

BIOGUARD ACOUSTIC



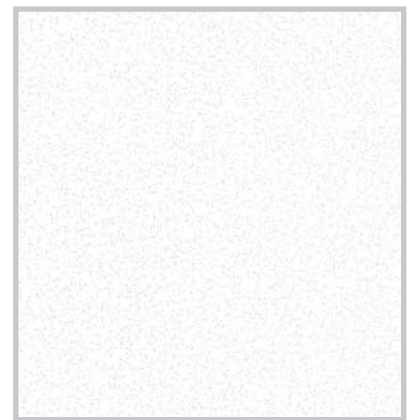
BIOGUARD Acoustic Square Lay In with Prelude XL 24mm Exposed Tee Grid

BENEFITS

- Anti-microbial performance provides protection against bio-contamination
- Clean Room performance
- Durable, Washable, Soil Resistant, Water Repellent face with 'Vacuum Paint – Hard Edge' treatment
- Total Acoustics Performance (NRC+CAC)
 - High sound absorption for reduced reverberation and quieter spaces
 - High sound attenuation, improving room to room privacy
- High light reflective finish
- Appealing smooth surface
- RH99 Humidity resistant
- Sustainable – Green Star contribution

APPLICATION AREAS

- Healthcare
- Clean Rooms
 - Pharmaceutical Manufacturing
 - Food and Electrical Manufacturing
 - Laboratories, PC1 and PC2 Certified Facilities
- Education (Science Labs)
- Data centres / computer rooms



Inspiring Great Spaces™

Armstrong[®]
CEILING SOLUTIONS

BIOGUARD ACOUSTIC



ISO Clean Room ISO 14644-1



Washable



Hygiene / Anti-microbial



Water Repellent



Resistance to Disinfectants



Soil Resistant



RH99 Humidity Resistant



Product Handling Durability



Recycled Content EN ISO 14021



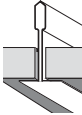
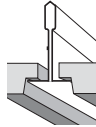
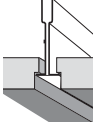
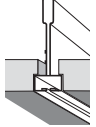
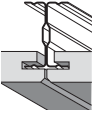
Light Reflectance 87%



Acoustical Comfort



Total Acoustics

Panel Options	SQUARE LAY-IN	ANGLED TEGULAR	MICROLOOK 90°		K2C2 EDGE
					
	Clean Room or Prelude 24mm Grid	Clean Room or Prelude 24mm Grid	Suprafine 15mm Grid	Silhouette 15mm Grid	One Way / Modular Grid
600 x 600 x 19mm	5186	5188	5190		—
1200 x 600 x 19mm	5187	5189	5191		—
1200 x 400 x 19mm	*	*	*		*
1350 x 450 x 19mm	*	*	*		*
1500 x 500 x 19mm	*	*	*		*

— Not available

* Special items and other sizes available upon request



NRC: 0.70



CAC 41



Sealed edge for clean room performance



RH99% at 0°C – 49°C



Conforms with BCA Spec. C1.10 and tested to AS/NZS 3837:1998 – Group 1, ISO 5660 – Group 1 – S



Thermal Insulation (R- Value)
0.40 m²K/W



5.28kgs/m²

Green Star: Potential contribution

MAN	IEQ			ENE	MAT and Mat. Calc.				
Waste Management	Daylight Factor	Noise Levels	Emissions	Energy	Modular & Design for Disassembly	Level A Certified Product	Product Stewardship	EMS to ISO 14001	Recycled Content
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Material

Wet-formed mineral fibre with durable acoustically transparent membrane

Surface and Edge Finish

Factory-applied latex paint. Edges are paint sealed for improved clean room performance. 'Vacuum Paint – Hard Edge' treatment for Tegular and K2C2 edge panels.

Anti-microbial Performance

"BIOGUARD Acoustic" contains a unique anti-microbial treatment, providing resistance against growth of mould, yeasts and virulent strains of bacteria. (Refer to bio-contamination data overleaf)

Backloading Recommendation

Contact your local Armstrong representative

Suspension Systems

'Blue Tongue' Aluminium Clean Room Flat Faced Tee Grid & PeakForm Prelude Steel 24mm Tee above. Other 'Blue Tongue' Aluminium options upon request



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BIOGUARD ACOUSTIC: PERFORMANCE FOR HEALTHCARE ENVIRONMENTS



Acoustics

Patients and Healthcare Professionals require Total Acoustics:

- Intelligibility – to hear and to be understood
- Privacy – to not be overheard
- Concentration – to not be disturbed.
- Lower ambient sound – providing a peaceful environment conducive to healing

Armstrong BIOGUARD Acoustic ceilings provide Total Acoustics – both excellent sound absorption (NRC 0.70) and attenuation (CAC 41), resulting in the optimum acoustic climate for healthcare premises



Anti-microbial performance: Protection against Bio-Contamination

Bioguard Acoustic Ceiling Panels have been tested to NF S 90-35: 2003 and JIS Z2801:2000, demonstrating active protection against bio-contamination:

- Preventing the build-up of bacteria, mould and yeast including: Acinetobacter Baumannii, Bacillus Cereus, Streptococcus Pneumoniae, Escherichia Coli, Methicillin resistant Staphylococcus Aureus (MRSA), Aspergillus Niger, Candida Albicans, Klebsiella Pneumoniae,
- Preventing the settlement of micro-organisms that land on the surface of the tile.
- Bio-contamination performance is active during the life-time of the ceiling as long as the surface is intact and internal conditions are maintained as outlined by ASHRAE
- BIOGUARD Acoustic can be applied in Zone 4 "Very High Risk" areas achieving a Bacteriological Cleanliness Class B1
- The Biocides in Bioguard Acoustic are harmless for people, animals and plants.
- BIOGUARD Acoustic is tested by CETEC to satisfy the low VOC requirements of Green Star IEQ.



Washable, Water Repellent and Resistant to Disinfectants

Healthcare premises require durable building products that can be washed and disinfected.

- BIOGUARD products can be cleaned with diluted disinfectants containing active agents such as Quaternary Ammonium, Hydrogen Peroxide and Chlorine.
- BIOGUARD Acoustic can be washed with a wet cloth or sponge.
- BIOGUARD products provide excellent water-repellency (min 30mins) allowing frequent cleaning (achieves 500 hundred wash cycles according to ASTM D-4828).



BIOGUARD ACOUSTIC: PERFORMANCE FOR CLEAN ROOM ENVIRONMENTS



Clean Rooms

A clean room is a space or a series of spaces where the concentration of particles is controlled in order to minimise the introduction, generation and retention of particles.

- Clean rooms are classified ISO 1 (cleanest) to ISO 9 depending on the number of particles measured.
- The performance is tested to ISO 14644-1 which determines the particle cleanliness class.

ISO Class	Maximum Number of Particles in Air (particles in each cubic metre equal to or greater than the specified size)					
	Particle size					
	> 0.1 µm	> 0.2 µm	> 0.3 µm	> 0.5 µm	> 1 µm	> 5 µm
ISO Class 1	10	2				
ISO Class 2	100	24	10	4		
ISO Class 3	1 000	237	102	35	8	
ISO Class 4	10 000	2 370	1 020	352	83	
ISO Class 5	100 000	23 700	10 200	3 520	832	29
ISO Class 6	1 000 000	237 000	102 000	35 200	8 320	293
ISO Class 7				352 000	83 200	2 930
ISO Class 8				3 520 000	832 000	29 300
ISO Class 9				35 200 000	8 320 000	293 000

The table above shows BIOGUARD Acoustic achieves ISO Class 4 – 5.

Healthcare Premises

In certain areas within hospitals, to maintain strict hygiene and infection control, it is essential to limit the number of airborne particles by creating a clean-room type environment.

Pharmaceutical and Food Industry

Pharmaceutical products such as medicine, vaccine, blood for transfusion or medical equipment should not carry any contaminant. Food and beverages shall not be contaminated during the production and conditioning process.

Manufacturing Industry

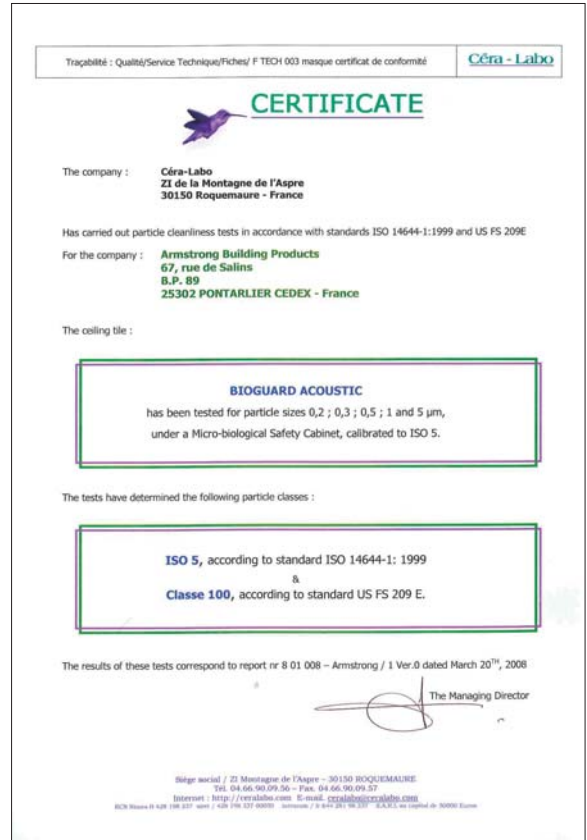
In industries such as Aerospace, Optics, Microelectronics, Nuclear, Nano Technology, eliminating the smallest particles is a key objective.

Laboratories, Data Centres & Computer Rooms

For environments containing highly sensitive equipment, it is essential to limit the number of airborne particles by creating clean-room conditions.

BIOGUARD Acoustic: Tested ISO Clean Room Performance

- BIOGUARD Acoustic has been tested and achieves the following Particle Cleanliness Classes: ISO 5, according to ISO 1 4644-1:1999, and Zone 4 according to NF S 90-351.
- BIOGUARD Acoustic is tested to achieve ISO 4 “As Built Operational State” Clean Room performance when used in conjunction with Armstrong Clean Room Grid. Note: Refer to the Armstrong Clean Room Grid Data Page for more information.
- The very smooth surface of BIOGUARD Acoustic limits the accumulation of dust and micro-organisms, achieving a CP 10 rating according to Kinetic of Decontamination test against NF S 90-35: 2003.
- BIOGUARD Acoustic has been selected for use in PC1 and PC2 Facilities.



The Westmead Institute for Medical Research – PC2 Facility

