

CertainTeed Ceilings

decoustics® Ecophon® Gyptone® PERFORMA™



HEALTHCARE

For a sounder healing environment.



CertainTeed
SAINT-GOBAIN



As the world gets louder,
so do our healthcare facilities.

Bigger buildings, more people, noisy machinery, rising demands. The sound level keeps increasing, which a growing body of research shows can negatively affect medical and economic outcomes. We believe the solution is clear — proper **Environmental Acoustics™**

From basic high-performance panels to premium, customizable systems, CertainTeed Ceilings has the comprehensive offering you need for complete acoustical solutions. With experience rooted in evidence-based design, we help you create spaces where people can feel better, work better and, most importantly, heal better. Our industry expertise enables us to meet and exceed the healthcare industry's specific needs, codes and regulations. You can Be Certain™ we'll help you create healing environments that far surpass minimum compliance, allowing you to take your designs to a higher level.





Proper Environmental Acoustics

- Reduction of patient stress
- Improved doctor-patient communication
- Improved quality of sleep
- A higher quality working environment that reduces burnout and employee turnover
- Reduction of medical errors

Environmental Acoustics means allowing patients to rest and heal while enabling practitioners to work better.

Proper Environmental Acoustics can enhance any patient's experience, increasing positive patient outcomes. In fact, hundreds of research projects have analyzed the effects of color, lighting, temperature and sound on the well-being of patients, visitors and healthcare staff. Several point out clear links between sound levels and the quality of care. This research has shown that high sound levels cause stress among hospital staff and patients, which in turn increases staff turnover, increases the rate of medical errors and negatively affects how patients respond to treatment.

Our physical surroundings in any given setting contribute to a space's Environmental Acoustics. The sounds we want to hear can be over-powered by unnecessary and unpleasant noise. With proper Environmental Acoustics, sounds can be controlled to ensure a space that will achieve the purpose it was designed for.



A sounder healing environment through Evidence-Based Design.

Beyond regulatory and code requirements for acoustic controls, a well-designed acoustical environment can improve overall patient healing. It also helps doctors, nurses and other medical professionals make better decisions and avoid burnout.

| Health Challenge | Prolonged healing |
|--|--|
| Evidence-Based Links to Indoor Air Quality (IAQ) and Noise Disturbance | Noise stimuli in Critical Care Units (CCU) have been associated with physiological stress in patients. Patients who undergo surgery are more likely to suffer surgical site infections (SSI) if the operating theater is noisy. ^{1,2} |
| The Solution | Attention to noise reduction in operating and recovery rooms and use of acoustically-sound building materials is becoming a requirement in patient care. ³ |
| Health Challenge | Increased need for medication |
| Evidence-Based Links to Indoor Air Quality (IAQ) and Noise Disturbance | Patients exposed to continuous noise experience anxiety, elevated blood pressure, memory alteration, increased agitation, less pain tolerance and even increased cholesterol. Noise above 50 dB increases the need for pain medication in postoperative patients. ^{4,5,6} |
| The Solution | Designing for acoustic controls can ultimately shorten hospital stays and readmission rates. This leads to cost savings for the hospital and patients. ^{4,7} |
| Health Challenge | Regulatory requirement |
| Evidence-Based Links to Indoor Air Quality (IAQ) and Noise Disturbance | The HIPAA (Health Insurance Portability and Accountability Act) Privacy Rule provides federal protections for personal health information held by covered entities and gives patients numerous rights with respect to that information. ⁸ |
| The Solution | Designing for acoustic controls helps to meet HIPAA requirements by improving speech privacy, rendering confidential conversations unintelligible in adjoining rooms or other healthcare spaces. ⁹ |

| Health Challenge | Noxious environment |
|--|--|
| Evidence-Based Links to Indoor Air Quality (IAQ) and Noise Disturbance | <p>The World Health Organization guidelines recommend sound levels of 35 dB(A) during the day and 30 dB(A) at night with peaks of 40 dB(A) in patient rooms.</p> <p>Research indicates peak noise levels in hospitals today often exceed the recommended levels reaching beyond 90 dB(A).¹⁰</p> |
| The Solution | <p>Surfaces that reflect rather than absorb sound cause longer reverberation times even after the sound source is silenced. Sound absorbing materials are more effective in reducing noise.¹¹</p> |

| Health Challenge | Increased medical errors |
|--|---|
| Evidence-Based Links to Indoor Air Quality (IAQ) and Noise Disturbance | <p>High noise levels in healthcare environments have shown to have adverse physiological and psychological effects on patients and increase the likelihood of medical errors by critical care personnel.¹²</p> |
| The Solution | <p>Noise prevention helps heal and protect. Acoustical building materials are specially designed to help control excessive noise.</p> |

Gyptone® BIG™ Line 6

1. International Journal of Cardiology
2. British Journal of Surgery, 2011
3. Journal of Clinical Anesthesia, Vol. 12, 2000, 298-302
4. Occupational and Environmental Medicine, 2005
5. Roger S. Ulrich, Professor, Center for Health Systems and Design, Texas A&M University
6. British Medical Journal 292, Feb 1986 305
CmielC et al Noise Control Feb 2004
7. Healthcare at the Crossroads, 2002
8. U.S. Department of Health and Human Services
9. Facilities for Mortuary of Post Mortem Room Services HBN20
10. World Health Organization
11. The Center for Health Design, Issue Paper #4, Jan 2004
12. Critical Care Medicam, 1977, How Noisy is Intensive Care





A Healthier Environment through Evidence-Based Design.

Studies demonstrate that indoor air is often more polluted than outdoor air, a fact that is especially concerning within healthcare settings. Patients can be exposed to Volatile Organic Compounds (VOCs), which pose a danger to their weakened immune systems. Designing for good indoor air quality helps to promote better healthcare.¹

Health Challenge

Respiratory illnesses and formaldehyde exposure

Evidence-Based Links to Indoor Air Quality (IAQ) and Noise Disturbance

Nearly 50% of respiratory illnesses, including asthma, are caused or aggravated by poor indoor air. Airborne formaldehyde acts as an irritant to the conjunctiva and upper and lower respiratory tract.²

The Solution

Low-emitting building materials reduce the amount of VOCs in the air, such as formaldehyde.

Health Challenge

Hospital-acquired illnesses

Evidence-Based Links to Indoor Air Quality (IAQ) and Noise Disturbance

Formaldehyde and other aldehydes pose a potential health threat for cancer as well as respiratory illnesses.³

The Solution

Specifying low-emitting materials reduces the amount of VOCs that contaminate the air in hospital spaces.

Ecophon® Hygiene™ Advance™ A



Performa™ Sand Micro



| Health Challenge | VOCs from cleaning and maintenance materials |
|--|---|
| Evidence-Based Links to Indoor Air Quality (IAQ) and Noise Disturbance | VOCs come from many sources, including cleaning solvents and materials, treated fabrics, personal hygiene products, building materials, paints, glues, etc. Patient illnesses can often be exacerbated due to airborne VOCs. ^{1,4} |
| The Solution | Not all VOCs are the result of building materials. Source control is a key component in designing for good indoor air quality. ⁵ |

| Health Challenge | Mold and mildew exposure |
|--|--|
| Evidence-Based Links to Indoor Air Quality (IAQ) and Noise Disturbance | Airborne fungal spores and mold (such as Aspergillus) that originate on water-damaged building materials and remain wet more than 72 hours can contribute to poor patient health. ¹ |

| | |
|--------------|--|
| The Solution | Selecting moisture- and mold-resistant building materials minimizes the threat of mold in healthcare environments. |
|--------------|--|

1. U.S. Environmental Protection Agency (EPA)
2. American Lung Association (ALA)
3. U.S. Centers for Disease Control and Prevention (CDC)
4. Streifel J., C. Heinrichson, "Assessment of Health Risks Related to Construction – Minimizing the Threat of Infection from Construction Induced Air Pollution in Health Care Facilities" HPAC Engineering, Minn., MN, 2002
5. MS Hospital Consulting, 2001

Four diverse brands. Deep industry expertise.
We deliver ceiling solutions tailored to your needs.

CertainTeed Ceilings has the product breadth and expertise to help you specify the ideal solutions for your healthcare designs. We've brought together four brands with a broad array of aesthetic, acoustic and performance properties, which make almost any ceiling a possibility. With extensive experience within the healthcare setting, we can help you account for the many variables involved in creating proper Environmental Acoustics while also meeting healthcare's hygienic demands.



With Environmental Product Declarations (EPDs) for 21 of our ceiling product families, we are committed to environmental transparency. You can see the CertainTeed Ceilings sustainability story and view our EPDs at [CertainTeed.com/Ceilings](https://www.certainteed.com/Ceilings).



Decoustics® Ceilencia®

decoustics®

Decoustics frees you to bring your one-of-a-kind ceiling design to life.

Dramatic custom forms make even the most elaborate vision a possibility with ceilings from Decoustics. These precisely engineered ceilings offer a truly unique look, ideal for creating signature lobbies and other elegant spaces. They meet the highest quality standards, helping your finished design live up to and exceed your expectations. Now the only limit is your imagination.

- Extensive customization enables truly unique designs
- Broad range of wood options
- Unmatched acoustics and performance



Ecophon® Hygiene™ Advance™ A

Ecophon®

Achieve stunning, acoustically sound ceilings, with Ecophon.

Ecophon ceilings offer countless designs and shapes, along with superior acoustical performance and functionality. Able to handle rigorous cleaning and disinfecting, they offer outstanding hygiene for operating rooms, patient recovery rooms and laboratories. Plus our exclusive 3RD technology combines a high content of recycled glass with a renewable plant-based binding agent, completely replacing traditional petroleum-based binding.

- Outstanding acoustical performance
- Extensive array of designs and shapes
- Wall-to-wall and non-continuous ceiling options



Gyptone® BIG™ Line 6

Gyptone®

Perforated gypsum panels allow for monolithic ceiling-to-wall designs.

Gyptone acoustical suspended ceilings and walls cover a broad spectrum of patterns, sizes and solutions. Contemporary visuals without visible breaks or joints provide excellent acoustics for lobbies, waiting areas and cafeterias.

- Broad spectrum of patterns, formats and solutions
- Smooth, paintable surface simplifies installation and maintenance
- Recyclable and reusable gypsum and paper



Performa™ Sand Micro

PERFORMA™

A complete range of easy to install products, Performa offers best-in-class value for performance.

Performa ceilings meet your space's needs with a full spectrum of attractive and acoustically sound design solutions. Extensive sizes, textures and edge details or profiles can suit a wide range of performance and aesthetic requirements throughout the healthcare environment. In addition to third-party certified EPDs, many of our Performa products are third-party tested and certified for recycled content and VOCs; VOCs are certified compliant by Berkeley Labs, meeting California's stringent protocols for formaldehyde.

- Easy to install sizes, textures, edge details and profiles
- Third-party certified VOC Compliant ceilings
- Over 20 product families with third-party certified EPDs

You'll find ideal solutions for every healthcare setting.



Ecophon® Hygiene™ Performance

Neonatal Intensive Care Unit (NICU)

- VOC Compliant indoor air quality
- Exceptional sound absorption
- Will withstand hospital cleaning regimen

Recommended Products

| | |
|---------------------------|----------|
| Adagio® | \$\$\$\$ |
| VOC Compliant Focus™ A | \$\$\$ |
| VOC Compliant Symphony® f | \$\$ |



Performa™ Sand Micro

Corridors

- Excellent sound absorption and containment
- Enhanced speech privacy
- High light reflectance

Recommended Products

| | |
|------------------|----------|
| Adagio® High CAC | \$\$\$\$ |
| Tufcore™ | \$\$\$ |
| Rx Symphony® m | \$\$ |



Decoustics® Ceilencio®

Waiting Area

- Excellent sound absorption / ceilings
- Complementary sound absorption / walls
- Facilitates a calming atmosphere

Recommended Products

| | |
|------------------------|----------|
| Decoustics® Ceilencio® | \$\$\$\$ |
| Gyptone® BIG™ Sixto 63 | \$\$\$\$ |
| Ecophon® Wall Panels | \$\$ |

Texas Children's Hospital Case Study

Challenge: Design the interior of The Pavilion for Women, an addition to the Texas Children's Hospital in Houston, with contemporary aesthetics and acoustics conducive to a multi-disciplinary medical care center.

Influences: Given the style of contemporary maternity hospital interiors, the design called for accessible ceilings with soft curves, versus hard, rectangular edges, and a stepped installation on areas of the first, third and fourth floors. These ceiling height changes demanded a ceiling panel that was easy to install and cut in the field.

Solution: Designers chose the Ecophon® Focus™ Ds high-density fiberglass ceiling panels, which met all of the project's visual and performance requirements. The panels are highly sound absorbent (0.85 NRC), can be cleanly cut into any shape the design requires, have high light reflectivity (85%) and give the ceiling a clean, bright appearance.

"We're very happy with our ceiling panel choice. It met all of our performance needs and gave the ceiling a nice, clean and bright appearance."

James W. O'Neill
AIA Principal of Inventure Design

Laboratory

- Will withstand hospital cleaning regimen
- Suitable clean room components to ISO class 4
- Excellent acoustics — absorption or containment

Recommended Products

| | |
|-------------------------------|----------|
| Ecophon® Hygiene™ Labotec™ Ds | \$\$\$\$ |
| Rx Symphony® <i>f</i> | \$\$ |
| Envirogard | \$\$ |



Ecophon® Hygiene Protec™

Atrium / Lobby

- Maintain good air quality
- Exceptional aesthetics
- Enhanced speech intelligibility

Recommended Products

| | |
|--------------------------|----------|
| Decoustics® Linear Wood | \$\$\$\$ |
| Gyptone® BIG™ Quattro 41 | \$\$\$\$ |
| Ecophon® Solo™ Square | \$\$\$ |



Gyptone® BIG™ Line 6

Patient Recovery Room / Exam

- Excellent sound absorption or containment
- Cleanable surfaces
- Enhanced light reflectance

Recommended Products

| | |
|------------------------------|--------|
| Ecophon® Hygiene™ Meditec™ | \$\$\$ |
| Performa™ Symphony® <i>m</i> | \$\$ |
| VinylShield A | \$\$ |



Ecophon® VOC Compliant Focus™ A



DECOUSTICS®
ECOPHON®
GYPTONE®
PERFORMA™

You can Be Certain™ that CertainTeed Ceilings is your source for complete ceiling solutions and expertise.

No other manufacturer offers the depth and breadth of products that we do, for ensuring every space achieves ideal Environmental Acoustics, and every person can achieve their greatest potential. Our deep industry knowledge, continual innovation and sustainable efforts empower you to provide a sounder environment in any setting.

[**Be Certain**] Confidence worth building on.™

ASK ABOUT ALL OF OUR OTHER CERTAINTEED® PRODUCTS AND SYSTEMS:

ROOFING • SIDING • TRIM • DECKING • RAILING • FENCE • FOUNDATIONS
GYPSUM • CEILINGS • INSULATION • PIPE

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