



Boltaron® Antibacterial and Antifungal Properties

TESTING FOR RESISTANCE TO BACTERIAL AND FUNGAL DEVELOPMENT

Boltaron® thermoplastic sheet material does not support the growth of common bacteria and fungus under a variety of conditions. Refer to the results below for specific test results under ASTM G21 and G22 protocol. The tests conclude that Boltaron sheet materials perform well in preventing the growth of bacteria and fungus, even without the addition of an antimicrobial additive.

ASTM G21- RESISTANCE TO FUNGUS GROWTH

ASTM G21 is designed for the qualitative determination of mildew (fungus) resistance of synthetic polymeric materials. The method is conducted over a 28 day period by a third party lab, during which Boltaron sheet was placed in petri dishes on nutrient salts agar (in triplicate) and inoculated with the test fungi.

ORGANISM	TEST USED BY INOCULUM
Aspergillus Brasiliensis	ATCC 9642
Chaetomium Globosum	ATCC 6205
Penicillium Funiculosum	ATCC 11797
Trichoderma Virens	ATCC 9645
Aureobasidium Pullulans	ATCC 15233

CONCLUSION

The Boltaron sheet samples did not show any signs of fungus growth after four weeks.

ASTM G22- RESISTANCE TO BACTERIAL GROWTH

ASTM G22 is a qualitative test method designed to assess the ability of plastics to resist bacterial attack. The method is conducted over a 21 day period during which Boltaron sheet was placed on inoculated agar, incubated, and then compared to a positive and negative control.

The test microorganism used was Pseudomonas Aeruginosa. This is the most common disease-causing species, according to the Center for Disease Control and Prevention (CDC).

In this study, Tryptic Soy Agar was used as a positive control. This medium has no antimicrobial efficacy, and is known to support the growth of the test microorganism. The positive control confirmed the test microorganism was viable and pure. The negative control in this study used nutrient salt agar, which does not support bacterial growth. The negative control confirmed that it did not support the growth of the test microorganism. See below for results. The Boltaron sheet samples did not show any signs of bacterial growth after three weeks.

SAMPLE	INCUBATION (TIME AND GROWTH SCORE AT DAY 21)
Boltaron Sheet (Sample 1)	No Growth
Boltaron Sheet (Sample 2)	No Growth
Negative Control	No Growth
Positive Control	Growth

CONCLUSION

The Boltaron sheet samples did not show any signs of bacterial growth after three weeks.

ANTIBACTERIAL AND ANTI-FUNGAL PROPERTIES

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