

TEST REPORT



APPLICANT : GREENWEAR CO.,LTD

REPORT NO. : K231-21-21849

ITEM : KNIT FABRIC

RECEIVED DATE : 2021-10-27

CLASSIFICATION : MIDDLE WEAR

ISSUED DATE : 2021-11-02

DESCRIPTION : KNIT FABRIC DYED WITH GALLNUT

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- #1 COTTON SINGLE JERSEY, #2 COTTON ZURRY, #3 NYLON SPANDEX

TEST ITEM	(#1)	(#2)	(#3)
ARYLAMINES(*)	PASS	PASS	PASS
FORMALDEHYDE CONTENT(*)	PASS	PASS	PASS
pH(*)	PASS	PASS	PASS
ALLERGENIC DISPERSE DYES	**	-	-
COLORFASTNESS TO WASHING	**	**	**
COLORFASTNESS TO RUBBING	**	**	**
COLORFASTNESS TO ARTIFICIAL LIGHT : XENON ARC FADING LAMP TEST	**	**	**

(*) CRITERION : KATS BULLETIN NO.2018-0195 SAFETY REGULATORY REQUIREMENT ANNEX 1
"TEXTILE PRODUCTS"

(**) : NO SPECIFIED REQUIREMENT

PREPARED AND CHECKED BY
FOR FITI



KWANG JAE, PARK
QUALITY MANAGER

AUTHORIZED BY
FOR FITI



HWA-YOUNG KIM
EXECUTIVE DIRECTOR

※ Report Verification No.: 3NH4-IB45-36HL ※

(You can see the authenticity of your test report through the above "Report Verification No." at FITI homepage.)

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01. ARYLAMINES (KS K 0147 : 2015) : mg/kg

	#1	#2	#3	REQUIREMENT
4-AMINOBIIPHENYL	< 5	< 5	< 5	MAX. 30
BENZIDINE	< 5	< 5	< 5	MAX. 30
4-CHLORO- <i>o</i> -TOLUIDINE	< 5	< 5	< 5	MAX. 30
2-NAPHTHYLAMINE	< 5	< 5	< 5	MAX. 30
<i>o</i> -AMINOAZOTOLUENE	< 5	< 5	< 5	MAX. 30
2-AMINO-4-NITROTOLUENE	< 5	< 5	< 5	MAX. 30
4-CHLOROANILINE	< 5	< 5	< 5	MAX. 30
2,4-DIAMINOANISOLE	< 5	< 5	< 5	MAX. 30
4,4'-DIAMINO-DIPHENYLMETHANE	< 5	< 5	< 5	MAX. 30
3,3'-DICHLOOROBENZIDINE	< 5	< 5	< 5	MAX. 30
3,3'-DIMETHOXYBENZIDINE	< 5	< 5	< 5	MAX. 30
3,3'-DIMETHYLBENZIDINE	< 5	< 5	< 5	MAX. 30
4,4'-METHYLENEDI- <i>o</i> -TOLUIDINE	< 5	< 5	< 5	MAX. 30
<i>p</i> -CRESIDINE	< 5	< 5	< 5	MAX. 30
4,4'-METHYLENE-BIS-(2-CHLOROANILINE)	< 5	< 5	< 5	MAX. 30
4,4'-OXYDIANILINE	< 5	< 5	< 5	MAX. 30
4,4'-THIODIANILINE	< 5	< 5	< 5	MAX. 30
<i>o</i> -TOLUIDINE	< 5	< 5	< 5	MAX. 30
2,4-TOLUYLENEDIAMINE	< 5	< 5	< 5	MAX. 30
2,4,5-TRIMETHYLANILINE	< 5	< 5	< 5	MAX. 30
<i>o</i> -ANISIDINE	< 5	< 5	< 5	MAX. 30
4-AMINOAZOBENZENE	< 5	< 5	< 5	MAX. 30
2,4-XYLIDINE	< 5	< 5	< 5	MAX. 30
2,6-XYLIDINE	< 5	< 5	< 5	MAX. 30

NOTE) · DETECTION LIMIT = 5 mg/kg

- < = LESS THAN
- ANALYSIS WAS CONDUCTED WITH GC-MS. IF DETECTED, IT WAS CONFIRMED BY HPLC-MS.
- 4-AMINOBIIPHENYL (CAS NO. 92-67-1), 2-NAPHTHYLAMINE (CAS NO. 91-59-8) ,
2,4-DIAMINOANISOLE (CAS NO. 615-05-4) : THE USE OF BANNED AZO COLORANTS CANNOT BE RELIABLY ASCERTAINED WITHOUT ADDITIONAL INFORMATION.
- AZO COLORANTS THAT ARE ABLE TO FORM 4-AMINOAZOBENZENE (CAS NO. 60-09-3), GENERATE UNDER THE CONDITION OF THIS METHOD ANILINE (CAS. NO. 62-53-3) AND 1,4-PHENYLENEDIAMINE (CAS NO. 106-50-3). IF ANILINE OR 1,4-PHENYLENEDIAMINE IS BELOW 1 mg/kg, 4-AMINOAZOBENZENE IS CONSIDERED AS "LESS THAN DETECTION LIMIT (< 5 mg/kg)". OTHERWISE, THE PRESENCE OF 4-AMINOAZOBENZENE WILL BE VERIFIED BY TEST METHOD OF KS K 0739 : 2017

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02. FORMALDEHYDE CONTENT (KS K ISO 14184-1 : 1998) : mg/kg

	#1	#2	#3	REQUIREMENT
	NOT DETECTED	NOT DETECTED	NOT DETECTED	MAX. 75

NOTE) DETECTION LIMIT = 16 mg/kg
NOT DETECTED = LESS THAN DETECTION LIMIT

03. pH (KS K ISO 3071 : 2005)

	#1	#2	#3	REQUIREMENT
	6.6	6.7	7.0	4.0 ~ 7.5

NOTE) THE TYPE OF SOLUTION USED : KCl SOLUTION (pH 5.7)
THE TEMPERATURE OF EXTRACTING SOLUTION : 24.0 °C

04. ALLERGENIC DISPERSE DYES (KS K 0736 : 2019) : mg/kg

	#1	REQUIREMENT
DISPERSE BLUE 1	< 20	**
DISPERSE BLUE 3	< 20	**
DISPERSE BLUE 7	< 20	**
DISPERSE BLUE 26	< 20	**
DISPERSE BLUE 35	< 20	**
DISPERSE BLUE 102	< 20	**
DISPERSE BLUE 106	< 20	**
DISPERSE BLUE 124	< 20	**
DISPERSE ORANGE 1	< 20	**
DISPERSE ORANGE 3	< 20	**
DISPERSE ORANGE 37/76/59	< 20	**
DISPERSE ORANGE 149	< 20	**
DISPERSE YELLOW 1	< 20	**
DISPERSE YELLOW 3	< 20	**
DISPERSE YELLOW 9	< 20	**
DISPERSE YELLOW 23	< 20	**
DISPERSE YELLOW 39	< 20	**
DISPERSE YELLOW 49	< 20	**
DISPERSE RED 1	< 20	**
DISPERSE RED 11	< 20	**
DISPERSE RED 17	< 20	**
DISPERSE BROWN 1	< 20	**

NOTE) DETECTION LIMIT = 20 mg/kg
< = LESS THAN

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05. COLORFASTNESS TO WASHING (KS K ISO 105 C06 : 2010, A1S, 30 MINUTES MECHANICAL WASH AT (40 ± 2) °C, IN 0.4 % ECE REFERENCE DETERGENT SOLUTION WITH 10 STEEL BALLS) : GRADE

	#1	#2	#3	<u>REQUIREMENT</u>
COLOR CHANGE	4-5	4-5	4-5	**
COLOR STAINING				
- SECONDARY ACETATE	4-5	4-5	4-5	**
- COTTON	4-5	4-5	4-5	**
- POLYAMIDE	4-5	4-5	4-5	**
- POLYESTER	4-5	4-5	4-5	**
- ACRYLIC	4-5	4-5	4-5	**
- WOOL	4-5	4-5	4-5	**

06. COLORFASTNESS TO RUBBING (KS K ISO 105 X12 : 2016) : GRADE

	#1	#2	#3	<u>REQUIREMENT</u>
WALE				
- DRY	4-5	4-5	4-5	**
- WET	4-5	4-5	4-5	**
COURSE				
- DRY	4-5	4-5	4-5	**
- WET	4-5	4-5	4-5	**

07. COLORFASTNESS TO ARTIFICIAL LIGHT : XENON ARC FADING LAMP TEST (KS K ISO 105 B02 : 2014, METHOD 3 MODIFIED, EXPOSURE CYCLE A1) : GRADE

	#1	#2	#3	<u>REQUIREMENT</u>
BLUE WOOL REFERENCE 4	4	3-4	ABOVE 4	**

NOTE) THE APPARATUS USED : ATLAS Weather Ometer




** End of The Report **

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