

Sound made simple.

Superior noise-reduction solutions from the name you trust.
One more way we're Building Reputations Together.™

Reliable, cost-effective and convenient

Georgia-Pacific Gypsum simplifies sound.



There are certain products we've come to rely on in our ever-changing world. They do what they're supposed to: stand the test of time and help us succeed in staying ahead of the crowd.

That's why the concept of "sound" management, due to evolving regulations, market demands and population growth, has become a major construction consideration in the 21st century. And why acoustical consultants, architects, roofing consultants and contractors are turning to the name they trust: Georgia-Pacific Gypsum.

Georgia-Pacific Gypsum offers proven, cost-effective sound control solutions that are readily available and easy to install. Our tested systems include wall assemblies, roof assemblies and doors. All deliver the utmost effectiveness and value.

And they do something more.

They give us the opportunity to partner with you, project after project, to achieve the kind of long-term success that only comes by **Building Reputations Together™**.

Georgia-Pacific sound control solutions include wall assemblies, roof assemblies and acoustical door cores.

- **3/8" ToughRock® Mold-Guard™ Noise-Reduction Gypsum Boards** — 3/8" high density gypsum board with treated paper for moisture resistance in high humidity areas such as basements and kitchens.
- **3/8" DensArmor Plus® Noise-Reduction Interior Panels** — 3/8" high density fiberglass mat gypsum panels. Perfect for pre-rock installation and areas where moisture, humidity and potential mold growth are greater such as kitchens, bathrooms and laundry rooms.
- **DensDeck® Roof Boards** — Reduce sound levels of metal deck roofing systems by more than half as part of a complete roofing assembly.
- **FireDefender® Acoustical Door Core System** — Delivers high STC ratings for both wood and steel doors.



Sound made sensible. By using Georgia-Pacific Gypsum noise-reducing products and systems, buildings near airports, noisy intersections and other loud locations can reduce the sound that enters a building through the roof by more than half.

Working together to deliver exceptional results in high-density buildings, healthcare facilities, buildings near airports, hotels and schools.

Sound control in high-density buildings is a growing concern for many reasons. Recent federal regulations, for example, require that healthcare facilities protect patient information, which includes controlling the privacy of conversations. Airports are continuing to expand, flight paths are changing, and noise management has become regulation. The hospitality industry is competing fiercely for customer loyalty, and people moving into condo and apartment complexes are demanding quieter living environments.

In so many ways, Georgia-Pacific Gypsum has responded. Just as we've helped customers build reputations for the past 45 years through our innovative, award-winning gypsum solutions, we're now leading the way when it comes to gypsum solutions for sound.

**The science of airborne sound:
scattering + absorption = quiet enjoyment.**

Sound moves in waves. The waves can pass through materials or they can be scattered and absorbed (called attenuation) by the materials to varying degrees. The affects of different materials on different sound waves is complex yet the concept is simple: the components that make up your walls, roofs and doors — and how they are installed — are critical if you want to stop sound waves from interfering with privacy and comfort inside buildings.

Georgia-Pacific Gypsum in a noise-reducing wall assembly scatters and absorbs sound waves significantly. They earn Sound Transmission Class (STC) ratings that meet or exceed stringent code requirements, with ratings as high as 64. An STC rating of 50 or above is considered "excellent" because it provides acoustical comfort for nearly all individuals.

How much sound do you need to stop for your noise-reducing system to be successful? It depends on your project and the noise to be controlled. The human ear is very sensitive and a difference of as little as five decibels is noticeable, so whether it's a conversation in the next room or a jet engine above, incremental improvements can make significant differences.

Walls

Georgia-Pacific Gypsum layered wall assemblies outperform other noise-reducing technologies, including laminated products.

Georgia-Pacific Gypsum assemblies for walls consist of a double layer of lightweight, cost-efficient noise-reducing panels. By layering two identical panels — either two **3/8" ToughRock® Mold-Guard™ Noise-Reduction Gypsum Boards** or two **3/8" DensArmor Plus® Noise-Reduction Interior Panels** — sound transmission is significantly reduced and noise-sensitive projects can meet high acoustical standards. (See Technical Brochure for other combinations #622673).

The double layer of Georgia-Pacific Gypsum panels in a completed assembly deliver higher sound attenuation performance, earning **STC ratings as high as 64**. In STC testing conducted by Architectural Testing and Riverbank Acoustical Laboratories (RAL), walls assembled with a double layer of panels performed better than those with a laminated, single-panel layer.

In addition, other sound-control technologies — such as facing type (glass or paper), joint placement (aligned or staggered) and adhesive use (any type) — had little or no affect on STC performance during RAL's testing. Investing in these ineffective techniques adds time and expense to a project without adding value.

And while "laminated" products consisting of two boards sandwiched together by a viscoelastic polymer have been used extensively for noise reduction in the past, they do not outperform the new Georgia-Pacific Gypsum noise-reduction assemblies. Our system is lighter and costs approximately 20% less than installing laminated products in a wall assembly.

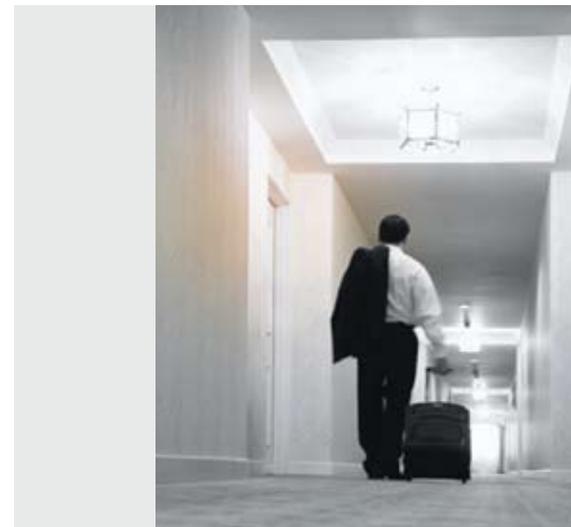
Lightweight and easy to install, our sound solutions for walls provide project benefits for our customers that go far beyond sound control.

Georgia-Pacific Gypsum noise-reducing wall assemblies are:

- Lightweight, yet provide greater mass for greater sound absorption
- Easy to work with and maneuver
- Readily available
- Cost effective because they're more economical to manufacture than competing brands
- Designed for direct attachment to wood framing, metal framing and existing surfaces using screws or nails
- Simple to install — no special training required
- Effective without the labor and expense of additional acoustical treatments, such as wall fabrics or sound blankets.

Meet sound-control requirements in these high-density buildings and others:

Airports, hospitals, healthcare facilities, doctors' offices, townhomes, buildings around or near airports, hotels and resorts, municipal buildings, including libraries and courthouses, schools, dorms and classrooms, day care centers, nursing homes, condos and apartment buildings.



Sound made secluded. When it's time to get away from it all, hospitality projects that use Georgia-Pacific Gypsum noise-reduction assemblies and products help guests enjoy the peace and tranquility they want while on business or vacation.

Significantly reduce unwanted noise from:

Outdoor sources: Airplanes, traffic, construction equipment, garbage collection, delivery trucks, car alarms, motorcycles, sirens, loudspeakers, leaf blowers, compressors and other loud machinery and vehicles.

Indoor sources: Home and office appliances, HVAC systems, elevators, plumbing, stereos, televisions, musical instruments, medical equipment, barking dogs, telephones, office machines, fans, conversations, footsteps and other noises from co-workers and neighbors.



Sound made simple. Georgia-Pacific is the brand architects, roofing consultants and contractors have relied on for high-quality products, long-term value and principled integrity for more than 45 years.

Roofs

Georgia-Pacific Gypsum roof assemblies can isolate even the most blaring noises without having to remove or dispose of the old roof.

Georgia-Pacific Gypsum worked with customers for nearly a decade to develop sound-isolating roof assemblies that address problems caused by one of the loudest possible noise source: airplanes taking off and landing. The result is an exceptional assembly that reduces sound levels transmitted through roofs by more than half when compared to typical metal deck roofing systems.

The Georgia-Pacific Gypsum assembly incorporates **DensDeck® Roof Board** earned an **STC rating of 54** from Architectural Testing, Inc. (ATI) in York, PA. This rating is an 11dB (decibel) improvement over the STC rating of 43 that was received by a typical metal deck roofing system, meaning this type of assembly can achieve very strict requirements, including the LEED® requirement for Schools, which is currently an STC rating of at least 50.

Unlike competing solutions, our roof assembly is simple, versatile and durable. It includes three components: a high-mass layer of 5/8" DensDeck® Roof Board, a mineral fiber board and a roofing membrane. Equally effective in new construction and in retrofits, its unique construction withstands delamination, deterioration, warping and job-site damage much more effectively than paper-faced gypsum board and other conventional roofing products like wood fiberboard and perlite.

With billions of square feet installed, DensDeck® Roof Board is meeting and exceeding customer requirements for sound reduction while providing other improvements, too.

In addition to significantly reducing sound levels inside buildings, the Georgia-Pacific Gypsum sound isolation roofing assembly:

- Stiffens and stabilizes roof decks
- Minimizes damage from hail, foot traffic and high wind events
- Allows moisture to travel to the roof edges rather than accumulate
- Is lightweight and installs easily
- Allows for added R-value by using foam insulation, which can also dramatically improve energy efficiency.

Doors

Georgia-Pacific Gypsum's acoustical door systems significantly reduce sound transmission while also providing fire protection.

Doors make up an important part of a building's overall ability to control sound but can be the weak link in an otherwise effective noise-reducing plan. Sound waves can be transmitted through the doors themselves, in the same way they travel through walls and roofs, and can travel between clearances and gaps around doors.

The Georgia-Pacific Gypsum **FireDefender® Acoustical Door Core System** for wood doors helps block unwanted noise. It's made of a three-ply acoustical mineral core (which provides the sound-deadening mass) plus edge-banding components. While hollow-core doors have STC ratings of 20-25 that allow even quiet speech to be heard on the other side, our system earned **STC ratings of 32-40** for doors with and without a light kit as tested by Architectural Testing and Riverbank Acoustical Laboratories (RAL). These ratings are also considerably higher than standard solid core doors.

On top of the high STC ratings, our acoustical door core system provides impressive fire ratings — an important value-added benefit for customers and end-users. They received a 90-minute fire rating (ULIOC) and have been core tested for a temperature rise of 250 degrees at Warnock Hersey (WHI).

Georgia-Pacific Sustainability Efforts

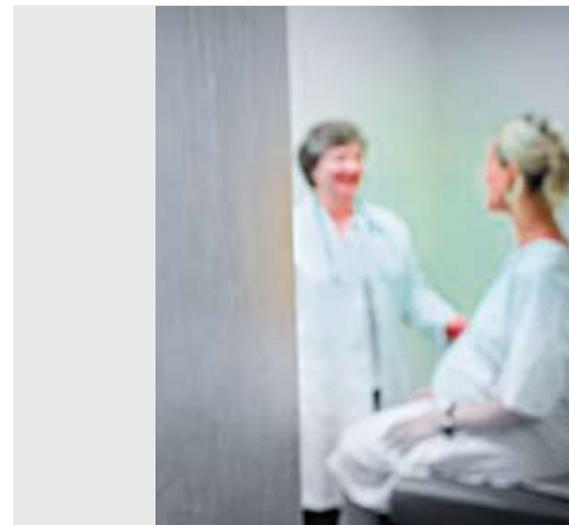
Georgia-Pacific Gypsum has a long history of concern for all environments, indoors and out.

- Georgia-Pacific Gypsum supports sustainable production of gypsum wallboard by using reclaimed gypsum, recycled plant waste, recycled paper and clean fuels. We recycle enough wallboard annually to build over 50,000 homes.
- Manufacturing all of our finished gypsum products takes place at plants in the U.S. and Canada.
- Our noise-reducing wall assembly products are GREENGUARD Indoor Air Quality Certified® and GREENGUARD Children & SchoolsSM Certified for low emissions of Volatile Organic Compounds (VOCs).
- Georgia-Pacific Gypsum is a committed member of the U.S. Green Building Council.
- Some of our products may contribute to Leadership in Energy and Environmental Design (LEED®) credits in categories MR4 and MR5.

Building Reputations Together™ for superior noise reduction has never been simpler.

When it comes to your reputation and success, we understand results matter, and so do practicality and the bottom line.

For decades, Georgia-Pacific Gypsum has been responding to the changing needs of our customers by developing innovative building products that meet exacting standards. Today, as sound plays a more critical role in successful projects, our products and assemblies solve even the most challenging noise-control problems without costly or complicated processes to slow you down during the construction process. You get the solutions you need, the peace of mind you want and the long-term benefits of Building Reputations Together.™



Sound made secure. Helps keep conversations confidential and patient information private by using Georgia-Pacific Gypsum assemblies and products that control sound.

TRADEMARKS –

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WARRANTIES, REMEDIES AND TERMS OF SALE –

For current warranty information for each product, please go to www.gpgypsum.com and select the product for warranty information. All sales of these products by Georgia-Pacific are subject to our Terms of Sale available at www.gpgypsum.com.

UPDATES AND CURRENT INFORMATION –

The information in this document may change without notice. Visit our website at www.gpgypsum.com for updates and current information.

CAUTION: For product fire, safety and use information, go to gp.com/safetyinfo or call 1-800-225-6119.

HANDLING AND USE –

CAUTION: These products contain fiberglass or fiberglass facings which may cause skin irritation. Dust and fibers produced during the handling and installation of the product may cause skin, eye and respiratory tract irritation. Avoid breathing dust and minimize contact with skin and eyes. Wear long sleeve shirts, long pants and eye protection. Always maintain adequate ventilation. Use a dust mask or NIOSH/MSHA approved respirator as appropriate in dusty or poorly ventilated areas. For additional product fire, safety and use information go to www.gp.com/safetyinfo or call 1-800-225-6119.

FIRE SAFETY CAUTION –

Passing a fire test in a controlled laboratory setting and/or certifying or labeling a product as having a one-hour, two-hour, or any other fire resistance or protection rating and, therefore, as acceptable for use in certain

fire rated assemblies/systems, does not mean that either a particular assembly/system incorporating the product, or any given piece of the product itself, will necessarily provide one-hour fire resistance, two-hour fire resistance, or any other specified fire resistance or protection in an actual fire. In the event of an actual fire, you should immediately take any and all actions necessary for your safety and the safety of others without regard for any fire rating of any product or assembly/system.



Georgia-Pacific
Gypsum

U.S.A. Georgia-Pacific Gypsum LLC
CANADA Georgia-Pacific Canada LP

SALES INFORMATION AND ORDER PLACEMENT

U.S.A. Midwest: **1-800-876-4746** West: **1-800-824-7503**
South: **1-800-327-2344** Northeast: **1-800-947-4497**

CANADA Canada Toll Free: **1-800-387-6823**
Quebec Toll Free: **1-800-361-0486**

TECHNICAL HOTLINE U.S.A. and Canada: **1-800-225-6119**



Some of our products have been certified by Scientific Certification Systems (SCS). SCS is an internationally recognized third-party evaluation, testing and certification organization. Its program spans a wide cross-section of the economy, including manufacturing and retailing, consumer products, the energy industry, and the home improvement and construction sectors. For details on specific Georgia-Pacific Gypsum products and plants, please contact our Technical Hotline at 1-800-225-6119.

www.gpgypsum.com