ACRILICO COLATO CRYLUX® Anti-bacteria

CRYLUX

1. PRODUCT IDENTIFICATION

CRYLUX™ Anti-bacteria is the brand name of CRYLUX™ sheets endowed with anti-microbial and fungicide protection.
Its special characteristics make CRYLUX™ Anti-bacteria the right choice for the application in places where extreme hygienic conditions are required.
CRYLUX™ Anti-bacteria has been developed in 4mm (main thickness for sanitary applications) but it can be produced in any other thickness. In clear applications, the additive used to get this special state may cause a slightly yellowing effect (Yellowness Index < 1.0).
The additive used to reach this antibacterial form is listed in the National Inventory list (i.e EINECS for Europe).
CRYLUX™ Anti-bacteria is not suitable for application in direct contact with food stuff.

2. CHARACTERISTICS

Plastics additives and components can be an excellent culture for growing microbial. External conditions like humidity and temperature can make this growth become easier. This micro-organism's development results in unpleasant odours and dark stains on the surface of the sheet.

CRYLUX™ Anti-bacteria contains a special additive that blocks micro-organisms development. Special characteristics:

- Appropriate for use in applications in public places: hotels, spas, gym, public rest rooms.
- Inhibits grow of micro-organisms in the surface of the sheet avoiding odour and dark stains produced by their proliferation. Material is easier to clean and easier to maintain.
- Wide range of protection (active against fungi, algae and bacteria).
- Higher protection against fungi (main source of dirtiness in indoor applications).
- Not water soluble, long lasting after washing.
- Low migration with temperature. CRYLUX Anti-bacteria sheet is protected and can be thermoformed without modifying its anti-microbial properties.
- Its additive is colourless[1], it can be used in all kind of colour references without modifying the final aspect of the sheet. It can be applied in clear material for external applications like sky dooms, vaults, greenhouses, etc…
- Mechanical properties are not modified compared to sanitary material.
- Compared to standard CRYLUX material, CRYLUX Anti-bacteria has better chemical resistance and it is easier to thermoform.

[1] Slightly yellow but not noticeable in clear standard applications thickness <10mm

3. APPLICATIONS

- ❑ Medical and laboratory equipment
- ❑ Sanitary (shower trays, bath tubes)
- ❑ Sky domes, vaults
- ❑ Green houses

4. FABRICATING AND FINISHING TECHNIQUES

CRYLUX™ Anti-bacteria sheets are as easy to handle as sanitary material.
Sawing, drilling, printing, milling, mechanical polishing, thermoforming, hot bending do not offer any problems to this special product.

5. TECHNICAL INFORMATION

GENERAL			
Property	**Method**	**Units**	**CRYLUX®Anti-bacteria**
Density	ISO 1183	g/cm³	1.19
Water absorption	ISO 62, Method A		<40 mg
MECHANICAL & THERMAL			
Property	**Method**	**Units**	**CRYLUX®Anti-bacteria**
Tensile Strength	ISO 527	MPa	<60 MPa
Vicat Temp. (VST/B 50)	ISO 306	°C	> 105 º
Charpy (unnotched)	ISO 179	kJ/m²	17
Linear thermal expansion	ISO 11359-2	mm/mºC	0.07
Max. service temperature continuous use		°C	75
Max service temperature short term use		°C	80
Degradation temperature		°C	> 250ºC
OPTICAL			
Property	**Method**	**Units**	**CRYLUX®Anti-bacteria**
Resistance to light	UNE EN 263		4/5
Resistance to hot water	UNE EN 263		4/5
RESISTANCE TO CHEMICALS			
	Method	**Units**	**CRYLUX®Anti-bacteria**
Cross-link	UNE EN 263		Cross-linked
Acids	UNE EN 263		Without stains
Alkalis	UNE EN 263		Without stains
Alcohols	UNE EN 263		Without stains
Whitening agents	UNE EN 263		Without stains
Staining agents	UNE EN 263		Without stains
Resistance to wetting/drying cycles	UNE EN 263		Correct

6. SPECIAL PROPERTIES

CRYLUX™ Anti-bacteria has been evaluated in a biological laboratory using the standard norm ISO 846:1997. In these tests the sheet acts as a support where five different kinds of micro-organisms are inoculated. In this case it has used a mixture of the following micro-organisms:

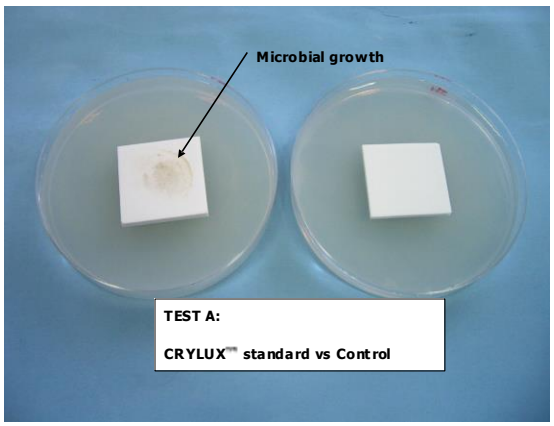
- Aspergillius niger
- Penicillium funiculosum
- Paecilomyces variotii
- Gliocladium virens
- Chaetonium globosum

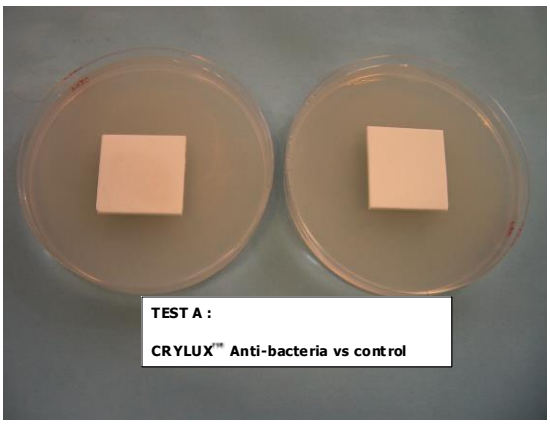
There are two different tests:

- Test A: Samples are placed in a non-complete environment; micro-organism can only grow by using the additives contained in the sheet support. This method is appropriate to evaluate the ability of the material to develop fungi in an environment without organic material.
- Test B: In this case the sheet is used as a support to grow the micro-organism in a fully nutritive environment. This is situation is not likely, we use to evaluate the efficiency in the worst conditions.

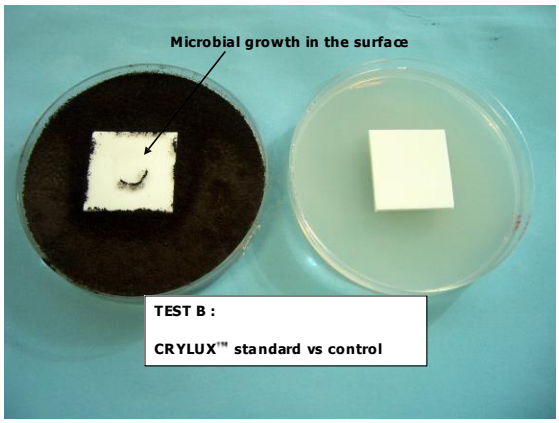
In both cases, the lack of growth in the surface of the sheet shows biocide protection of the sheet. Standard material has been compared against CRYLUX™ Anti-bacteria and in all cases, we can clearly see substantial differences.

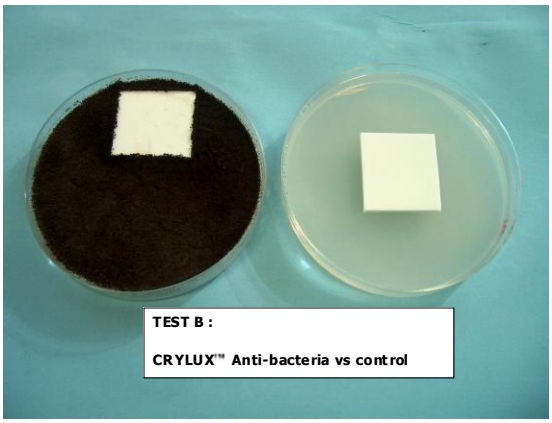
TEST A:



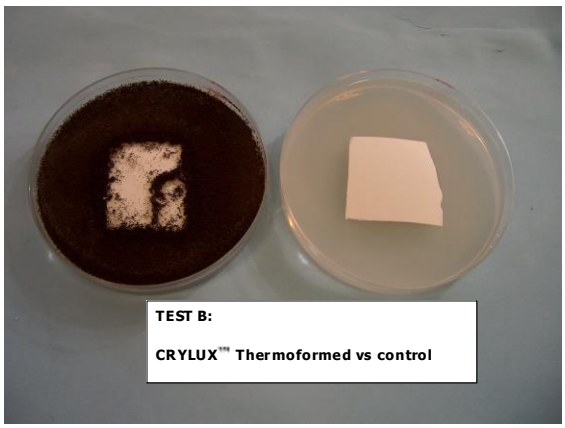


TEST B:





Same tests have been done after thermoforming to ensure the efficiency of the material. Please notice that protection is reduced a bit due to the significant reduction in thickness (samples tested after thermoforming where 0.6-0.8mm thickness).



The addition of a biocide does not exempt the material to be cleaned but it makes cleaning process easier. Biocide activity is not permanent but due to the low migration, it will provide a continuous protection for the normal life span of the product:

Note: These technical data of our products are typical ones; the actually measured values are subject to production variations.