CertainTeed

a more inviting hospitality environment

High Performance Gypsum Systems

QUIETER SPACES • CLEANER AIR • DURABILITY • SUSTAINABILITY

CertainTeed
SAINT-GOBAIN

Your choice in evidence-based design for hospitality.

Business and leisure travelers alike expect more from hotels these days – elaborate, comfortable beds, upgraded technology, larger, brighter bathrooms and spa-like surroundings. Some hotels even go so far as to create signature scents for their lobbies and public areas to promote pleasant air quality and sensations of calmness and relaxation.[1] Hotels and hospitality facilities are finding that they can become the brand of choice and even command top rates when they excel at meeting these expectations. High-performance building materials that soften the harsh noises of the outside world, support indoor air quality and stand up to high-volume traffic are among the tools available to improve the guest experience.

With a legacy of technologically advanced products rooted in evidence-based design, CertainTeed Gypsum helps you create spaces where people can relax, conduct business, sleep better and enjoy the comfort of their surroundings. Our industry expertise enables us to meet and exceed the hospitality industry's specific needs, codes and regulations.

Acoustics | Indoor Air Quality | Durability | Sustainability

1. "Trends in Business Travel." Time, Inc. Newsgroup Special Publications


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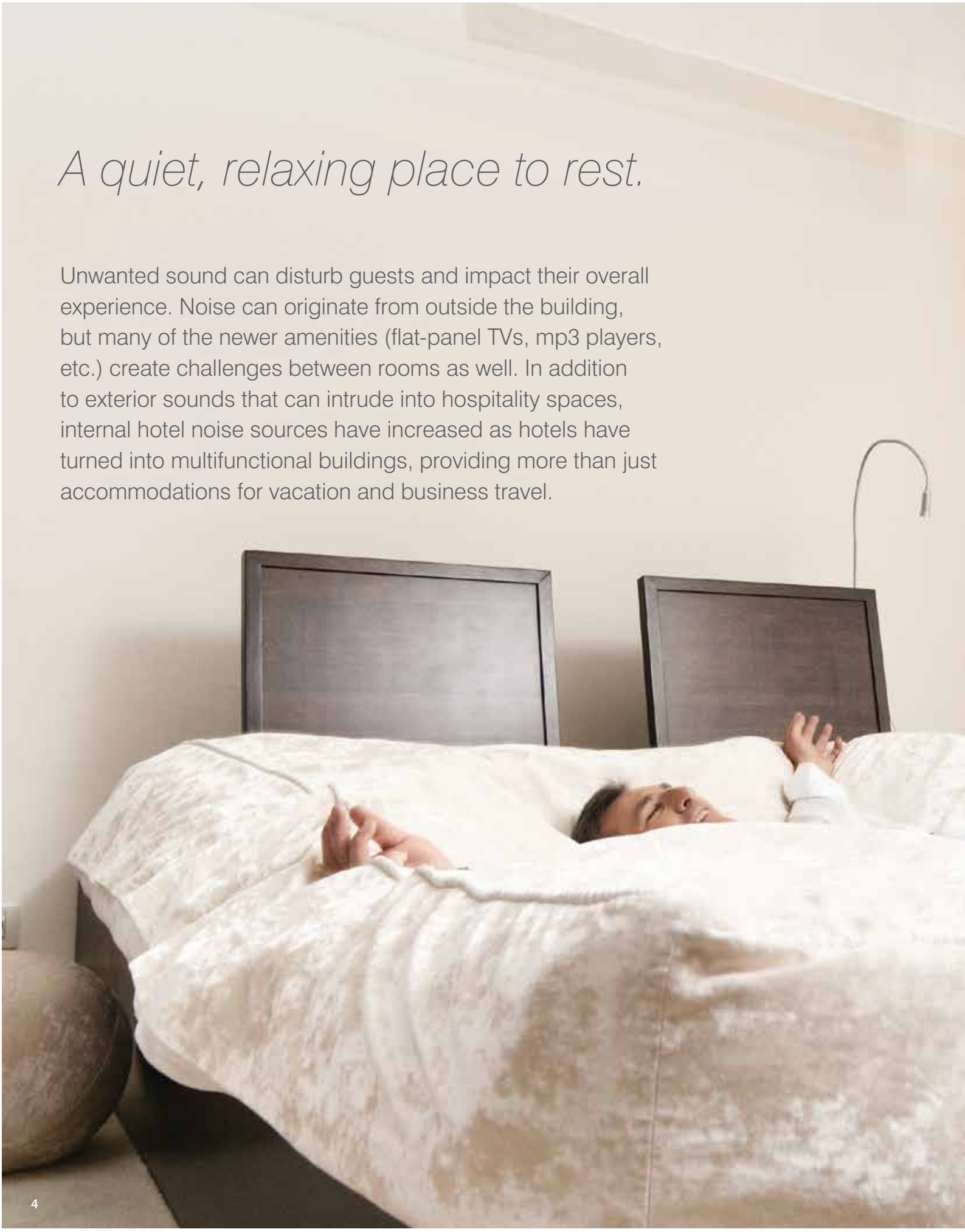
A quiet, relaxing place to rest.

Unwanted sound can disturb guests and impact their overall experience. Noise can originate from outside the building, but many of the newer amenities (flat-panel TVs, mp3 players, etc.) create challenges between rooms as well. In addition to exterior sounds that can intrude into hospitality spaces, internal hotel noise sources have increased as hotels have turned into multifunctional buildings, providing more than just accommodations for vacation and business travel.



Guest comfort challenges	Evidence-based links to noise disturbance	Design solutions for improved acoustical environment
Noise levels and guest satisfaction	Studies show that noise is a top complaint among hotel guests. Ironically, guests complain about noise to hotel management in only about half of all cases. This leaves hotel management with unhappy guests and without the information they need to recognize the severity of the problem and address it properly.[2]	The use of noise-reducing building materials helps to minimize noise levels in hotel rooms. Acoustical building materials are designed specifically to help control excessive noise.
Noise levels and poor sleep quality	Hotel guests say that they sleep less when in hotels than they do at home and often return from trips tired. Among those surveyed, 51 percent say they sleep fewer hours, with 31 percent saying they wake in the middle of the night more often when in a hotel.[3]	Reducing sound transmission from both indoor and outdoor noise sources can reduce sleep interruptions. Sound-insulating and sound-absorbing building materials can reduce noise disturbances.
Noise levels and reverberation	Noise levels and reverberation can interrupt or prevent REM (rapid eye movement) sleep. Studies show a correlation between sufficient REM sleep phases and the ability to solve problems.[4]	Extended periods of quiet provide an environment that helps support REM sleep. Sound-dampening building materials, such as specially formulated gypsum wallboards, can greatly reduce sound transmission between adjacent rooms.
Reducing noise levels without reducing floor space	Field-fabricated solutions like adding layers of conventional drywall or using a resilient channel to "de-couple" the wall add notable thickness to the wall structure. This valuable space comes at the expense of the guest rooms.[5]	Using a noise-reducing gypsum wallboard that dampens acoustic energy can yield the appropriate STC (sound transmission class) without decreasing the square footage of a room by adding mass to the walls.
Noise levels and technology features	High-demand amenities, including HD flat-screen TVs, built-in audio systems and Internet access, have increased indoor noise levels.[6]	For less transference of noise from room to room and from public to private spaces, choose materials that absorb, block or cover noise.
Regulatory requirements	Local ordinances and building codes vary greatly from state to state and province to province. Architects, contractors, developers and builders must meet local standards and requirements for acoustical analysis in order to protect building occupants from exterior noise sources, as well as sound generated within buildings.[7]	Noise reduction in commercial construction and the use of acoustical building materials are becoming requirements in most building codes.

2. "Americans' Biggest Complaints about Hotels." *Forbes Magazine*, 27 July 2012
3. "Sleeping on the Road." Industry News, hospitality.net
4. Cai, Denise J., Mednick, Sarnoff A., Harrison, Elizabeth M., Kanady, Jennifer C., and Mednick, Sara C. "REM, not incubation, improves creativity by priming associative networks." Study employing Remote Associates Test (RAT), *Proc Natl Acad Sci U S A*. 2009 June 23; 106(25): 10130–10134.
5. Harris, David A. *Noise Control Manual for Residential Buildings*. New York: McGraw-Hill Professional. ISBN 978-0-07-026942-2
6. "Survey Reveals Hotel Guests Want Wi-Fi over Everything Else." *USA Today Travel*, 10 April 2010
7. U.S. Environmental Protection Agency (EPA)

Clear the noise.

SilentFX® Noise-Reducing Acoustical Gypsum Board has built-in acoustical controls that limit transmission of distracting noises through walls and ceilings, which is critical for quiet hotel rooms and restful sleep, as well as containing noise in public areas of hospitality venues.

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GREENGUARD

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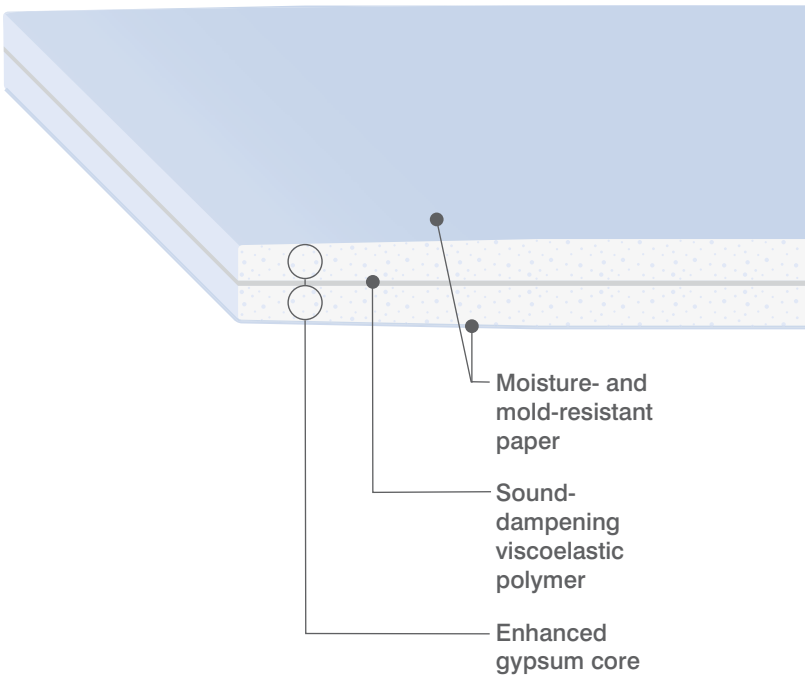
GOLD

How it works

SilentFX® features a sound-dampening viscoelastic polymer and is specifically designed for systems requiring high sound transmission class (STC) ratings. It is more reliable than complex techniques, such as clips or resilient channel.

SilentFX makes it possible to build effective noise-reducing walls with less material, gaining valuable square footage and saving construction time and material costs.

SilentFX features M2Tech® for enhanced moisture and mold resistance. It has a high-density core and is enclosed in up to 99 percent recycled, moisture- and mold-resistant front and back papers.



More than 30 wall systems* have been tested per ASTM E90, achieving STC ratings of 50 and higher.

SilentFX helps meet sustainability requirements in many building programs and codes including:

International Green Building Code
Section 807
Acoustics

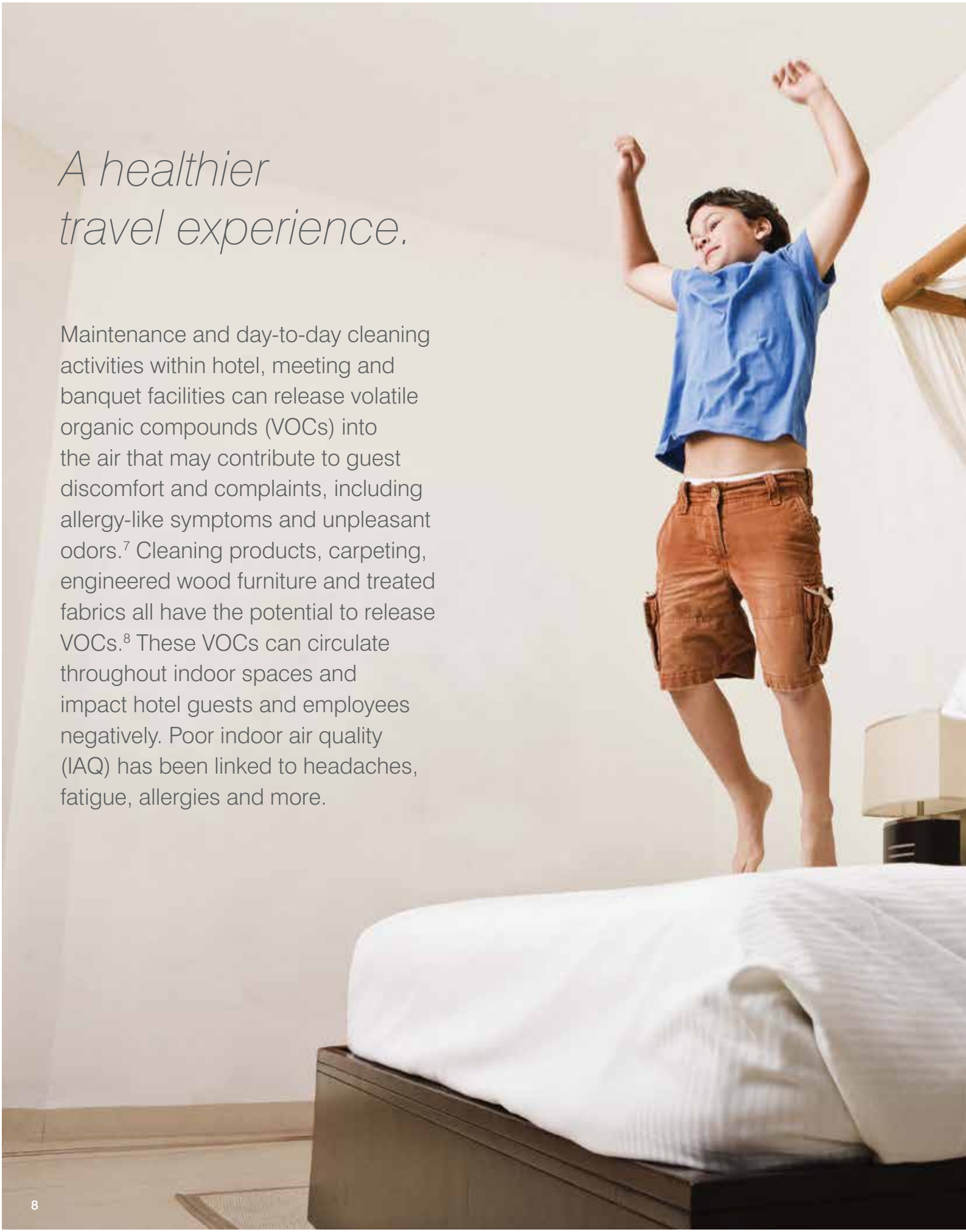
Use of SilentFX to improve STC rating	Traditional method to improve STC rating
	
STC Rating: 57 (OL 11-0646) Fire Rating: 1-hr UL (U465 / GA WP 1081) Wall Thickness: 4.875"	STC Rating: 55 (TL 93-300) Fire Rating: 1-hr UL (U420) Wall Thickness: 7.250"

Comparable Wall Assemblies

*Refer to our online library and SilentFX product brochure for a list of wall assemblies suitable for your project at **www.CertainTeed.com/SilentFX.**

A healthier travel experience.

Maintenance and day-to-day cleaning activities within hotel, meeting and banquet facilities can release volatile organic compounds (VOCs) into the air that may contribute to guest discomfort and complaints, including allergy-like symptoms and unpleasant odors.[7] Cleaning products, carpeting, engineered wood furniture and treated fabrics all have the potential to release VOCs.[8] These VOCs can circulate throughout indoor spaces and impact hotel guests and employees negatively. Poor indoor air quality (IAQ) has been linked to headaches, fatigue, allergies and more.



Health challenges	Evidence-based links to indoor air quality (IAQ)	Design solutions for improved indoor air quality (IAQ)
Respiratory illness and formaldehyde exposure	Airborne formaldehyde acts as an irritant to the conjunctiva and upper and lower respiratory tracts.[8] Formaldehyde and other aldehydes, which contribute to poor IAQ, pose a potential health threat of respiratory illnesses.[9]	VOC-absorbing gypsum board permanently absorbs formaldehyde and prevents it from being re-released.
Exposure to respiratory irritants in hospitality venues	Confined spaces, such as hotel rooms or crowded meeting spaces, can exacerbate the effects of irritants in the air. Respiratory irritation leads to a higher incidence of colds, flu and other respiratory illnesses.[10]	Specifying low-emitting building materials reduces the amount of VOCs that contaminate the air in hotels and other hospitality spaces.
VOCs from cleaning and maintenance materials	VOCs, which include formaldehyde, come from many sources including cleaning solvents, furniture finishes, treated fabrics, building materials, paints, glues, swimming pool and spa chemicals, kitchen exhausts, etc. The most common health problems caused by formaldehyde exposure include irritation of the eyes, nose and throat.[9]	Source control, such as adequate ventilation, is a key component in designing for good IAQ.[7] Specifying wallboard designed to permanently absorb formaldehyde can also improve IAQ.
Mold and mildew exposure in hotels	Hotel facilities, including guest bathrooms, indoor pools and spas and kitchen areas increase the incidence of mold affecting IAQ. The potential health effects associated with mold exposures include allergic reactions, asthma and other respiratory complaints.[7, 9]	Specifying moisture- and mold-resistant building materials greatly reduces the potential for mold issues in the indoor environment.

7. U.S. Environmental Protection Agency (EPA)
8. American Lung Association
9. U.S. Centers for Disease Control and Prevention (CDC)
10. The Chartered Institution of Building Services Engineers

Clear the air.

AirRenew® M2Tech® Indoor Air Quality Gypsum Board is the first and only gypsum board that actively cleans indoor air. This formaldehyde-absorbing board uses two technologies to improve air quality continually, helping to create a healthier, more comfortable environment.

AirRenew® M2TECH®

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UL VALIDATED

- ✓ MEASURED PERMANENT FORMALDEHYDE ABSORPTION CAPACITY OF 0.4 G/M² OF SURFACE AREA
- ✓ MOLD RESISTANT PER ASTM D 3273
- ✓ RECYCLED CONTENT MINIMUM POST-CONSUMER 1.9%, PRE-CONSUMER 90.5%
- ✓ REGIONAL MATERIALS MINIMUM 88.5%

How it works

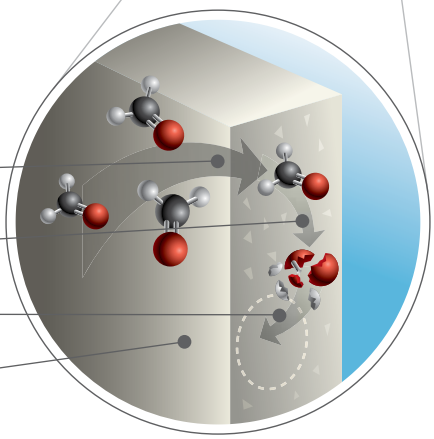
AirRenew® M2Tech® captures VOCs, specifically formaldehyde, converting it into inert compounds that safely remain within the core of the board.

AirRenew M2Tech provides up to 75 years of effective absorption based on tests and analysis*, cleaning the air even when finished with multiple coats of water-based acrylic or epoxy paints and breathable wallpaper.

AirRenew M2Tech features M2Tech® technology for enhanced moisture and mold resistance. M2Tech achieves less than 5 percent water absorption per ASTM C473 as well as the highest possible score for mold resistance per ASTM D3273 and ASTM G21.

AirRenew M2Tech, like regular gypsum board, can be easily recycled.

AirRenew M2Tech absorbs formaldehyde and cleans the air.



Captures VOCs, specifically formaldehyde

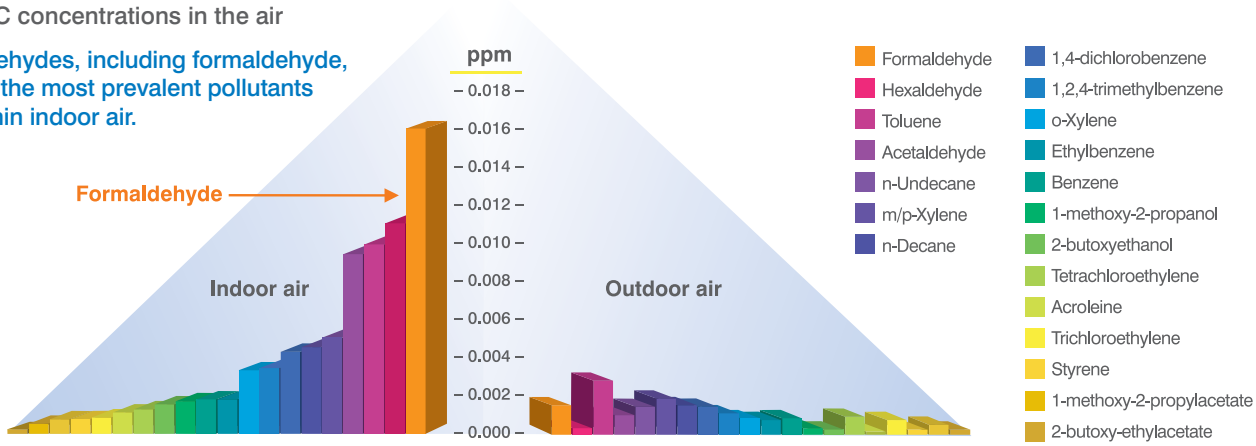
Converts VOCs into inert compounds

Inert compounds remain safely within gypsum board

Enhanced moisture and mold resistance

VOC concentrations in the air

Aldehydes, including formaldehyde, are the most prevalent pollutants within indoor air.



***Performance Based**

The effectiveness of AirRenew has been shown per ISO 16000-23 performance test, UL Environment, tests conducted by Cornerstone Labs LLC and third-party witnessed tests at CertainTeed Research Center in Blue Bell, PA; AirRenew also qualifies for LEED IEQ Credit 3.2.

A safe, aesthetically pleasing hospitality experience.

Hotels and hospitality facilities experience considerable wear and tear. Guest traffic, banquets, meetings, luggage, carts and large cleaning equipment are all elements of an active hotel. Walls become damaged from repeated impact and abuse. This wear and tear can negatively affect the aesthetics of a hotel and increase maintenance costs.

Facility challenges	Evidence-based impact of the physical environment	Design solutions to improve aesthetics and durability
Design changes	Frequent changes are common in hotels, with spaces repurposed and additional amenities added from year to year.[11]	Unlike concrete block, abuse- and impact-resistant gypsum boards provide superior performance, while allowing maximum design flexibility.
Perception of quality	Hotel owners have shifted focus to guest satisfaction rather than occupancy, including property upgrades and capital investments. These facility investments, which often improve hotel appearance and attractiveness, have resulted in increased profits.[12]	Durable, abuse-resistant building materials help to keep hotels more inviting and make it easier and more cost efficient to maintain attractive indoor spaces.
Maintenance cost	Hotel owners recognize the need to maintain the appearance of their property. Even during economic difficulties, cost-cutting initiatives are trumped by the importance of hotel maintenance.[13]	Using building materials with improved impact and/or indentation resistance may decrease the time and money spent on maintaining unsightly holes or cracks on a wall surface.
Mitigation	Degradation of building materials can be attributed to moisture and mold, which may lead to costly mitigation, health risks and possible litigation.[14]	Durable building materials, such as gypsum wallboards that are moisture and mold resistant with excellent impact resistance, provide added protection against the threat of degradation due to moisture and mold.

11. Hotel News Now, 20 February 2012, "Keys to a Successful Hotel Lobby Redesign"
12. Hotel News Now, 21 March 2012, "Hotel Guest Satisfaction Scores Raise Stakes"
13. Floor Daily, 1 August 2006, "Hotel Maintenance Expenses Increasing"
14. National Institute of Building Sciences

Protect and shield.

AirRenew® Extreme Abuse and AirRenew® Extreme Impact Gypsum Boards provide increased protection and durability required for areas subjected to repeat wear and tear. Both products feature M2Tech® technology for enhanced moisture and mold resistance while actively absorbing VOCs, specifically formaldehyde.

AirRenew® Extreme Abuse

AirRenew® Extreme Impact

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- ✓ RECYCLED CONTENT MINIMUM POST-CONSUMER 1.9%, PRE-CONSUMER 90.5%
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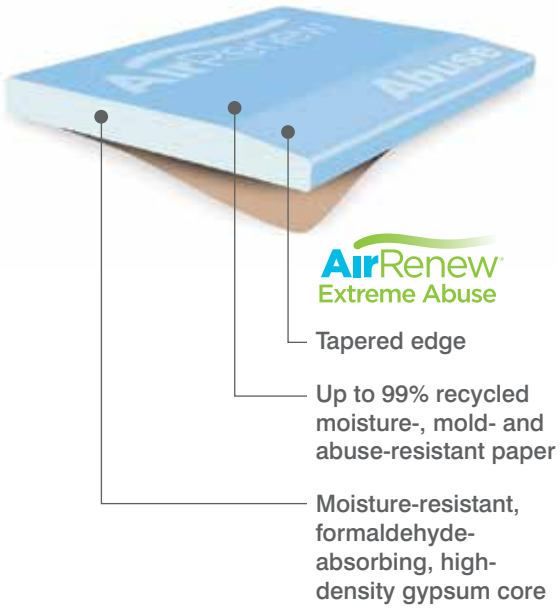
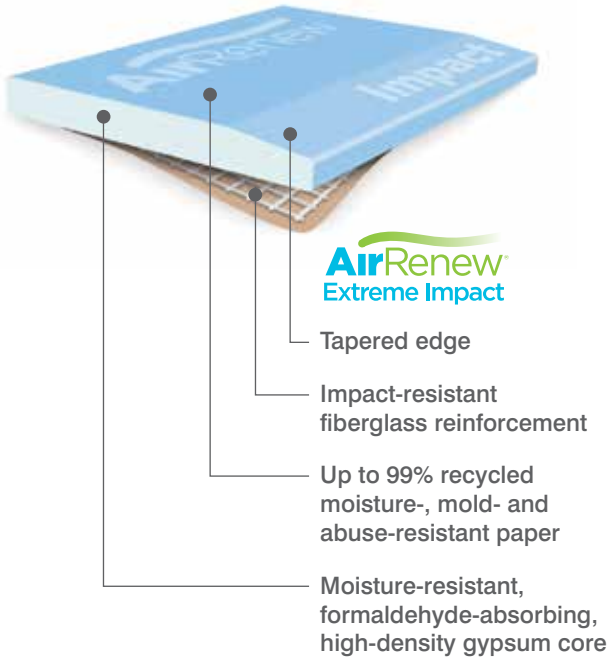
How they work

AirRenew® Extreme Abuse protects against surface abrasions, such as scratching and gouging of the wall faces caused by people or objects under heavy but normal use. Using an abuse-resistant board helps maintain aesthetics and reduces maintenance and replacement costs.



AirRenew® Extreme Impact protects against impacts that penetrate the wall surface and enter the wall cavity, causing damage such as holes or cracks. Impact-resistant board maintains aesthetics in high-traffic areas, reduces repair or replacement costs, and helps provide a safe environment for hotel visitors, guests and staff.



ASTM C1629	Surface Abrasion	Soft Body Impact	Hard Body Impact	Indentation Resistance
ASTM Test Method	**ASTM D4977** Tests resistance to scuffs and scratches: Board was subjected to abrasive back and forth motion of a wire brush for 50 cycles with 25-lb total load	**ASTM E695** Tests impact of heavy soft objects: 60-lbs of steel pellets in standard leather bag swung through an angular distance towards the board	**ASTM C1629 Annex A. 1** Tests resistance to hard objects into stud cavity: Board was struck with weighted steel ram with increasing weight added until board surface is penetrated	**ASTM D5420 Gardner Impact** Tests resistance to dents from small hard objects: 2-lb weight dropped onto hemispherical die on board from height of 36", striking with impact energy of 72 inch-pounds
AirRenew Extreme Abuse Classification Level*	3	2	1	1
AirRenew Extreme Impact Classification Level*	3	3	3	1

*The highest possible classification level is 3.

A sustainable place for comfort and relaxation while away from home.

Everything that goes into a building, from raw materials to the design of the structure, to the life cycle of every component, has an enormous impact on the well-being of people and the environment.

As the manufacturer of a complete portfolio of gypsum board and finishing products, we share the responsibility to help you make a sustainable difference when selecting gypsum products for hospitality facilities.

CertainTeed Gypsum Online Sustainability Tools

www.CertainTeed.com/Sustainable

ecoScorecard Sustainability Calculator

Architectural Specifications

Continuing Education Programs

Sustainable Products Brochures

Case Studies – Green Building Projects

LEED Contribution Data Sheets

BIM Objects and CAD Drawings

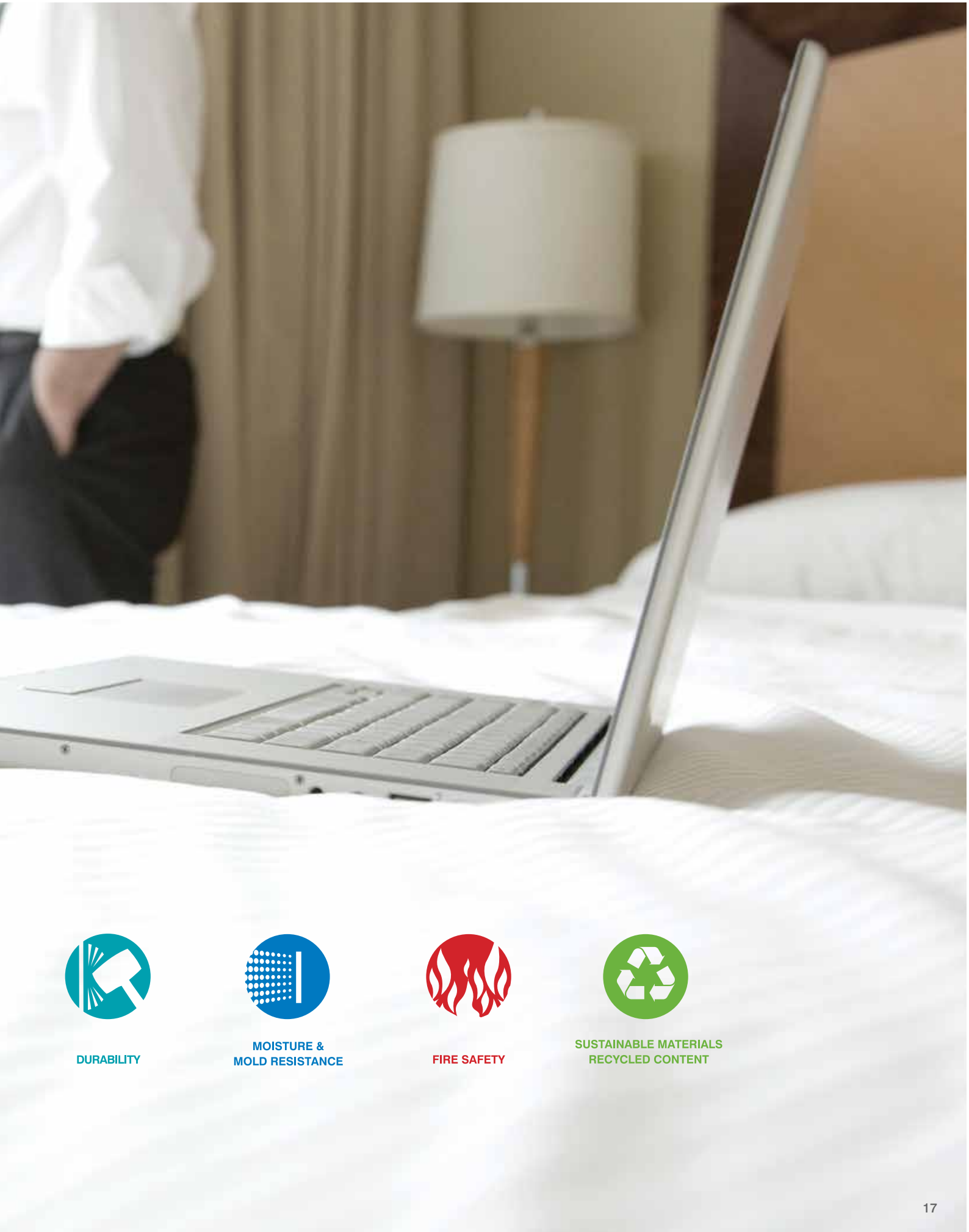
Sustainable Products and Systems Guide

Third-Party Certifications

Corporate Sustainability Report

ACOUSTICS

INDOOR AIR QUALITY



DURABILITY

MOISTURE &
MOLD RESISTANCE

FIRE SAFETY

SUSTAINABLE MATERIALS
RECYCLED CONTENT

Applications for CertainTeed Gypsum products in hospitality building design

Interior

1. **AirRenew® M2Tech®**
   Indoor Air Quality Gypsum Board
2. **AirRenew® Extreme Impact**
   Impact-Resistant Gypsum Board
2. **AirRenew® Extreme Abuse**
   Abuse-Resistant Gypsum Board
3. **SilentFX®**
   Noise-Reducing Gypsum Board
4. **M2Tech®**
   Moisture- and Mold-Resistant Gypsum Board
4. **Diamondback® Tile Backer**
   Glass Mat Gypsum Backer Board
5. **GlasRoc® Shaftliner***
   For Shaftwalls and Area Separation Fire Walls

   Easi-Lite®
   Lightweight Gypsum Board

Exterior

6. **GlasRoc® Sheathing***
   High-Performance Exterior Sheathing

   GlasRoc® Roof Board*
   High-Performance Roof Board

** The GlasRoc® family of products is paperless, glass-mat gypsum board.*

For additional product information and specifications, visit www.CertainTeed.com/Gypsum

Protection for good indoor air quality

AirRenew M2TECH

Protection from moisture and mold

Diamondback M2TECH

Protection in high-traffic spaces

AirRenew Extreme Abuse

AirRenew Extreme Impact

Protection from intrusive noise

silentFX

Protection from fire

GlasRoc Shaftliner

Protection right to the core

GlasRoc Sheathing

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SAINT-GOBAIN
Gypsum

CertainTeed Gypsum builds better hospitality environments.

silentFX®

SilentFx® noise-reducing acoustical gypsum board with M2Tech® for added moisture and mold resistance.

AirRenew® M2TECH®

AirRenew® M2Tech® formaldehyde-absorbing indoor air quality gypsum board with M2Tech® for added moisture and mold resistance.

AirRenew® Extreme Abuse AirRenew® Extreme Impact

AirRenew® Extreme Abuse and AirRenew® Extreme Impact provide added durability, with M2Tech® for added moisture and mold resistance.

M2TECH®

M2Tech® gypsum board is made with technology specially formulated for enhanced moisture and mold resistance.

Diamondback®

The GlasRoc® reinforced glass mat family of products includes Diamondback® Tile Backer for use in moisture-prone spaces.

GlasRoc®

GlasRoc® Sheathing, Shaftliner and Roof Board provide added moisture and mold resistance, fire resistance and durability. CertainTeed Type X and Type C gypsum boards are standard fire-resistant paper-faced products.

Easi-Lite®

Easi-Lite® lightweight interior gypsum board as well as other CertainTeed paper-faced gypsum boards are made of up to 99% recycled paper and are easily recycled after use.

[BeCertain]™ Confidence worth building on.®

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

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

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