

Hyundai L&C

TEST REPORT

SCOPE OF WORK

Hanex

REPORT NUMBER

201209008SHF-001

TEST DATE(S)

2020-12-09 - 2020-12-21

ISSUE DATE

2020-12-21

PAGES

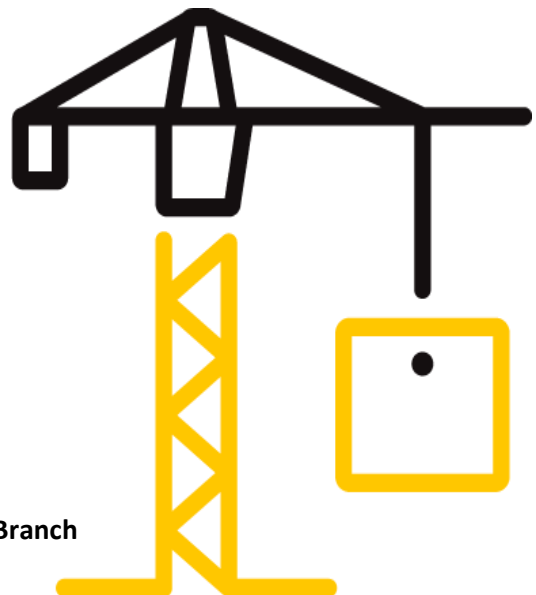
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DOCUMENT CONTROL NUMBER

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Test Report

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Test Report

Issue Date: 2020-12-21 Intertek Report No. 201209008SHF-001
 Applicant: Hyundai L&C
 Address: 1077, Cheonho-daero, Gangdong-gu, Seoul, Republic of Korea
 Attn: Oh Jong-wook
 Test Type : Performance test, samples provided by the applicant.

Product Information

Product Name	Hanex		Brand	/
Sample Description	Good Condition		Sample Amount	1 package
			Received Date	2020-12-01
Sample ID	Model		Specification	
S201209008SHF.001	/		/	


Test Methods And Standards

Test Standard	ISO 19712-3:2007 Section 8.1 Procedure A
Specification Standard	/
Test Conclusion	The samples were tested according to the above standards, and the results are shown in the following page.

Note:

1.This report relates specifically to the sample(s) that were drawn and provided by the applicant or their nominated third party. The reported result(s) provide no warranty or verification on the sample(s) representing any specific goods and/or shipment and only relate to the sample(s) as received and tested.

Report Authorized

Flora Fan  Milo Liu
 Name: Flora Fan Name: Milo Liu
 Title: Reviewer Title: Project Engineer

Test Report

Issue Date: 2020-12-21

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Test Items, Method and Results:

Test Item: Stain/chemical-resistance test

Test Method: ISO 19712-3:2007 Section 8.1 Procedure A

Conditioning: Condition the test specimens at (23 ± 2)°C and (50 ± 5)% relative humidity for at least 24h

Test Result:

Group	Staining agent	Duration of contact	Result of visual changes
1	Toothpaste	16h to 24h	5
1	Hand Cream	16h to 24h	5
1	Alcoholic beverages	16h to 24h	5
1	Natural fruit and vegetable juices	16h to 24h	5
1	Lemonade and fruit drinks	16h to 24h	5
1	Meats and sausages	16h to 24h	5
1	Animal and vegetable fats and oils	16h to 24h	5
1	Water	16h to 24h	5
1	Yeast suspension in water	16h to 24h	5
1	Salt (NaCl) solutions	16h to 24h	5
1	Mustard	16h to 24h	5
1	Lyes, soap solutions	16h to 24h	5
1	Phenol and chloramine-T disinfectants	16h to 24h	5
1	Citric acid	16h to 24h	5
2	Coffee (approximately 80°C)	16h	5
2	Black tea (approximately 80°C)	16h	5
2	Milk (approximately 80°C)	16h	5
2	Cola beverages	16h	5
2	Wine vinegar	16h	5
2	Alkaline-based cleaning agents diluted to 10% concentration with water	16h	5
2	Ammonia (10% solution of commercial concentrate)	16h	5
2	Lipstick	16h	4
2	Water colours	16h	5
2	Laundry marking inks	16h	5
2	Ball point inks	16h	4

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3	Sodium hydroxide(25% solution)	10 min	5
3	Hydrogen peroxide (30% solution)	10 min	5
3	Acetone	10 min	5
3	Trichlorethane	10 min	5
3	Concentrated vinegar (30% acetic acid)	10 min	5
3	Hydrochloric acid based cleaning agents ($\leq 3\% \text{HCl}$)	10 min	5
3	Acid-based metal cleaners	10 min	5
3	Mercurochrome (2,7-dibromo-4-hydroxymercurifluorescein, disodium salt)	10 min	5
3	Shoe polish	10 min	5
3	Hair colouring and bleaching agents	10 min	5
3	Tincture of iodine	10 min	5
3	Boric acid	10 min	5
3	Lacquers and adhesives (except fast-curing materials)	10 min	5
3	Amidosulfonic acid descaling agents (<10% solution)	10 min	5
3	Nail varnish	10 min	5
3	Nail varnish remover	10 min	5
3	Stain or paint remover based on organic solvents	10 min	5

Remark:

1. The test reagents were specified by the applicant

2. Rating scale:

Rating 5: No visible change

Rating 4: Slight change in gloss and/or colour, only visible at certain viewing angles

Rating 3: Moderate change in gloss and/or colour

Rating 2: Marked change in gloss and/or colour

Rating1: Surface distortion and/or blistering



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Appendix A: Sample Received Photo



Revision:

NO.	Date	Changes	Author	Reviewer
201209008SHF-001	2020-12-21	First issue	Milo Liu	Flora Fan