

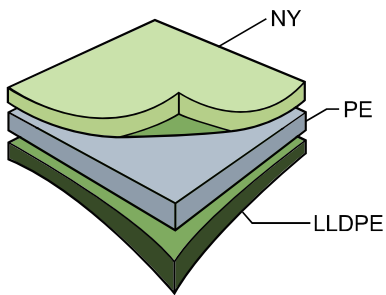
Impressive shelf life-extending & Food Safety
Using by Honeycomb Shield Packing Solution.

Honeycomb Shield

Anti- Microbial Packaging Film:

Reduce food losses along production and supply chains.
Powerful Antimicrobial and high barrier all in one solution for
an eco-friendly food packaging.

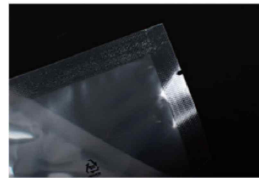
Features



Total Thickness 80 um



1. The transparency of the film is good, so the contents are clearly visible



2. V-groove processing makes it easy to open



Why Do you need to use Antimicrobial
vacuum packaging?

Inhibition of Microbial Growth

Expanding shelf life of food

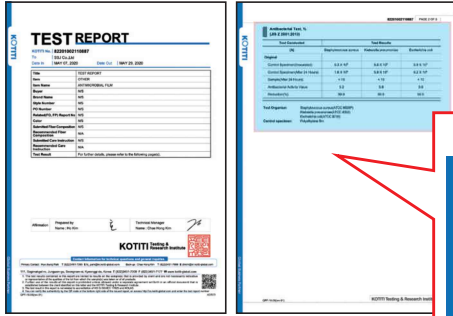
< Anti microbial + High gas barrier Effect >

Our antimicrobial packaging is extending the food shelf life more 10 days
depending on the producer's initial hygiene and food safety conditions.



Test Result

KOTITI TEST REPORT

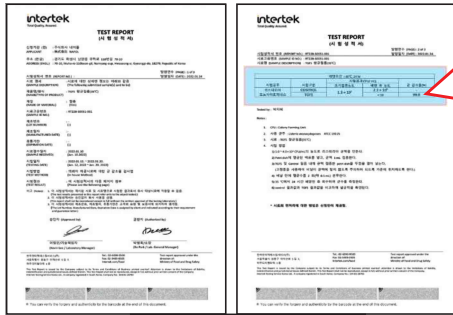


Results of extensive antimicrobial tests for Gram-negative and Gram-positive bacteria. Target bacteria (Yellow Staphylococcus, Pneumococcus, E. coli)

Antibacterial TEST, % (JIS Z2801:2010)

Test Conducted	Test Results		
(A)	Staphylococcus aureus	Klebsiella pneumoniae	Escherichia coli
Original			
Control Specimen(Inoculated)	5.3 X 10 ⁵	5.6 X 10 ⁵	5.9 X 10 ⁵
Control Specimen(After 24 Hours)	1.6 X 10 ⁵	5.9 X 10 ⁵	6.2 X 10 ⁵
Sample(After 24 Hours)	< 10	< 10	< 10
Antibacterial Activity Value	5.2	5.8	5.8
Reduction(%)	99.9	99.9	99.9

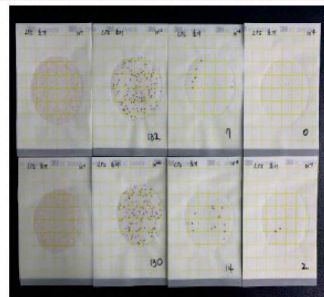
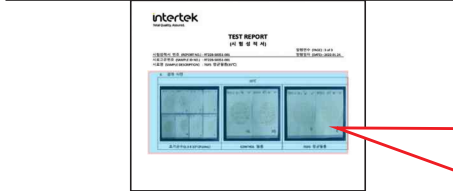
Intertek TEST REPORT



배양조건 : 35 C, 24 hr

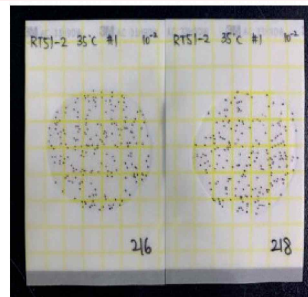
시험군주	시험구분	시험결과(CFU/ mL)		균 감소율(%)
		초기접종농도	배양 후 농도	
리스테리아 모노사이토제네스	CONTROL	1.3 X 10 ⁴	2.3 X 10 ⁴	-
	TGFS		< 10	

Antibacterial test results of Listeria monocytogenes known as low-temperature growth food poisoning bacteria (conditions:35 degrees for 24 hours)

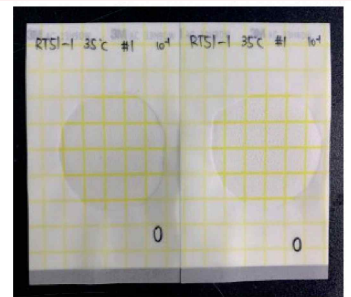


35°C, 24 hr

초기균수(1.3X10⁴ CFU/ml)

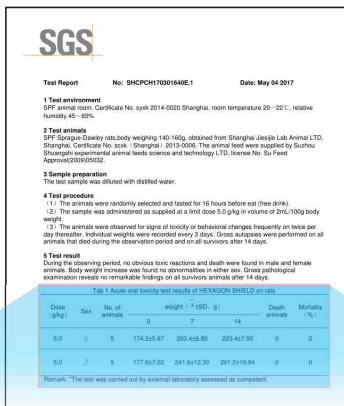


CONTROL FILM



TGFS 항균필름

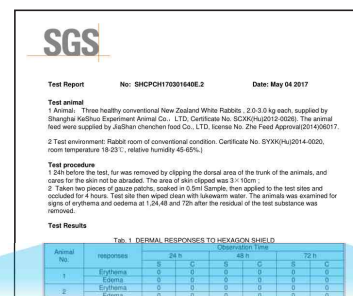
Safety



Tab. 1 Acute oral toxicity test results of HEXAGON SHIELD on rats

Dose (g/kg)	Sex	No. of animals	responses			Death animals	Mortality (%)
			0	7	14		
5.0	♀	5	174.2±5.67	203.4±6.80	223.4±7.50	0	0
5.0	♂	5	177.6±7.02	241.6±12.30	291.2±19.84	0	0

Remark: *The test was carried out by external laboratory assessed as competent.



Tab. 1 DERMAL RESPONSES TO HEXAGON SHIELD

Animal No.	responses	Observation Time					
		24 h		48 h		72 h	
		S	C	S	C	S	C
1	Erythema	0	0	0	0	0	0
	Edema	0	0	0	0	0	0
2	Erythema	0	0	0	0	0	0
	Edema	0	0	0	0	0	0
3	Erythema	0	0	0	0	0	0
	Edema	0	0	0	0	0	0

In observation time points each, the average maximal score of dermal irritation is 0

Tab. 2 Grading of skin irritation intensity

Index of skin irritation	Intensity
0~ <0.5	Non-irritative
0.5~ <2.0	Gently irritative
2.0~ <6.0	Moderate irritative
6.0~ 8.0	Severe irritative

Remark: *The test was carried out by external laboratory assessed as competent.