

Note:

- (1) Warp test - test in which the warp yarns are torn.  
Weft test - test in which the weft yarns are torn.
- (2) The maximum capacity of the tester is 14.1lbf.

**Seam Strength**

Test Method: With reference to ASTM D 1683/D1683M-17(R2018)

Specimen No.	18-Shell with lining		
Items	Client's requirement	Result	Conclusion
Side seam (lbf)	Min. 25	94.0 (S.T.B.)	PASS
Bottom seam (Length) (lbf)	Min. 25	95.6 (S.T.B.)	
Bottom seam (Width) (lbf)	Min. 25	134.0 (Y.P.O.)	

Remarks: S.T.B. = Sewing Thread Break  
Y.P.O. = Yarn Pull Out



**DETAILED RESULTS:**

**Bursting Strength**

Test Method: ASTM D3786/D3786M-18; Hydraulic method, Test area: 7.3 cm<sup>2</sup>.

Specimen No.	22		
Items	Client's requirement	Result	Conclusion
Bursting Strength (P.S.I.)	Min. 40	119	PASS

**Abrasion Resistance**

Test Method: ASTM D4966-12<sup>ε1</sup>, Option 1; Martindale Wear & Abrasion Tester; 12kPa Pressure

Specimen No.	19	21	---	---	---	Client's requirement
Items	Result	Result	Result	Result	Result	
End point (rubs)	>10000	>10000	---	---	---	Min. 10000
Conclusion	PASS	PASS	---	---	---	-

**Pilling Resistance**

Test Method: ASTM D3512/D3512M-16; After 30 min. tumbling in Random tumble Pilling Tester

Specimen No.	19	21	---	---	---	Client's requirement
Items	Result	Result	Result	Result	Result	
As received Rating	4.5	4.5	---	---	---	Min. 3.5
Conclusion	PASS	PASS	---	---	---	-

Remarks: Pilling Rating

- 5 No pilling/ No fuzzing
- 4 Slight pilling/ Slight fuzzing
- 3 Moderate pilling/ Moderate fuzzing
- 2 Severe pilling/ Severe fuzzing
- 1 Very severe pilling/ Very severe fuzzing



**DETAILED RESULTS:**

**Water Repellency-Spray Test**

Test Method: AATCC 22-2017; Spray Test – Tested under controlled condition, water temperature: 27±1°C

Specimen No.	19			Client's requirement
Items	Result			
	Specimen 1#	Specimen 2#	Specimen 3#	
As received Rating	100	100	100	Min. 90
Conclusion	PASS			-

- Remarks: Spray Rating
- 100 No sticking or wetting of specimen face
  - 90 Slight random sticking or wetting of specimen face
  - 80 Wetting of specimen face at spray points
  - 70 Partial wetting of the specimen face beyond the spray points
  - 50 Complete wetting of the entire specimen face beyond the spray points
  - 0 Complete wetting of the entire face of the specimen

**Water Resistance -Rain Test**

Test Method: AATCC 35-2018; Rain Test-600mm head Pressure; 2-min impact

Specimen No.	19				Client's requirement
Items	Result				
	Specimen 1#	Specimen 2#	Specimen 3#	Average	
As received Weight of blotter gained (g)	0.0	0.0	0.0	0.0	Max 1.0g
Conclusion	PASS				-





## DETAILED RESULTS:

### Zipper Strength

Test Method: ASTM D2061-07(R2013); type: M

Specimen No.	23	
Items	Result	Client's requirement
Chain Crosswise Strength Test (lbf)	214(Tape break)	Min. 175
Resistance to Pull-Off Slider Pull (lbf)	46.3(Puller break)	Min.35
Resistance to Twist of Pull and Slider Test Clockwise (lb. inch) Counter-Clockwise (lb. inch)	>7.8* >7.8*	Min.4
Conclusion	PASS	

Remark: \*: The maximum capacity of the tester is 7.8 lb. inch

### Zipper Strength

Test Method: ASTM D2061-07(R2013); type: M

Specimen No.	24	
Items	Result	Client's requirement
Chain Crosswise Strength Test (lbf)	204.1(Tape break)	Min. 175
Resistance to Pull-Off Slider Pull (lbf)	67.2(Puller break)	Min.35
Resistance to Twist of Pull and Slider Test Clockwise (lb. inch) Counter-Clockwise (lb. inch)	4.7 5.2	Min.4
Conclusion	PASS	



**DETAILED RESULTS:**

**Zipper Operability**

Test Method: ASTM D2062-03(R2014)

Specimen No.	23	
Items	Result	Client's requirement
Chain opening (lbf)	0.5	Max. 2
Chain closing (lbf)	0.5	Max. 2
Conclusion	PASS	

Specimen No.	24	
Items	Result	Client's requirement
Chain opening (lbf)	0.6	Max. 2
Chain closing (lbf)	0.7	Max. 2
Conclusion	PASS	



**DETAILED RESULTS:**

**SOR/2016-194 and Method F01 Flammability of Textile Products**

Test Method: CAN/CGSB-4.2 No.27.5-2008

Specimen No.	18-Shell fabric				Face Length
Preliminary Tests	Fabric Surface	Smooth	Test Specimen Direction		
Items	Result				Client's requirement
	As Received		After Dry-cleaning and Laundering*		
	Flame Spread (sec.)	Burn Code	Flame Spread (sec.)	Burn Code	
(1)	-	DNI	-	DNI	>3.5s
(2)	-	DNI	-	DNI	
(3)	-	DNI	-	DNI	
(4)	-	DNI	-	DNI	
(5)	-	DNI	-	DNI	
(6)	-	DNI	-	DNI	
(7)	-	DNI	-	DNI	
(8)	-	DNI	-	DNI	
(9)	-	DNI	-	DNI	
(10)	-	DNI	-	DNI	
Conclusion	PASS				

\* Dry-cleaning / Laundering procedure is according to CAN/CGSB-4.2 No.30.3-94 & CAN/CGSB-4.2 No.58-2004; Machine wash at 50°C and tumble dry on the normal setting.

**Burn Code Description:**

DNI = Did not ignite;



**DETAILED RESULTS:**

**SOR/2016-194 and Method F01 Flammability of Textile Products**

Test Method: CAN/CGSB-4.2 No.27.5-2008

Specimen No.	18-Stripe fabric				Face Length
Preliminary Tests	Fabric Surface	Smooth	Test Specimen Direction		
Items	Result				Client's requirement
	As Received		After Dry-cleaning and Laundering*		
	Flame Spread (sec.)	Burn Code	Flame Spread (sec.)	Burn Code	
(1)	-	DNI	-	DNI	>3.5s
(2)	-	DNI	-	DNI	
(3)	-	DNI	-	DNI	
(4)	-	DNI	-	DNI	
(5)	-	DNI	-	DNI	
(6)	-	DNI	-	DNI	
(7)	-	DNI	-	DNI	
(8)	-	DNI	-	DNI	
(9)	-	DNI	-	DNI	
(10)	-	DNI	-	DNI	
Conclusion	PASS				

\* Dry-cleaning / Laundering procedure is according to CAN/CGSB-4.2 No.30.3-94 & CAN/CGSB-4.2 No.58-2004; Machine wash at 50°C and tumble dry on the normal setting.

**Burn Code Description:**

DNI = Did not ignite;



## DETAILED RESULTS:

### Fiber Content

Test Method: AATCC 20-2018

Specimen No.	18-Stripe lining		
Items	Client's requirement	Result	Conclusion
Polyester (%)	N/A	100	Information only

Specimen No.	19		
Items	Client's requirement	Result	Conclusion
Polyester (%)	N/A	100	Information only



**SPECIMEN DESCRIPTION:**

Specimen No.	Specimen Description	Location
1	Black coated black textile	Main body
2	Black printed white textile	Lining
3	Black mesh textile	Lining
4	Black textile	Lining edge
5	Black textile	Zipper cloth
6	Black mesh textile	Shoulder girdle
7	Black textile	Handles/shoulder girdle
8	Black plastic	Zipper teeth
9	Black coating	Main zipper head
10	Silvery metal	Main zipper puller
11	Silvery metal	Main zipper slider
12	Silvery metal	Inner zipper puller
13	Silvery metal	Inner zipper slider
14	Black plastic	Adjustable buckle
15	White foam	Filler of back
16	Dark grey foam	Filler of shoulder girdle
17	Black/white textile	Woven label
18	Backpack	Finished product
19	Black shell fabric	Raw material
20	Stripe lining fabric	Raw material
21	Mesh fabric	Raw material
22	Lining net fabric	Raw material
23	Shell zipper	Raw material
24	Lining zipper	Raw material



**SAMPLE PHOTO:**





**SAMPLE PHOTO:**





**SAMPLE PHOTO:**



-End Report-

