



**Foundation for Industrial Development
Thailand Textile Institute / Textile Testing Center**

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NSC – TISI – TIS 17025
TESTING 0110

TEST REPORT

CLIENT: ASIA GREATEST SKY CO., LTD.
1316/7 LADPRAO RD., SAMSENNOK, HUAI KHWANG
BANGKOK 10310

REPORT NUMBER: G68-4389
DATE OF RECEIPT: 15/08/2025
DATE OF TEST: 15/08/2025-11/09/2025
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SAMPLE NUMBER SAMPLE NAMES (AS SPECIFIED BY THE CLIENT)
G68-4389-01 DISPOSABLE BED SHEET

COMMENT(S):

- FIBER COMPOSITION -
- pH VALUE -
- FORMALDEHYDE CONTENT ANALYSIS -
- HEAVY METAL(S) ANALYSIS -
- TENSILE STRENGTH -
- WATER RESISTANCE TEST -
- BACTERIAL FILTRATION EFFICIENCY -
- RESISTANCE TO PENETRATION BY SYNTHETIC BLOOD -
- TEST FOR IN VITRO CYTOTOXICITY -

NOTES: * TEST MARKED "NOT TISI ACCREDITED" IN THIS REPORT ARE NOT INCLUDED IN THE TISI ACCREDITATION SCHEDULE FOR OUR LABORATORY.

AUTHORIZED BY

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MICROBIOLOGY LABORATORY MANAGER

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	REQUIREMENT	G68-4389-01	
FIBER COMPOSITION: TIS 2501-2553 (2010)			
TYPE OF FIBER	-	POLYESTER	POLYETHYLENE
PERCENTAGE OF FIBER	-	54.2	45.8

REMARK: - MOISTURE REGAIN OF POLYESTER = 1.5
- MOISTURE REGAIN OF POLYETHYLENE = 1.5
- MOISTURE REGAIN IS REFERRED TO ISO/TR 6741-4.
- PLASTIC IS NOT TESTED.

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pH VALUE: TIS 2501-2553 (2010)			
pH VALUE	-	7.1	

REMARK: - pH OF EXTRACTION SOLUTION: POTASSIUM CHLORIDE pH VALUE 6.2
- TEMPERATURE OF EXTRACTING SOLUTION: 23.2°C

	REQUIREMENT	G68-4389-01	
FORMALDEHYDE CONTENT ANALYSIS: TIS 2501-2553 (2010)			
FORMALDEHYDE CONTENT (mg/kg)	-	N/D	

REMARK: - N/D = NOT DETECTED
- THE CALIBRATION RANGE IS 0.15 – 7.50 mg/l AND THE DETECTION LIMIT IS 1.00 mg/kg.
- TEST APPARATUS: UV/VIS SPECTROMETER

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	REQUIREMENT	G68-4389-01
HEAVY METAL(S) ANALYSIS: TIS 2501-2553 (2010)*		
- CADMIUM (mg/kg)	-	N/D
- CHROMIUM (TOTAL) (mg/kg)	-	N/D
- COPPER (mg/kg)	-	N/D
- LEAD (mg/kg)	-	N/D
- CHROMIUM(VI) (mg/kg)	-	N/D

REMARK: - N/D = NOT DETECTED
- LIMIT OF DETECTION

CADMIUM = 0.10 mg/kg
CHROMIUM (TOTAL) = 0.50 mg/kg
COPPER = 0.50 mg/kg
LEAD = 1.00 mg/kg
CHROMIUM(VI) = 0.30 mg/kg

- TEST APPARATUS: INDUCTIVELY COUPLED PLASMA-OPTICAL EMISSION (ICP-OES)

	REQUIREMENT	G68-4389-01
TENSILE STRENGTH : TIS 2501-2553 (2010)*		
TENSILE STRENGTH (NEWTON)		
- MACHINE DIRECTION	-	41
- CROSS MACHINE DIRECTION	-	9

REMARK: - TEST APPARATUS : TENSILE TESTING MACHINE (INSTRON MODEL 5566)
- RATE OF EXTENSION : 100 mm/min
- GAUGE LENGTH : 200 mm.
- SAMPLE SIZE : 50 mm. x 300 mm. (CUT STRIP TEST)
- STATE OF TEST SPECIMEN : CONDITIONED TESTING AT 20±2°C, 65±4% RH

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	REQUIREMENT	G68-4389-01
WATER RESISTANCE TEST: TIS 2501-2553 (2010)*		
HYDROSTATIC PRESSURE AS RECEIVED (cmH ₂ O)		
- TEST SPECIMEN 1	-	101.0**
- TEST SPECIMEN 2	-	102.0**
- TEST SPECIMEN 3	-	94.6
- TEST SPECIMEN 4	-	108.0**
- TEST SPECIMEN 5	-	108.0**
AVERAGE	-	102.7

REMARK: - TEST APPARATUS : AUTOMATIC HYDROSTATIC TESTER (HYDROTESTER III MODEL FX3000)
- WATER PRESSURE : 100 mmH₂O/min
- SIDE TESTED : FACE SIDE
- TYPE OF WATER : DE-IONIZED WATER
- WATER TEMPERATURE : 20±2 °C
** TEST APPARATUS ALARM BURST SPECIMEN

	REQUIREMENT	G68-4389-01
BACTERIAL FILTRATION EFFICIENCY: BASED ON ASTM F2101: 2023*		
BACTERIAL FILTRATION EFFICIENCY (%)	-	
- TEST SPECIMEN 1		97.8
- TEST SPECIMEN 2		99.5
- TEST SPECIMEN 3		99.1
- TEST SPECIMEN 4		99.3
- TEST SPECIMEN 5		99.4

REMARK: - TESTED BACTERIA : *Staphylococcus aureus* ATCC 6538
- POSTIVE CONTROL AVERAGE : 4161 CFU
- MEAN PARTICLE SIZE (MPS) : 2.8 µm
- TESTING SIDE : FACESIDE OF SPECIMEN
- TESTING AREA : 50.2 cm²
- FLOW RATE : 17.0 L/min (AS REQUIRED BY THE CLIENT)
- CONDITION TEST SPECIMEN : TEMPERATURE 21±5 °C, 85±5 %RH, MINIMUM 4 HOUR
- TEST APPARATUS : BACTERIAL FILTRATION EFFICIENCY TESTER

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REQUIREMENT		G68-4389-01			
RESISTANCE TO PENETRATION BY SYNTHETIC BLOOD: ASTM F1862/F1862M: 2017*					
PRESSURE: 80 mmHg	LEVEL 1: NO PENETRATION AT 80 mmHg	TEST SPECIMENS			
		1	2	3	4
		NONE SEEN	NONE SEEN	NONE SEEN	NONE SEEN
		5	6	7	8
		NONE SEEN	NONE SEEN	NONE SEEN	NONE SEEN
		9	10	11	12
		NONE SEEN	NONE SEEN	NONE SEEN	NONE SEEN
		13	14	15	16
		NONE SEEN	NONE SEEN	NONE SEEN	NONE SEEN
		17	18	19	20
		NONE SEEN	NONE SEEN	NONE SEEN	NONE SEEN
		21	22	23	24
		NONE SEEN	NONE SEEN	NONE SEEN	NONE SEEN
		25	26	27	28
NONE SEEN	NONE SEEN	NONE SEEN	NONE SEEN		
29	30	31	32		
NONE SEEN	NONE SEEN	NONE SEEN	NONE SEEN		

- REMARK(S):
- VOLUME OF SYNTHETIC BLOOD: 2 ml
 - DISTANCE OF THE MEDICAL FACE MASK TARGET AREA SURFACE TO THE TIP OF THE CANNULA: 30.5 cm.
 - OTHER TECHNIQUE USED TO ENHANCE VISUAL DETECTION OF SYNTHETIC BLOOD PENETRATION: USE OF A COTTON ABSORBENT SWAB.
 - THE TEMPERATURE AND RELATIVE HUMIDITY FOR CONDITIONING: (21±5°C) (85±5)% RH
 - THE TEMPERATURE AND RELATIVE HUMIDITY FOR TEST: 22.3°C , 45.8% RH
 - INTERNAL DIAMETER OF CANNULA: 0.08727 cm
 - SEEN: PENETRATION
 - NONE SEEN: NO PENETRATION
 - AN ACCEPTABLE QUALITY LIMIT OF 4% IS MET FOR SINGLE SAMPLING PLAN WHEN 29 OR MORE OF THE 32 TESTED SPECIMENS SHOW "PASS" RESULTS (NONE SEEN).

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		REQUIREMENT	G68-4389-01	
BIOLOGICAL EVALUATION OF MEDICAL DEVICES-PART 5: TEST FOR IN VITRO CYTOTOXICITY: ISO 10993-5: 2009(E) (TEST ON EXTRACTS; QUALITATIVE ASSESSMENT OF CYTOTOXICITY) *				
			GRADE	REACTIVITY
QUALITY CONTROL	BLANK CONTROL	-	0	NONE
	NEGATIVE CONTROL	-	0	NONE
	POSITIVE CONTROL	-	4	SEVERE
SAMPLE RESULT	100% EXTRACTS OF THE TEST SAMPLE (G68-4389-01)	-	0	NONE

REMARK: - TEST SAMPLE : CUT INTO SMALL PIECES TO 1.0 g & STERILIZATION BY USING AUTOCLAVE AT 121 °C FOR 15 MINS

- EXTRACTION CONDITION : TEST SAMPLE 1.0 g in 10 ml of EXTRACTION SOLUTION (EMEM + 10% HORSE SERUM) AND INCUBATE AT 37±1 °C, 5% CO₂ FOR 24±2 H

- CELL LINE : L929 CELLS (NCTC CLONE 929: CCL-1, ATCC)

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FIGURE 1: G68-4389-01
