Today’s Changing Spaces

TOTAL ACOUSTICS

Inspiring Great Spaces®
…provide the ideal combination of sound absorption and sound blocking. Together these attributes help you create quiet spaces. So whether you are:
- de-densifying
- building temporary offices
- reducing noise in open spaces
- enduring speech privacy
…get total noise control and design flexibility with Total Acoustics® ceiling panels across our portfolio.
Good, Better, Best recommendations make it easy to choose the right ceiling for the right space.

**BEST**

TOTAL ACOUSTICS = NRC 0.80+ AND CAC 35+

- Cala® / Cala® High NRC
- Lyra® PB
- Ultima® / Ultima® Health Zone
- WoodWorks®
- WoodWorks® Tegular
- MetalWorks™
- MetalWorks™ 3D
- TECTUM®

**BETTER**

Total Acoustics = NRC 0.70-0.75 and CAC 35+

- Cala® PrivAssure™
- ACOUSTIBuilt™ Ceiling System
- Ultima®
- Ultima® Health Zone
- WoodWorks®
- WoodWorks® Tegular
- MetalWorks™
- MetalWorks™ 3D
- Calla®

**GOOD**

Total Acoustics = NRC 0.60-0.65 and CAC 35+

- Canyon™
- Mesa™
- School Zone®
- Cirrus® Profiles
- WoodWorks®
- WoodWorks® Tegular
- MetalWorks™

* Acoustics performance for these ceilings is determined by the product, perforation, and infill panel.

NRC + CAC = Total Acoustics®
Total Acoustics®
It’s All About STANDARDS

Total Acoustics® ceiling panels help provide the ideal combination of sound absorption and sound blocking.

- As sound absorption is increased, reverberation time is decreased. Reverberation times that are lower than 1.0 second are acceptable for speech intelligibility.

Sound absorption reduces noise while sound blocking keeps it from traveling into adjacent spaces.

- Sound absorption is measured using the ASTM C423 standard.
- Sound blocking through a ceiling is measured using the ASTM E1414 standard. Sound blocking through a wall is measured using the ASTM E90 standard.
- Sound isolation between spaces is measured using the ASTM E336 standard.

Together these attributes can help you create quiet spaces without needing to build walls to the deck.

Don’t just take our word for it, our acoustics laboratory is NVLAP certified. Armstrong Ceilings’ primary acoustics laboratory is committed to rigorous testing.

- The NVLAP program is administered through the National Institute of Standards and Technology (NIST), part of the U.S. Department of Commerce.
- It provides an unbiased third-party evaluation and recognition of performance.

UL Classification labels verify the performance of our products.

Total Acoustics ceilings can help:
- reduce noise in open, unassigned spaces and keep noise from traveling into adjacent rooms
- create flexible environments for the changing nature of work and the workplace
- meet ANSI standards and design acoustically effective classrooms
  - ANSI/ASA S12.60
- ensure speech privacy and meet FGI guidelines for healthcare spaces
  - FGI Guidelines for Design and Construction of Hospitals

TOTAL ACOUSTICS®
Sound Absorption (NRC) + Sound Blocking (CAC)
To address post-pandemic needs, all types of spaces in all types of buildings are being reconsidered. In some, floor plans are changing. We’re de-densifying. Adding more hard surfaces to allow cleanability. Considering new wall dividers to help create zones and distance occupants. Flexibility is key.

NOISE: More noise is coming as a result of new layouts with dividers and flexible walls not built to decks, as well as from more non-porous, cleanable surfaces. Finding ways to add noise control – both sound absorption and sound blocking – will be needed with these changes. Studies show that noise impedes effectiveness, healing, and learning and raises stress levels no matter what the setting.

CONFIDENTIALITY: Sound blocking is especially important for privacy when walls are not built to deck. High sound blocking ceiling performance, paired with good MEP design, and wall sound transmission class can result in confidential speech privacy, even without building walls to deck. Sounds from plenum MEP as well as adjacent spaces are reduced with effective Ceiling Attenuation Class (CAC) performance.

TOTAL ACOUSTICS® ceiling solutions can meet requirements in newly changing building landscapes. Let us know how we can help.

Our acoustics laboratory is NVLAP certified, administered through the National Institute of Standards and Technology (NIST), part of the U.S. Department of Commerce, and provides an unbiased third-party evaluation of performance. UL Classification labels verify the performance of our products.
Noise is still the number one complaint in the workplace. You can help solve it with Total Acoustics® Ceilings.

GREAT ACOUSTICS by Design
Ideal Sound Performance for Every Space

Effectively Absorb & Block Sound
- No need for full height, floor-to-deck walls when you specify Total Acoustics® ceiling panels – making future space re-configurations easier.
- No need for extra plenum barriers.

Absorption is Not a Substitute for Blocking
- Ceiling panels with high sound absorption (NRC) and low sound blocking (CAC) are unable to provide the confidential speech privacy that Total Acoustics® ceilings offer.

All Total Acoustics ceilings have a CAC of 35 or higher, the ideal value to deliver the sound blocking you need.

ABCs of Acoustical Design
- Absorb and Block sound with Total Acoustics® high performance ceiling panels.
- Cover intruding noise with electronic sound masking.

FOCUS SPACES  COLLABORATIVE SPACES  CONFIDENTIAL SPACES
Putting SOUND BLOCKING to the Test

The Truth About Sound Blocking
- Total Acoustics® ceilings with a CAC of 35+ tested in real-world scenarios\(^1\) have been proven to deliver confidential speech privacy.
- Ceiling panels with a low CAC (<35) are unable to achieve the sound blocking that Total Acoustics offers.

Ceiling CAC – Critical to Speech Privacy
- Real-world independent acoustical testing in common plenum shared offices confirms that high CAC Total Acoustics panels are essential to achieving speech privacy.
- Request a free custom Speech Privacy Report or a custom Reverberation Time Report. Our TechLine experts can help you get the right sound control for any type of space.

\(^1\) Independent Acoustical Measurements and Report by Acentech Inc.

Why CAC Makes A Difference
TOTAL ACOUSTICS®

NRC 0.90  
CAC 22

HIGH NRC CEILING PANELS

Privacy Index* 82

* Privacy Index calculation is defined in ASTM E1130

Field Test Parameters:
- Adjacent Offices (same size)
- Plenum (with no barrier)
- Common Wall (STC 35+)
- Concrete Deck (with commercial carpeting)
- Sound masking level at 42 dBA

ULTIMA® CEILING PANELS

NRC 0.75  
CAC 35

Privacy Index* 97

Total Acoustics® ceiling solutions help provide confidential speech privacy.
Studies show that excessive noise reduces worker effectiveness, raises stress, and lowers employee satisfaction. The changing nature of work and workplaces call for concentration one minute, collaboration the next and more cleanable hard surfaces than ever before. Today’s open plan areas can become tomorrow’s closed plan areas making both absorption (NRC) and blocking (CAC) important for future space flexibility. Total Acoustics® ceilings not only address quiet concentration, energetic collaboration, and speech privacy in today’s workplace, but can help create an optimal work environment.
**BEST**
NRC 0.80+ and CAC 35+
High traffic spaces or multiuse spaces where maximum sound absorption and sound blocking are needed to help keep noise levels down and prevent disruption to adjacent spaces.

**BETTER**
NRC 0.70-0.75 and CAC 35+
Spaces where strong sound absorption and sound blocking are needed for all-around acoustical performance.

**GOOD**
NRC 0.60-0.65 and CAC 35+
Spaces where less sound absorption is required but sound blocking is needed to maintain speech privacy between adjacent areas.

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**NRC + CAC = Total Acoustics**

armstrongceilings.com/totalacoustics
Each day, thousands of students are unable to understand one out of every four spoken words in classrooms due to inadequate acoustical treatments.

With Total Acoustics® ceilings, you’ll meet or exceed ANSI standards, contribute to LEED® points, and create a better place for teachers to teach and students to learn.
**BEST**
NRC 0.80+ and CAC 35+
High traffic spaces or multipurpose spaces where maximum sound absorption and sound blocking are needed to help keep noise levels down and prevent disruption to adjacent spaces so students can stay on task.

**BETTER**
NRC 0.70-0.75 and CAC 35+
Spaces where strong sound absorption and sound blocking are needed for all-around acoustical performance.

**GOOD**
NRC 0.60-0.65 and CAC 35+
Spaces where less sound absorption is required but sound blocking is needed to maintain privacy between adjacent areas.
Excessive noise in corridors, busy nurses’ stations, and chaotic treatment rooms negatively affects patients — as well as interactions between doctors and staff.

Hospital noise still ranks lowest on HCAHPS scores. Total Acoustics® ceilings can help address that and HIPAA healthcare requirements, as well as aid in optimum patient recuperation.

The ceiling plane is one of the single largest surfaces for integration of absorptive materials to offset the new noise that will be created by additional hard surfaces. Ceilings that can absorb and block sound will be able to do acoustical “heavy lifting” compared to other surfaces.
**BEST**
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Our A Ceiling for Every Space® online tool lets you quickly click through installation photos to give you ideas and specific product recommendations.

You’ll also be directed to the corresponding Total Acoustics Performance™ information for your product selections.

Try it at: armstrongceilings.com/everyspace
Our TechLine service team can provide you with technical support for acoustic code compliance of ceilings with Total Acoustics Performance™:
- HIPAA, HCAHPS, ANSI
- Custom reverberation and privacy index calculation reports based on your project design

New!
AcoustiBuilt™ Seamless Acoustical Ceiling Systems

Looks like drywall in a seamless acoustical ceiling

Contact us to find out more:
1 877 276-7876
Fax 1 800-572-TECH
techline@armstrongceilings.com
8 a.m. to 5:30 p.m. EST

TechLine
TAKE THE NEXT STEP

1 877 276-7876
Customer Service Representatives
7:45 a.m. to 5:00 p.m. EST
Monday through Friday

TechLine – Custom reverberation and privacy index calculation reports, technical information, detail drawings, CAD design assistance, installation information, other technical services – 8 a.m. to 5:30 p.m. EST, Monday through Friday.
FAX 1 800 572 8324 or email: techline@armstrongceilings.com

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CEU – A New World of Acoustics
Reverberation Time Calculator
Total Acoustics® Ceilings Case Studies

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