

Test Report No.: 68.431.19.03258.01

Dated: 2019-07-26



Applicant : Spector & Co

Address : /

Sample Description : Business Smart Duffle. 30L capacity

Product Type / End Use : Accesory

Item No. : BG200

Style No. : BUSINESS SMART DUFFLE

Supplier : USG044

Country of Origin : China

Exported to : Canada & U.S.A.

Test Sample Receipt Date, Location : 2019-06-27, 2019-07-15, Shenzhen

Test Period, Location : From 2019-06-27 to 2019-07-26, Shenzhen

Test Result(s) : Refer to Section 3

**Purpose Of Examination / Conclusion:**

No.	Test Item(s)	Conclusion
1.	US California Proposition 65 - Total Cadmium Content Test - Substrate Materials	Pass*
2.	US California Proposition 65 - Total Cadmium Content Test - Paint and Similar Surface-Coating Materials	Pass*
3.	US California Proposition 65 - Total Lead Content Test - Substrate Materials	Pass*
4.	US California Proposition 65 - Total Lead Content Test - Paint and Similar Surface-Coating Materials	Pass*
5.	Canadian Consumer Products Containing Lead Regulations SOR/2018-83 - Total Lead Content Test	Pass
6.	Canadian Surface Coating Materials Regulations SOR/2016-193 - Total Lead Content Test	Pass
7.	Phthalates Content	Pass*
8.	US California Proposition 65 - Phthalates Content	Pass*
9.	U.S. CFR Title 16 Part 1307 - Phthalates Content	Pass
10.	Tungsten Content Test	Report As Is
11.	19 CFR 134.11, Country of origin	Pass
12.	Uniform Packaging and Labelling Regulation	Pass
13.	Marking of Imported Goods Order, (C.R.C., c.535), Country of Origin	Pass
14.	Charter of French Language, (R.S.Q., c.C-11), Province of Quebec Labeling	Pass
15.	Consumer Packaging and Labeling Act (R.S.,1985, c.C-38)	Pass
16.	Textile labelling act and textile labelling and advertising regulations	Pass
17.	Product dimensions	Report As Is
18.	Product weight	Report As Is
19.	Defects	Pass*
20.	Workmanship	Pass*
21.	Capacity in liters for bag	Report As Is
22.	Static loading test	Pass*
23.	Flame Resistance - 45°Angle Test - One Second Flame Impingement	Pass
24.	Fiber Content	Report As Is
25.	Fabric Weight per Unit Area	Report As Is

Laboratory:

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No.	Test Item(s)	Conclusion
26.	Tensile Strength	Pass*
27.	Tear Strength	Pass*
28.	Seam Strength	Pass*
29.	Abrasion Resistance	Pass*
30.	Water Repellency	Report As Is
31.	Water Resistance (Rain Test)	Pass*
32.	Colour Fastness to Crocking	Pass*
33.	Colour Fastness to Light	Pass*
34.	Colour Fastness to Water	Pass*
35.	Pilling Resistance	Pass*
36.	Zipper Strength	Report As Is
37.	Zipper Operability	Pass*
38.	Shear Strength of Hook & Loop Touch Fasteners	Report As Is
39.	Peeling Strength of Hooks and Loop Touch	Report As Is

Remarks:

- (1) The results relate only to the items tested.
- (2) Samples are tested as received.
- (3) "*" denotes the conclusion was drawn according to the client's specification.
- (4) The test item and samples were specified by the client

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TÜV SÜD Group

Prepared by:

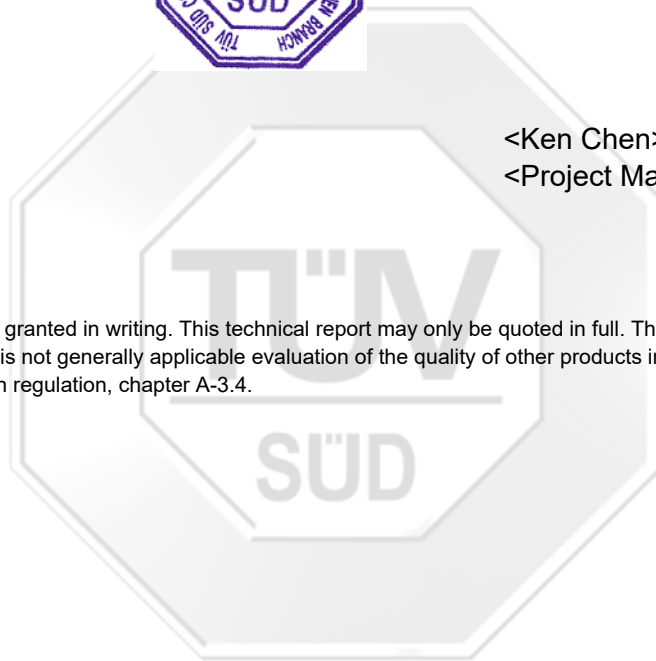
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1. Description of the Test Sample:

Sample Description	Business Smart Duffle. 30L capacity
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2. List of Materials as identified by the Laboratory:

T. No.	Sample No.	Colour and Description	Photograph
T1	001	Grey fabric w/ black PVC backing (Body)	
T2	002	Black fabric w/ black PVC backing (Body)	
T3	003	Black plastic (Zipper teeth)	
T4	004	Black coating on metal (Zipper head & zipper puller)	
T5	005	Silvery metal (Zipper head)	
T6	006	Silvery metal (Zipper puller)	
T7	007	Black non woven (Rim inner bag)	
T8	008	White plastic (Inner rim)	
T9	009	Black plastic (Inner pad)	
T10	010	White foam (Inner handle)	
T11	011	Black strap (Belt)	
T12	012	Whole product-shell	
T13	013	Whole product	

3. Test Result

3.1 US California Proposition 65 - Total Cadmium Content Test - Substrate Materials

Test method: Acid digestion/Microwave Digestion, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES). [Reporting Limit: 10.0mg/kg]

Test item	Results [mg/kg]			Client's Specification [mg/kg]
	Sample 001+002	Sample 003+008+009	Sample 005	
Cadmium	N.D.	N.D.	N.D.	<75
Conclusion	Pass	Pass	Pass	-

Test item	Results [mg/kg]			Client's Specification [mg/kg]
	Sample 006	Sample 007	Sample 010	
Cadmium	N.D.	N.D.	N.D.	<75
Conclusion	Pass	Pass	Pass	-

Test item	Results [mg/kg]	Client's Specification [mg/kg]
	Sample 011	
Cadmium	N.D.	<75
Conclusion	Pass	-

Note:

- "mg/kg" denotes milligram per kilogram
- "<" denotes less than
- "N.D." denotes Not Detected with Detection Limit 10.0mg/kg

3.2 US California Proposition 65 - Total Cadmium Content Test - Paint and Similar Surface-Coating Materials

Test method: Microwave Digestion, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES). [Reporting Limit: 10.0mg/kg]

Test Item	Results [mg/kg]	Client's Specification [mg/kg]
	Sample 004	
Cadmium	N.D.	<75
Conclusion	Pass	-

Note:

- "mg/kg" denotes milligram per kilogram
- "<" denotes less than
- "N.D." denotes Not Detected with Detection Limit 10.0mg/kg

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3.3 US California Proposition 65 - Total Lead Content Test - Substrate Materials

Test method: Acid digestion or Microwave Digestion, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES). [Reporting Limit: 10.0mg/kg]

Test Item	Results [mg/kg]			Client's Specification [mg/kg]
	Sample 001+002	Sample 003+008+009	Sample 005	
Lead	N.D.	N.D.	22.2	<100
Conclusion	Pass	Pass	Pass	-

Test Item	Results [mg/kg]			Client's Specification [mg/kg]
	Sample 006	Sample 007	Sample 010	
Lead	32.4	N.D.	N.D.	<100
Conclusion	Pass	Pass	Pass	-

Test Item	Results [mg/kg]	Client's Specification [mg/kg]
	Sample 011	
Lead	N.D.	<100
Conclusion	Pass	-

Note:

- "mg/kg" denotes milligram per kilogram
- "<" denotes less than
- "N.D." denotes Not Detected with Detection Limit 10.0mg/kg

3.4 US California Proposition 65 - Total Lead Content Test - Paint and Similar Surface-Coating Materials

Test method: Microwave Digestion, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES). [Reporting Limit: 10.0mg/kg]

Test Item	Results [mg/kg]	Client's Specification [mg/kg]
	Sample 004	
Lead	23.2	<90
Conclusion	Pass	-

Note:

- "mg/kg" denotes milligram per kilogram
- "<" denotes less than
- "N.D." denotes Not Detected with Detection Limit 10.0mg/kg

3.5 Total Lead

Consumer Products Containing Lead Regulations SOR/2018-83

Acid digestion / Microwave Digestion, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES).

[Reporting Limit: 10.0mg/kg]

Analyte	Result [mg/kg]		
	Sample 001+002	Sample 003+008+009	Sample 004
Lead	N.D.	N.D.	23.2
Limit	<90		
Conclusion	Pass	Pass	Pass

Analyte	Result [mg/kg]		
	Sample 005	Sample 006	Sample 007
Lead	22.2	32.4	N.D.
Limit	<90		
Conclusion	Pass	Pass	Pass

Analyte	Result [mg/kg]	
	Sample 010	Sample 011
Lead	N.D.	N.D.
Limit	<90	
Conclusion	Pass	Pass

Note 1. "mg/kg" denotes milligram per kilogram

2. "<" denotes less than

3. "N.D." denotes Not Detected with Detection Limit 10.0mg/kg

3.6 Total Lead

Surface Coating Materials Regulations SOR/2016-193

Microwave Digestion, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES). [Reporting Limit: 10.0mg/kg]

Analyte	Result [mg/kg]
	Sample 004
Lead	23.2
Limit	<90
Conclusion	Pass

Note 1. "mg/kg" denotes milligram per kilogram

2. "<" denotes less than

3. "N.D." denotes Not Detected with Detection Limit 10.0mg/kg

3.7 Phthalates Content

Test method: In-house method, solvent extracted and analyzed by Gas Chromatography and Mass Spectrometry (GC-MS). [Reporting limit: 0.005%]

Test Items	CAS No.	Results [%]			Client's Specification [%]
		Sample 001+002	Sample 003+008+009	Sample 004	
Di-(2-ethylhexyl)-phthalat (DEHP)	117-81-7	N.D.	N.D.	N.D.	<0.1
Dibutylbenzylphthalat (DBP)	84-74-2	N.D.	N.D.	N.D.	<0.1
Diethyl phthalate (DEP)	84-66-2	N.D.	N.D.	N.D.	<0.1
Butylbenzylphthalat (BBP)	85-68-7	N.D.	N.D.	N.D.	<0.1
Di-iso-butylphthalat (DIBP)	84-69-5	N.D.	N.D.	N.D.	<0.1
Di-isononyl phthalate (DINP)	28553-12-0 , 68515-48-0	N.D.	N.D.	N.D.	<0.1
Di-isodecylphthalat (DIDP)	26761-40-0 , 68515-49-1	N.D.	N.D.	N.D.	<0.1
Di-n-octylphthalat (DNOP)	117-84-0	N.D.	N.D.	N.D.	<0.1
Di-n-hexyl phthalate (DnHP)	84-75-3	N.D.	N.D.	N.D.	<0.1
Dicyclohexyl phthalate (DCHP)	84-61-7	N.D.	N.D.	N.D.	<0.1
Di-n-pentylphthalat (DNPP)	131-18-0	N.D.	N.D.	N.D.	<0.1
Conclusion		Pass	Pass	Pass	-

Note 1. "%" denotes percentage by weight

2. "<" denotes less than

3. "N.D." denotes Not Detected with Detection Limit 0.005%

3.7 Phthalates Content

Test method: In-house method, solvent extracted and analyzed by Gas Chromatography and Mass Spectrometry (GC-MS). [Reporting limit: 0.005%]

Test Items	CAS No.	Results [%]			Client's Specification [%]
		Sample 007	Sample 010	Sample 011	
Di-(2-ethylhexyl)-phthalat (DEHP)	117-81-7	N.D.	N.D.	N.D.	<0.1
Dibutylbenzylphthalat (DBP)	84-74-2	N.D.	N.D.	N.D.	<0.1
Diethyl phthalate (DEP)	84-66-2	N.D.	N.D.	N.D.	<0.1
Butylbenzylphthalat (BBP)	85-68-7	N.D.	N.D.	N.D.	<0.1
Di-iso-butylphthalat (DIBP)	84-69-5	N.D.	N.D.	N.D.	<0.1
Di-isononyl phthalate (DINP)	28553-12-0 , 68515-48-0	N.D.	N.D.	N.D.	<0.1
Di-isodecylphthalat (DIDP)	26761-40-0 , 68515-49-1	N.D.	N.D.	N.D.	<0.1
Di-n-octylphthalat (DNOP)	117-84-0	N.D.	N.D.	N.D.	<0.1
Di-n-hexyl phthalate (DnHP)	84-75-3	N.D.	N.D.	N.D.	<0.1
Dicyclohexyl phthalate (DCHP)	84-61-7	N.D.	N.D.	N.D.	<0.1
Di-n-pentylphthalat (DNPP)	131-18-0	N.D.	N.D.	N.D.	<0.1
Conclusion		Pass	Pass	Pass	-

Note 1. "%" denotes percentage by weight

2. "<" denotes less than

3. "N.D." denotes Not Detected with Detection Limit 0.005%

3.8 US California Proposition 65 - Phthalates Content

Test method: In-house method, solvent extracted and analyzed by Gas Chromatography and Mass Spectrometry (GC-MS). [Reporting limit: 0.005%]

Test Items	CAS No.	Results [%]			Client's Specification [%]
		Sample 001+002	Sample 003+008+009	Sample 004	
Dibutyl phthalate, (DBP)	84-74-2	N.D.	N.D.	N.D.	<0.1
Bis (2-ethylhexyl) phthalate, (DEHP)	117-81-7	N.D.	N.D.	N.D.	<0.1
Benzyl butyl phthalate, (BBP)	85-68-7	N.D.	N.D.	N.D.	<0.1
Di-isodecyl phthalate, (DIDP)	26761-40-0 , 68515-49-1	N.D.	N.D.	N.D.	<0.1
Di-n-hexyl phthalate (DNHP)	84-75-3	N.D.	N.D.	N.D.	<0.1
Di-isononyl phthalate, (DINP)	28553-12-0 , 68515-48-0	N.D.	N.D.	N.D.	<0.1
Conclusion		Pass	Pass	Pass	-

Test Items	CAS No.	Results [%]			Client's Specification [%]
		Sample 007	Sample 010	Sample 011	
Dibutyl phthalate, (DBP)	84-74-2	N.D.	N.D.	N.D.	<0.1
Bis (2-ethylhexyl) phthalate, (DEHP)	117-81-7	N.D.	N.D.	N.D.	<0.1
Benzyl butyl phthalate, (BBP)	85-68-7	N.D.	N.D.	N.D.	<0.1
Di-isodecyl phthalate, (DIDP)	26761-40-0 , 68515-49-1	N.D.	N.D.	N.D.	<0.1
Di-n-hexyl phthalate (DNHP)	84-75-3	N.D.	N.D.	N.D.	<0.1
Di-isononyl phthalate, (DINP)	28553-12-0 , 68515-48-0	N.D.	N.D.	N.D.	<0.1
Conclusion		Pass	Pass	Pass	-

Note 1. "%" denotes percentage by weight

2. "<" denotes less than

3. "N.D." denotes Not Detected with Detection Limit 0.005%

3.9 U.S. CFR Title 16 Part 1307 - Phthalates Content

CPSC-CH-C1001-09.4 – Standard Operating Procedure for Determination of Phthalates
[Reporting Limit = 0.005%]

Phthalates	CAS No.	Results [%]			Limit [%]
		Sample 001+002	Sample 003+008+009	Sample 004	
Dibutyl phthalate, (DBP)	84-74-2	N.D.	N.D.	N.D.	<0.1
Benzyl butyl phthalate, (BBP)	85-68-7	N.D.	N.D.	N.D.	<0.1
Bis (2-ethylhexyl) phthalate, (DEHP)	117-81-7	N.D.	N.D.	N.D.	<0.1
Diisobutylphthalate, (DIBP)	84-69-5	N.D.	N.D.	N.D.	<0.1
Di-n-hexyl phthalate (DHEXP)	84-75-3	N.D.	N.D.	N.D.	<0.1
Dicyclohexyl phthalate (DCHP)	84-61-7	N.D.	N.D.	N.D.	<0.1
Di-isononyl phthalate, (DINP)	28553-12-0 , 68515-48-0	N.D.	N.D.	N.D.	<0.1
Di-n-pentyl phthalates (DPENP)	131-18-0	N.D.	N.D.	N.D.	<0.1
Conclusion		Pass	Pass	Pass	-

Note 1. "%" denotes percentage by weight

2. "<" denotes less than

3. "N.D." denotes Not Detected with Detection Limit 0.005%

3.9 U.S. CFR Title 16 Part 1307 - Phthalates Content

CPSC-CH-C1001-09.4 – Standard Operating Procedure for Determination of Phthalates
[Reporting Limit = 0.005%]

Phthalates	CAS No.	Results [%]			Limit [%]
		Sample 007	Sample 010	Sample 011	
Dibutyl phthalate, (DBP)	84-74-2	N.D.	N.D.	N.D.	<0.1
Benzyl butyl phthalate, (BBP)	85-68-7	N.D.	N.D.	N.D.	<0.1
Bis (2-ethylhexyl) phthalate, (DEHP)	117-81-7	N.D.	N.D.	N.D.	<0.1
Diisobutylphthalate, (DIBP)	84-69-5	N.D.	N.D.	N.D.	<0.1
Di-n-hexyl phthalate (DHEXP)	84-75-3	N.D.	N.D.	N.D.	<0.1
Dicyclohexyl phthalate (DCHP)	84-61-7	N.D.	N.D.	N.D.	<0.1
Di-isononyl phthalate, (DINP)	28553-12-0 , 68515-48-0	N.D.	N.D.	N.D.	<0.1
Di-n-pentyl phthalates (DPENP)	131-18-0	N.D.	N.D.	N.D.	<0.1
Conclusion		Pass	Pass	Pass	-

Note 1. “%” denotes percentage by weight

2. “<” denotes less than

3. “N.D.” denotes Not Detected with Detection Limit 0.005%

3.10 Tungsten Content Test

Test method: EPA 3050B:1996, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES). [Reporting Limit: 10.0mg/kg]

Test Item	Results [mg/kg]	Client's Specification [mg/kg]
	Sample 005	
Tungsten	N.D.	-
Conclusion	Report As Is	-

Note:

- “mg/kg” denotes milligram per kilogram
- “<” denotes less than
- “N.D.” denotes Not Detected with Detection Limit 10.0mg/kg



3.11 19 CFR 134.11, Country of origin: Visual check

Sample	Test Item	Observation	Conclusion
013	Country of origin	Present on label	Pass

3.12 Uniform Packaging and Labelling Regulation: Visual check

Sample	Test Item	Observation	Conclusion
013	Declaration of identity	The labeling contains the declaration of identity	Pass
	Declaration of responsibility	The labeling contains the declaration of responsibility	Pass

3.13 Marking of Imported Goods Order, (C.R.C., c.535), Country of Origin: Visual check

Sample	Section	Observation	Conclusion
013	2	Present on label	Pass

3.14 Charter of French Language, (R.S.Q., c.C-11), Province of Quebec Labeling, Visual check

Sample	Clause	Observation	Conclusion
013	c.C-11	French labeling	Pass

3.15 Consumer Packaging and Labeling Act (R.S.,1985, c.C-38), Visual check

Sample	Section	Observation	Conclusion
013	10	Place of manufacture	Pass

3.16 Textile labelling act and textile labelling and advertising regulations: R.S.C.1985, c.T-10

Sample 013		
Test Item	Observation	Conclusion
1.Fiber Content		
Every fiber which is present in an amount of 5 percent or more by mass must be declared on the label using its generic name. Exceptions apply where the article contains unknown or undetermined fibers. Additional requirements apply when reclaimed fibers are present. And if the textile article contains trimming or findings other labelling requirements or alternatives exist.	Comply with the requirement	Pass
Every fiber which is present in an amount of less than 5 percent by mass must be declared on the label using its generic name or the term, "other fiber". Special exceptions to this requirement exist for elastic yarns, reinforcement yarns and ornamentation.	N/A	N/A
In conjunction with the generic name, the amount of each fiber must be declared on label as a percentage of the total fiber mass of the article or its components.	Comply with the requirement	Pass
If the textile article consists of parts or sections differing in fiber content, each part or section must be declared on the label in a sectional disclosure. Sectional disclosures are also required for paddings or fillings, such as those used in pillows for beds or those added for warmth, linings and interlinings, as well as for carpets, fabric supported foams and pile, coated or impregnated fabrics.	N/A	N/A
2.Bilingual requirement		
All fiber content information on the label must be bilingual, except in areas where only one official language is used in consumer transactions.	Comply with the requirement	Pass
3.Dealer identity		
The dealer identity (business name and address) must be displayed on the label. Alternatively, a dealer in Canada may use a CA identification number.	Comply with the requirement	Pass
4.Country of origin		
If the article or any fabric therein is imported, country of origin must be displayed on the label.	Comply with the requirement	Pass
5.Form and application of labels		

Sample 013		
Test Item	Observation	Conclusion
The form of a label must ensure that the information contained on the label is factual, legible and accessible to the prospective consumer at the time of purchase.	Comply with the requirement	Pass
Depending on the type of article being labelled, either a permanent or non-permanent label must be applied to a consumer textile article. Special requirements exist for prepackaged articles and labelling alternatives exist for home-crafted articles. Exceptions to this requirement exist for custom-made articles, such as a tailored suit or a carpet cut to the customer's specification.	Comply with the requirement	Pass

3.17 Product dimensions: In house method

Sample	Result(s)		Client's Specification	Conclusion
013	Length	19.7 inch	-	Report As Is
	Width	9.6 inch	-	Report As Is
	Height	10.4 inch	-	Report As Is

3.18 Product weight: In house method

Sample	Result(s)	Client's Specification	Conclusion
013	616 g/piece	-	Report As Is

3.19 Defects: ASTM D3990-12(2016)

Sample	Result(s)	Client's Specification	Conclusion
013	No major defect	Visual examination to verify noticeable defects (such as missing components, obvious knitting /weaving defects, improper functioning component).	Pass

3.20 Workmanship: In house method

Sample	Result(s)	Client's Specification	Conclusion
013	No major poor workmanship	<p>Visual examination to verify noticeable poor Workmanship (such as: Poor sewing: Broken seam, Missing stitches or Skipped / Uneven / Wave stitches or stitched holes on visible area. Insecure back stitches / Uneven stitch tension / Needle chewing, Misaligned seam. Poor riveting metal eyelet or other metal parts.</p> <p>Dirty / Glue / Scratch / Wrinkle / Pen Mark / Oil Stain / Water Stain. The inside hiding thread expose. Poor electro-plating or spraying on handle metal plate.</p> <p>Obvious scratched mark in extendable handle or metal plate. Fabric, webbing band or strap getting discoloration.)</p>	Pass

3.21 Capacity in liters for bag: In house method

Sample	Result(s)	Client's Specification	Conclusion
013	32.8 liter	-	Report As Is

3.22 Static loading test: In house method

Sample	Result(s)	Client's Specification	Conclusion
013	After placing the test load on the bag with 50 lbs for 2 hours, no damage occurred.	No damage	Pass

3.23 Flame Resistance - 45°Angle Test - One Second Flame Impingement

SOR/2016-194

Fabric Surface: Smooth		
Preliminary Testing: Lengthwise		
Sample 012	Original state Burn Code	After post dry-cleaning & washing Burn Code
(1)	DNI	DNI
(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

Note DNI=Did not ignite

A textile suspected of having a flame retardant treatment as evidence by slow burning, difficulty of ignition, extinguishment, etc. shall be tested after laundering and dry cleaning in accordance with CAN/CGSB-4.2 No.58:2004.

3.24 Fiber Content

AATCC 20: 2018

Items	Sample 012	Client's Claim	Client's Requirement	Conclusion
Polyester (%)	100	-	-	Report As Is

3.25 Fabric Weight per Unit Area

ASTM D 3776/D3776M: 2009a(2017); Option C

Items	Sample 012	Client's Requirement
(g/m²)	410	-
(oz/yd²)	12.1	-
Conclusion	Report As Is	-

3.26 Tensile Strength

ASTM D 5034: 2009(2017); Instron CRE-1" Grab

Items	Sample 012	Client's Requirement
Length (lbf)	201.0	Min.25
Width (lbf)	147.2	Min.25
Conclusion	Pass	-

3.27 Tear Strength

ASTM D1424: 2009(2013); Elmendorf

Items	Sample 012	Client's Requirement
Length yarn torn (lbf)	5.0	Min.1.5
Width yarn torn (lbf)	4.0	Min.1.5
Conclusion	Pass	-

3.28 Seam Strength

ASTM D 1683/D1683M: 2017(2018)

Items	Sample 013	Client's Requirement
Length (lbf)	113.4(F.T.S.)	Min.25
Width (lbf)	116.0(F.T.S.)	Min.25
Conclusion	Pass	-

Note F.T.S. = Fabric Tear at Seam

3.29 Abrasion Resistance: ASTM D 4966: 2012(R2016) Option 1

Test atmosphere: 20±2°C / 50±2%RH

Items	Sample 012	Client's Requirement
End point	>10000 cycles	10000 cycles
Conclusion	Pass	-

3.30 Water Repellency

AATCC 22: 2017; Spray Test

As Received	Sample 012	Client's Requirement
Specimen 1#	50	-
Specimen 2#	50	-
Specimen 3#	50	-
Conclusion	Report As Is	-

Note Rating 0 -Complete wetting of the entire face of the specimen.

Rating 50 -Complete wetting of the entire specimen face beyond the spray points.

Rating 70 -Partial wetting of the specimen face beyond the spray points.

Rating 80 -Wetting of specimen face at spray points.

Rating 90 -Slight random sticking or wetting of the specimen face.

Rating 100 -No sticking or wetting of the specimen face.

3.31 Water Resistance (Rain Test)

AATCC 35: 2018; after 2 minutes at 2ft head pressure

Items	Sample 012	Client's Requirement
As received Weight of blotter gained (g)	0.0	Max.1.0
Conclusion	Pass	-

3.32 Colour Fastness to Crocking

AATCC 8:2016

Items	Sample 012	Client's Requirement
Dry Staining	4.5	Min.4.0
Wet Staining	4.5	Min.2.5
Conclusion	Pass	-

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3.33 Colour Fastness to Light

AATCC 16.3: 2014, Xenon-Arc Lamp

Items	Sample 012	Client's Requirement
After 20 AFU Grade	4.5	Min.4.0
Conclusion	Pass	-

3.34 Colour Fastness to Water

AATCC 107: 2013

Items	Sample 012	Client's Requirement
Shade Change	4.5	Min.4.0
Staining on Multi-fiber	Acetate	Min.3.5
	Cotton	Min.3.5
	Polyamide	Min.3.5
	Polyester	Min.3.5
	Acrylic	Min.3.5
	Wool	Min.3.5
Conclusion	Pass	-

3.35 Pilling Resistance

ASTM D3512/D3512M:2016, after 30 minutes, tumbling in random tumble pilling tester

Items	Sample 012	Client's Requirement
As Received Grade	4.5	Min.3.5
Conclusion	Pass	-

Note Pilling Rating

- 5 No change
- 4 Slight surface fuzzing and / or partially formed pills
- 3 Moderate surface fuzzing and / or moderate pilling. Pills of varying size and density partially covering the specimen surface
- 2 Distinct surface fuzzing and / or distinct pilling. Pills of varying size and density covering a large proportion of the specimen surface.
- 1 Dense surface fuzzing and / or severe pilling. Pills of varying size and density covering the whole of the specimen surface

3.36 Zipper Strength: ASTM D2061:2007(2013)

Sample	Result(s)			Client's Specification	Conclusion
013-zipper	Strength of chains and elements	Chain crosswise strength (N)	758.3 (#4)	-	Report As Is
	Resistance to twist of pull and slider(N.m)		0.7 (#7)	-	Report As Is
	Resistance to pull-off of slider pull(N)		143.5 (#6)	-	Report As Is

Note 1. "#1" denotes Separation of locked teeth from each other

2. "#2" denotes Teeth pulled off stringer

3. "#3" denotes Stringer failure .

4. "#4" denotes Stringer tore at clamping edge

5. "#5" denotes Clamps slipped off stringer

6. "#6" denotes Slider broke at the point of attachment to the puller

7. "#7" denotes Puller broke at the point of attachment to the slider

8. "#8" denotes Slider broke at a point away from the attachment to the puller

9. "#9" denotes Puller broke at a point away from the attachment to the slider

10. "#10" denotes Puller twisted but did not break

11. "#11" denotes Top stop pulled off

12. "#12" denotes Bottom stop pulled off

13. "#13" denotes Puller detached

14. "#14" denotes Puller broken

3.37 Zipper Operability: ASTM D2062:2009(2014)

Sample	Result(s) (N)			Client's Specification (N)	Conclusion
013-zipper	Opening and closing of zippers	Opening	2.4	Max.8.90	Pass
		Closing	2.3	Max.8.90	Pass



3.38 Shear Strength of Hook & Loop Touch Fasteners: ASTM D5169-98(R2015)

Items	Sample 013	Client's Requirement
Initial (lbs/inch ²)	23.6	-
Conclusion	Report As Is	-

3.39 Peeling Strength of Hooks and Loop Touch: ASTM D5170-98(R2015)

Items	Sample 013	Client's Requirement
Initial (lbs/inch)	1.4	-
Conclusion	Report As Is	-

-- END OF TEST REPORT--

