

Technical Data

Item : EZ-V621B

Antivirus Protective Laminated Film

PROPERTY	UNIT	DATA	TEST METHOD	
Basis Weight	g/m ²	64.0	ASTM D 3776	
Thickness	μm	188	KS M ISO 4593	
Tensile Strength	MD	N	117.4	ASTM D 5034 -. Test Speed : 305mm/min -. Grip Distance : 50mm -. Sample Width : 50mm
	TD			
Elongation at Break	MD	%	85	
	TD		84	
Tearing strength	MD	N	27.2	ISO 9073-4
	TD		46.5	
Water Resistance	mbar	353	AATCC 127	
Water Vapor Permeability	g/m ² /24hr	2680	ASTM E96 (Cacl2)	
Peel Strength	N	2.0	ASTM D 903 -. Test Speed : 300mm/min -. Width : 25mm	
Surface Resistance	Ω	8.7E+08	EN 1149-1	
Penetration of Phi-X174 Bacteriophage	Step or kPa	Step 6 (20 kPa)	EN 14126 4.1.4.1 (ISO 16604 Procedure C)	

TEST REPORT

APPLICANT : MTECHSTS CO.,LTD
BUYER :

KATRI NO : SREA15-00000522
RECEIVED DATE : NOV. 24, 2015
ISSUED DATE : DEC. 24, 2015
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APPLICANT'S PROVIDED SAMPLE DESCRIPTION :
원단 : MOTRA M3030 (60gsm)

- Continue (Test result from page 2) -



Leem, Seung yoon
Director General



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TEST ITEM	TEST RESULT
#1	
Penetration of Synthetic Blood : EN 14126:2003 4.1.4.1	

Test 1	
0 kPa	Pass
1.75 kPa	Pass
3.5 kPa	Pass
7 kPa	Pass
14 kPa	Pass
20 kPa	Pass
Test 2	
0 kPa	Pass
1.75 kPa	Pass
3.5 kPa	Pass
7 kPa	Pass
14 kPa	Pass
20 kPa	Pass
Test 3	
0 kPa	Pass
1.75 kPa	Pass
3.5 kPa	Pass
7 kPa	Pass
14 kPa	Pass
20 kPa	Pass
CLASS	6

- * Note) 1. Test was carried out in accordance with ISO 16603:2004 Procedure C
2. Step 1 : Observe for 5 min at 0 kPa.
 3. Step 2 : Slowly increase the pressure to 1.75 kPa at rate of no more than 3.5 kPa/s, keep the pressure at 1.75 kPa, observe for 5 min.
 4. Step 3 : Slowly increase the pressure to 3.5 kPa at rate of no more than 3.5 kPa/s, keep the pressure at 3.5 kPa, observe for 5 min.
 5. Step 4 : Slowly increase the pressure to 7 kPa at rate of no more than 3.5 kPa/s, keep the pressure at 7 kPa, observe for 5 min.
 6. Step 5 : Slowly increase the pressure to 14 kPa at rate of no more than 3.5 kPa/s, keep the pressure at 14 kPa, observe for 5 min.
 7. Step 6 : Slowly increase the pressure to 20 kPa at rate of no more than 3.5 kPa/s, keep the pressure at 20 kPa, observe for 5 min.

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TEST ITEM	TEST RESULT
	#1
Puncture Resistance : EN-1073-2	
CLASS	8.0 -
* Note) 1. Test was carried out in accordance with EN 863:1995 2. Test was performed as the received state 3. Classification of punture resistance Class 1 : > 10 N Class 2 : > 50 N Class 3 : > 100 N	
Abrasion Resistance : EN-1073-2	
Abrasion cycles	> 100, ≤ 500
CLASS	2
* Note) 1. Test was carried out in accordance with EN 530:2010. Method 2 2. Test was performed as the received state 3. Determine of the level of performance : Visual examination was performed after abrasion, beacuse the pressure pot method cannot be applid. 4. Determination of end-point - Specimen breakdown Wovens : When two separate threads are completely broken 5. Classification of abrasion resistance Class 1 : > 10 Class 2 : > 100 Class 3 : > 500 Class 4 : > 1 000 Class 5 : > 1 500 Class 6 : > 2 000	
Blocking : EN-1073-2	
CLASS	2
* Note) 1. Test was carried out in accordance with EN 25978:1993 2. Test was performed as the received state 3. Classification of blocking Class 1 : Blocking Class 2 : No blocking	

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TEST ITEM	TEST RESULT
	#1
Tearing Strength : EN-1073-2	
Warp Direction	24.3
경사 방향(CLASS)	3
Weft Direction	62.2
위사 방향(CLASS)	4
* Note) 1. Test was carried out in accordance with EN ISO 9073-4:1997 2. Test was performed as the received state 3. Rate of tensile speed : 100 mm/min 4. Classification of tearing strength Class 1 : > 2 N Class 2 : > 10 N Class 3 : > 20 N Class 4 : > 40 N Class 5 : > 80 N Class 6 : > 150 N	
Resistance to flame : EN-1073-2	
Self-extinguishing	Detected
Forming droplet	N.D.
After flame time(s)	0
CLASS	-
* Note) 1. Test was carried out in accordance with EN 13274-4:2001 2. Test was performed as the received state Classification of flammability of materials : Shall not continue to burn 3. N.D. : Not detected	

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TEST ITEM	TEST RESULT
	#1
Penetration of Phi-X174 Bacteriophage : EN 14126:2003 4.1.4.1	
Test 1	
20 kPa	Pass
Test 2	
20 kPa	Pass
Test 3	
20 kPa	Pass
CLASS	6
Note) 1. Test was carried out in accordance with ISO 16604:2004 Procedure C 2. Testing procedure of phi-X174 Bacteriophage (ATCC 13706-B1) 3. Bacteriophage at a titer of 2.0×10^{10} PFU/ml is used 4. Procedure (Pressure and time sequence) - 20 kPa - 0 kPa for 5 min, - Slowly increase the pressure to 20 kPa at rate of no more than 3.5 kPa/s, keep the pressure at 20 kPa, observe for 5 min	
Resistance to microbial penetration-wet : EN 14126:2003 4.1.4.4	
Challenge Conc. (CFU/g talc)	1.3 E+8
Colonies	
Mean CFU	< 1
log 10(CFU)	0.0
CLASS	3
* Note) 1. The Result of Resistance to microbial penetration-dry is entrusted to TTRI(Taiwan Textile Research Institute) 2. Test was carried out in accordance with ISO 22612:2005 3. Vibration Time : 30 min 4. E = Exponential ex) 2.0 E+2 = 200, 1.3 E+4 = 13 000	

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TEST ITEM	TEST RESULT
	#1

Resistance to microbial penetration-dry : ISO 22610 : 2006

Breakthrough time (Class)

Test 1	30 < t ≤ 45 (3)
Test 2	15 < t ≤ 30 (2)
Test 3	≤ 15 (1)
Test 4	15 < t ≤ 30 (2)
Test 5	≤ 15 (1)

- * Note) 1. Test bacteria : *Staphylococcus aureus* ATCC 25923
 2. Bacterial suspension conc : $(2.5 \pm 1.5) \times 10^4$ CFU/mL
 3. Test conditions : (22 ± 1) °C, (44 ± 1) % RH
 4. Remark

Class	Breakthrough time, t min
6	t > 75
5	60 < t ≤ 75
4	45 < t ≤ 60
3	30 < t ≤ 45
2	15 < t ≤ 30
1	≤ 15 min

Surface resistivity : EN 1149-1

 1.9 X 10⁹

- * Note) 1. Test was performed as the received state
 2. Applying voltage : 10 V

#1