KYDEX THERMOPLASTICS

Antifungal and Antibacterial Properties of KYDEX® Sheet

For information applicable to KYDEX® FST please refer to 300 series technical briefs.

TB - 120-C

Introduction

KYDEX® sheet resists bacteriological and fungal development which makes it ideal for use in hospitals, food industry, etc. It does not readily provide a source of nutrients for bacteria and fungi. One source of these nutrients come from an additive known as a plasticizer, which in most cases will support microbial growth. Since it does not contain plasticizers, the main source of nutrients is removed and it performs very well when tested for bacterial and fungal growth.

KYDEX® sheet was subjected to fungus resistance testing in accordance with ASTM G-21 and bacteria resistance testing in accordance with ASTM G-22, Procedure B. Testing was performed by Truesdail Laboratories, Inc., located in Tustin, California. The KYDEX® sheet samples did not allow any fungus or bacteria growth.

The following test results show that KYDEX® sheet performs exceptionally when exposed to bacteria and fungus, without the addition of an antimicrobial additive.

I) Fungus Resistance Testing, ASTM G-21

Eighteen day cultures of the following pure culture fungi were harvested, washed and their spore counts adjusted to 1,000.000 (±200,000 per ml).

Organism	ATCC Number
Aspergillus niger	9642
Penicillium pinophilum	11797
Gliocladium virans	9645
Aureobasidum pullulans	15233
Chaetomium globosum	6205

The spore suspensions were combined and sprayed on the samples and controls which were placed on mineral salts agar and placed in the test chamber. The samples, along with controls were incubated for 28 days and examined weekly.

Sample Designation	Observations (Rating*)			
Thermoplastic Sheet:	**7 Days**	**14 Days**	**21 Days**	**28 Days**
# 1	0	0	0	0
# 2	0	0	0	0
# 3	0	0	0	0
# 4	0	0	0	0
Controls:				
Filter Paper	4	4	4	4
Glass Slides	0	0	0	0

*Rating: 0=no growth. 1=traces, 2=light, 3=moderate, 4=heavy growth

Conclusion of Fungus Resistance Testing:

The KYDEX® sheet samples did not allow any fungus growth (rating of 0).

SEKISUI SPI
ISO 9001 and 14001 Certified

Customer Service
6685 Low St, Bloomsburg, PA 17815 USA
Phone: 800.325.3133, +1.570.389.5810
Outside the US: +1.570.389.5814
Fax: 800.452.0155, +1.570.387.7786
Email: info@sekisui-spi.com

Technical Service
Phone: 800.682.8758
Fax: +1.570.387.8722
Outside the US: +1.570.387.6997
techservice@sekisui-spi.com

sekisui-spi.com

KYDEX THERMOPLASTICS

Antifungal and Antibacterial Properties of KYDEX® Sheet

For information applicable to KYDEX® FST please refer to 300 series technical briefs.

TB - 120-C

II) Bacteria Resistance Testing, ASTM G-22

A twenty-four hour culture of Pseudomonas aeruginosa (ATCC 13388) was harvested and washed three times by centrifugation using sterile distilled water. The bacterial suspension was added to sterile, melted minerals salts agar, mixed and plates poured. A sample of the inoculated agar was taken and a plate count to determine the number of viable pseudomonas present.

Sample Designation	Observations (Rating*)		
Thermoplastic Sheet:	**7 Days**	**14 Days**	**21 Days**
# 1	0	0	0
# 2	0	0	0
# 3	0	0	0
# 4	0	0	0
Controls:			
Inoculated Agar	0	0	0
Glass Slides	0	0	0
Plate Count Agar	1	1	1

*Rating: 0=no growth, 1=growth

Conclusion of Bacteria Resistance Testing:

The KYDEX® sheet samples did not allow any bacterial growth (rating of 0).

SEKISUI SPI
ISO 9001 and 14001 Certified

Customer Service
6685 Low St, Bloomsburg, PA 17815 USA
Phone: 800.325.3133, +1.570.389.5810
Outside the US: +1.570.389.5814
Fax: 800.452.0155, +1.570.387.7786
Email: info@sekisui-spi.com

Technical Service
Phone: 800.682.8758
Fax: +1.570.387.8722
Outside the US: +1.570.387.6997
techservice@sekisui-spi.com

sekisui-spi.com

This information supersedes all previously published data.