

Armstrong® Clean Room™ Ceiling Systems

When Particles Matter

TYPICAL APPLICATIONS

In today's technologically demanding environment, a little bit of dirt can cause a great deal of trouble. For instance, a speck of dust so small it can only be seen under a powerful microscope could throw a spacecraft's guidance system off sufficiently enough to cause the spacecraft to miss the moon by many miles. Because these microscopic amounts of foreign matter can create such problems, aerospace industries must meet superior standards of cleanliness. Clean Room™ systems were designed with this in mind.

There are a variety of applications for clean room systems. Use this chart to determine which material is appropriate for your space.

Application	Material
• Laboratories	15/16" Steel
• Pharmaceutical facilities	15/16" Steel
• Automotive & aerospace	15/16" Steel
• Computer rooms	15/16" Steel
• Data centers	15/16" Steel
• MRI (non-magnetic environment)	15/16" Aluminum
• Hospitals	15/16" Aluminum or Steel
• Food processing facilities	15/16" Aluminum or Steel
• High-tech manufacturing	15/16" Aluminum or Steel
• Spaces utilizing HEPA filters	1-1/2" Aluminum

The following applications typically have HEPA filter installations:

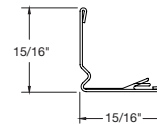
Application	
• Semiconductor fabrication	• Food processing
• Disc drive manufacturing	• Nanotechnology
• Biotechnology	• USP 797 pharmacies
• Aerospace	• Solar panel plants
• Pharmaceutical production	• Lithium battery plants

NOTE: HEPA filters require 1-1/2" flange because the filters are typically 23.625 x 47.625 and can weigh up to 60 lbs.

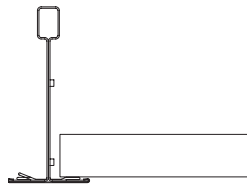
INSTALLATION CONSIDERATIONS



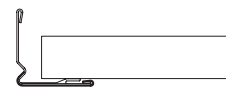
Miter Cut Corners



Compressing the Gasket



Panel Compressing the Gasket on Main Beam or Cross Tee



Panel Compressing the Gasket on Angle Molding

LIGHT FIXTURES

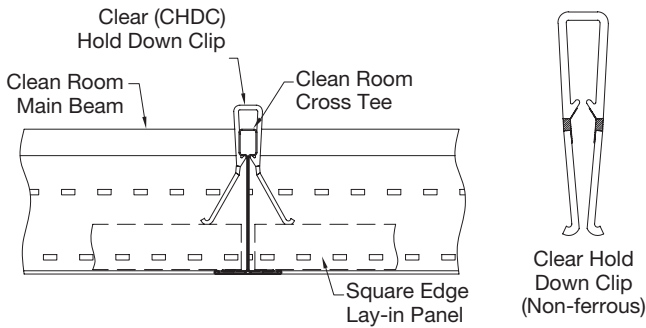
NOTE: 1-1/2" aluminum Clean Room has a 2" web height. Check with lighting manufacturers to ensure compatibility.

MAINTAINING POSITIVE PRESSURE

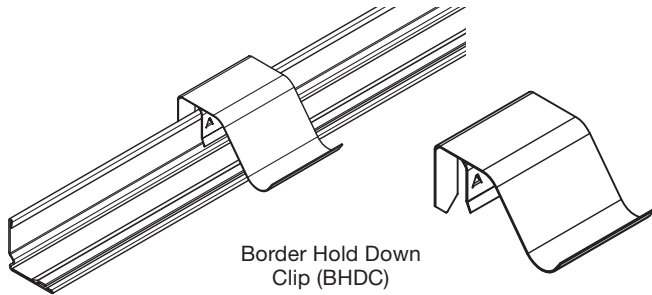
In the event that positive pressure is being maintained in the clean room, hold-down clips may be required. For Armstrong® Ceilings Clean Room system, the CHDC and BHDC clips may be used for that purpose. For CHDC, one on each side of the 2' x 2' panel and two clips at the third points on each 4' cross tee. For BHDC, one clip is recommended every 2' along the perimeter.

The CHDC Clip attaches to the top bulb of the suspension system to hold 1/16" to 3/4" lay-in panel in place; helps to prevent ceiling panel fluttering at entryways.

The Border Hold Down Clip (BHDC) attaches to the top of the perimeter molding to hold lay-in panels in place.



Clear Hold Down Clip (Non-ferrous)

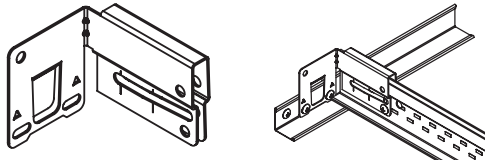


Border Hold Down Clip (BHDC)

SEISMIC SOLUTIONS

The Armstrong® Ceilings 15/16" Clean Room™ Steel system is great for use in IBC Seismic Design Categories C and D, E, F. Please refer to the Seismic Rx® brochure for additional information.

BERC2 – 2" Beam End Retaining Clip – Allows you to create a code compliant Seismic Design Category D, E, F ceiling installation while eliminating the need to use 2" wall molding or spreader bars.



NOTE: BERC2 Clip is only compatible with steel clean room. For aluminum, ALBERC2.

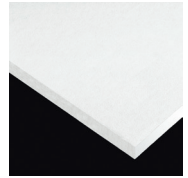
CEILING PANEL SELECTION

Choosing the appropriate ceiling panel is important to minimizing unwanted particles and maintaining clean room performance. Armstrong Ceilings offers a variety of panel options.



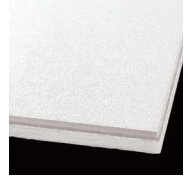
Calla® Health Zone™

- Get total noise control and floor plan versatility with Total Acoustics® ceiling panels: NRC + CAC = Total Acoustics Performance™
- Calla Health Zone panels are part of the Sustain® portfolio and meet the most stringent sustainability compliance standards today
- Excellent combination of sound absorption and sound blocking for closed spaces (NRC 0.80, CAC 38)
- Clean room performance up to ISO Class 5 (Class 100) using gasketed Clean Room™ suspension systems



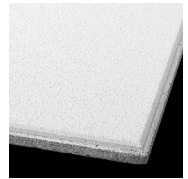
Optima® Health Zone™

- Highest level of sound absorption, (NRC 0.95) open plan spaces
- Long-lasting water-repellency for cleaning and disinfection
- Items manufactured with a plant-based binder available
- Smooth, fine-textured visual
- Tegular profile
- Meets ISO Class 5 particulate shedding requirements; not suitable for use in pressurized environments



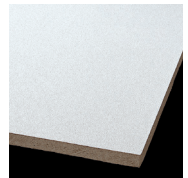
Ultima® Health Zone™

- Get total noise control and floor plan versatility with Total Acoustics ceiling panels: NRC + CAC = Total Acoustics Performance
- Ultima® panels are part of the Sustain® portfolio, and meet the most stringent sustainability compliance standards today
- Excellent combination of sound absorption and sound blocking for closed plan spaces (NRC 0.70, CAC 38)
- High NRC panel option available (NRC 0.80, CAC 35)
- Long-lasting water-repellency for cleaning and disinfection
- Smooth, fine-textured visual
- Square Tegular profile



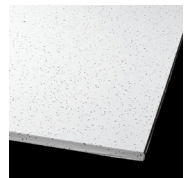
Clean Room™ FL

- Excellent sound blocking (CAC 35-40)
- **IMPORTANT!** For best sound absorption, use field panels, for full, unpenetrated panels, use border panels for all cuts and penetrations. (Only field panels have sound absorption ability.)
- Soil-resistant polyester film



Clean Room™ VL

- Excellent sound-blocking performance (CAC 40)
- Vinyl-covered surface for excellent durability



Armstrong®
World Industries