

Test Report

Date: 8th, May, 2021

Company: Ningbo Bridge Synthetic Leather Co., Ltd

Sample Info

Sample Name: Eco Friendly Semi Silicone Solvent Free Leather

Sample Mode: XTH-2

Sample Quantity: 1

1. Composition

Result

No	Chemical name	Mass percentage%	CAS No.	Function
1	Polyethylene terephthalate	~78-80	Polyester	Fiber
2	Polydimethylsiloxane	~13-15	Silicone	Silicone
3	Polyurethane	~2-3	PU	Bonding
4	Erucamide	~1-2	/	Additive
5	Titanium dioxide	~1-2	/	Pigment
6	Ferric chloride*	~1-2	/	Pigment

2. Chemical Result:

2.1 Total organic volatilization

Test item	Test method	Unit	Detection limit	Test result
Total organic volatilization	QB/T 5249-2018	μg/g	10	Not detected

2.2 Total lead

Test item	Test method	Unit	Detection limit	Test result
Total lead	CPSC-CH-E1001-08.3	μg/g	2.5	Not detected

2.3 Free formaldehyde

Test item	Test method	Unit	Detection limit	Test result
Free formaldehyde	GB/T 19941-2005	μg/g	15	Not detected

2.4 Heavy metal

Test item	Test method	Unit	Detection limit	Test result
Pb	GB/T 22930-2008	mg/kg	2.50	Not detected
Cd		mg/kg	2.50	Not detected
Ni		mg/kg	2.50	Not detected
Cr		mg/kg	2.50	Not detected
Co		mg/kg	2.50	Not detected
Cu		mg/kg	2.50	Not detected
Sb		mg/kg	2.50	Not detected
As		mg/kg	2.50	Not detected
Hg		mg/kg	2.50	Not detected

2.5 Phthalates

Test Method: GB 31604.30-2016

Test item	CAS No.	Unit	Detection limit	Test result
DnHP	84-75-3	%	0.005	Not detected
DIDP	26761-40-0	%	0.005	Not detected
DEHP	117-81-7	%	0.005	Not detected
BBP	85-68-7	%	0.005	Not detected
DBP	84-74-2	%	0.005	Not detected

2.6 Phthalates

Test Method: GB 31604.30-2016

No	Test item	CAS No.	Unit	Detection limit	Test result
1	DBP	84-74-2	mg/kg	5	Not detected
2	BBP	85-68-7	mg/kg	5	Not detected
3	DEHP	117-81-7	mg/kg	5	Not detected
4	DNOP	117-84-0	mg/kg	5	Not detected
5	DINP	28553-12-	mg/kg	5	Not detected
6	DEEP	605-54-9	mg/kg	5	Not detected
7	DIBP	84-69-5	mg/kg	5	Not detected
8	DPhP	84-62-8	mg/kg	5	Not detected
9	DMP	131-11-3	mg/kg	5	Not detected
10	DEP	84-66-2	mg/kg	5	Not detected
11	DAP	131-17-9	mg/kg	5	Not detected
12	DNP	84-76-4	mg/kg	5	Not detected
13	DMEP	117-82-8	mg/kg	5	Not detected
14	DBEP	117-83-9	mg/kg	5	Not detected
15	DCHP	84-61-7	mg/kg	5	Not detected
16	BMPP	146-50-9	mg/kg	5	Not detected
17	DnPP	131-18-0	mg/kg	5	Not detected
18	DnHP	84-75-3	mg/kg	5	Not detected

2.7 odor

Test equipment	Equipment No.	Model	Calibration validity
Electric heating blast drying oven	E-012-005VOC	DHG-9140A	2020-09-05~2022-09-04

Sample category	Sampling volume	Odor bottle volume
C	50cm ³	1L

Test Item	Test Basis	Test Condition	Level
Odor [*]	VDA 270:1992	23℃,24h,V _{water} =50mL (Wet)	1.5
		40℃,24h, V _{water} =50mL (Wet)	2.0
		80℃,2h(Dry)	2.5

Judging criteria

- Grade 1 Odorless
- Grade 2 Odor, but no disturbing odor
- Grade 3 has obvious smell, but no disturbing odor
- Grade 4 Disturbing odor
- Grade 5 Strong disturbing odor
- Grade 6 Has an unbearable odor

3. Physical results:

3.1 8 types of Anti-fouling*

Test Item	Test Method	Test Condition	Test Result
8 types of Anti-fouling*	Refer to CFFA-141	Apply stains with cotton swabs and leave them at room temperature for 24h, After that, wipe it with a white cotton cloth soaked in warm water, observe the surface of the sample, and judge the anti-fouling grade.	See Table 1

Table 1:

Stain	Appearance description after rubbing test	Anti-fouling grade
Ink	Light stains	3
Denim Blue	No stain removal	1
Cooking oil	No traces of stains on the material	4
Coffee	No traces of stains	4
Iodine	Light stains	3
Red wine	No traces of stains on the material	4
Lipstick	Stains are almost intact	2
Marker	No stain removal	1

3.2 Routine Test

Test Item	Test Method	Test Condition	Unit	Test Result
Tensile Strength (Warp)	GB/T 1040.3-2006	(23±2)℃,(50±5)%RH, 48h, 200mm/min	N	354.30
Elongation(Warp_			%	93.11
Tensile Strength (Weft)			N	360.27
Elongation(Weft)			%	210.30
Tensile Strength(Warp)	GB/T 8949-2008	(23±2)℃,(50±5)%RH, 48h, 200mm/min	N	28.44
Tensile Strength(Weft)				28.66
Hydrolysis Resistance 192h*	QB/T 4671-2014	Method B,soak in 10%NaOH solution for 192h, room temperature	/	All samples have no obvious lubricity, no damage, no delamination
Peeling Strength(Vertical)	Gb/T 8949-2008	/	N	114
Peeling Strength(Horizontal)			N	122

Color fastness to rubbing	QB/T 2537-2001	dry rubbing 50 times, wet rubbing 10 times	Grade	Dry wipe-stain:4-5
				Wry wipe-stain:4-5
				Dry wipe-stain:4-5
				Wry wipe-stain:4-5
Color fastness to perspiration	QB/T 2924-2007	Staining of the lining	Grade	4-5
Anti-Yellow	QB/T 4672-2014	Method A 6h	Grade	4-5
Folding Strength	QB/T 2714-2005	/	/	Room temperature, try state, 400000 times: Direction 1: No cracking Direction 2: No cracking
Puncture Strength	ASTM F1306-16	/	N	89

3.3 Flame retardant

Test Item	Test Method	Test Condition	Test Result
Smoldering resistance	CA TB 117-2013 (R2019) Section 1	Before the test, the sample is adjust in the environment of a temperature of $70 \pm 5^{\circ}\text{F}$ ($21^{\circ}\text{C} \pm 3^{\circ}\text{C}$) and a relative humidity of less than 55% for at least 24 hours.	See Table 2

Table 2:

Sample No.	Smoldering time (minutes: seconds)	Open flame (yes/no)	Vertical carbonization length (mm)	Result
1	34'28"	No	17	Pass
2	35 ' 13 "	No	18	Pass
3	34' 45"	No	17	Pass

Pass Fail Criteria:

1. If any one of the following criteria appears, a single solid model test sample does not meet the requirements of this test procedure:

- a) The model sample continues to smolder after 45 minutes of test time.
- b) The vertical carbonization length (according to ASTM E1353-08a E1 measured by the method described in Clause 11.9) in the covering fabric exceeds 1.8 inches (45mm).
- c) The model sample burns with an open flame.

2. If all three model samples pass the test, the covering fabric passes the test, for example, the cigarette burns its full length and the model sample no longer smolders.

3. If more than one sample fails the test, the covering fabric fails the test.

4. If one of the three samples fails the test, three additional samples will be tested.

5. If all the three additional samples pass the test, the covering fabric passes the test. If one of the three additional samples fails, the covering fabric fails the test.