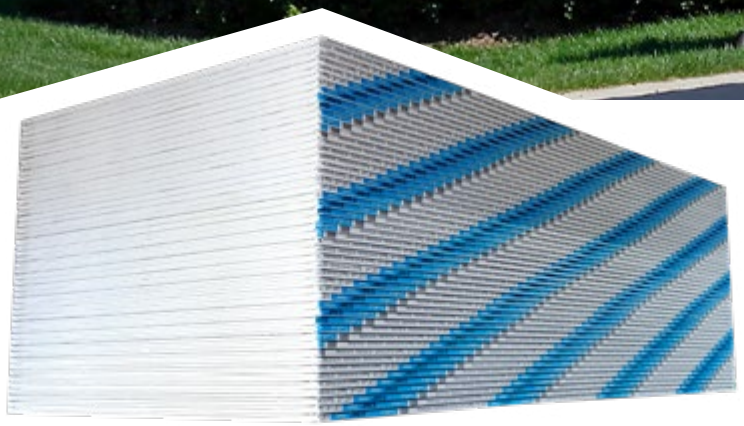
# Home Quiet® Home

## *Residential Sound Control*



QuietRock®

*sound reducing drywall*

by PABCO® Gypsum

## ACOUSTICS AT HOME

Sound has quickly become a priority in the interior environment as homes increasingly become multi-functional spaces. When building a custom home, a high quality acoustic experience is a must.

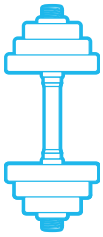
## WHY SOUND CONTROL?

When working from home, noise from other parts of the house can be disruptive resulting in decreased productivity. Likewise, when homeowners are watching a movie in their state-of-the-art home theater, they may want to isolate the sound from transferring to other areas of the house. Sound isolation is simply reducing the amount of sound transmitting from one room to another—from a family room to an adjacent home office or bedroom for example.

In addition to the interior, noise can also be a factor outside of the home. Better windows and doors, acoustic glazing and insulation can all contribute to reducing exterior noise entering the home.

# IMPROVING SOUND ISOLATION IN HOMES

There are several ways to improve sound isolation in homes. These can be grouped into four categories: absorption, mass, decoupling, and damping. The chart below describes each method, its sound control performance and other considerations. The sound control performance is based on third party testing of common sound isolation techniques for the home. See the results on page 6 of this brochure.

| Method | Performance | Considerations |
|---|---|---|
|  **Absorption** Adding insulation to wall cavity, such as fiberglass or mineral wool insulation | Minimal improvement in sound isolation for both fiberglass and mineral wool insulation | • Absorption primarily affects sound within a room rather than the transfer of sound into another room<br>• Demolition required for remodels |
|  **Mass** Adding more gypsum panels to increase overall mass of wall system | Minimal improvement in sound isolation | • Increased project time<br>• More products to purchase, haul, and install<br>• Thicker walls means less floor space<br>• Requires build out of doors, windows, and trim |
|  **Decoupling** Acoustically isolating drywall from wall framing by adding fiberboard as a base layer—a common decoupling treatment for homes | Higher sound isolation performance than mass and absorption but not as good as damping | • Increased project time<br>• More products to purchase, haul, and install<br>• Thicker walls mean less floor space<br>• Difficult to install, prone to installation errors<br>• High rate of short circuiting (failure)<br>• Demolition required for remodels |
|  **Damping** Minimizing sound vibration through walls using multi-layer composite panels made of gypsum wallboard and viscoelastic polymers | Highest sound isolation performance | • Easy installation—installs and finishes like regular drywall<br>• Lower installed cost than other methods<br>• Saves floor space with one panel of drywall<br>• Ideal for remodels-installs over existing walls with no demolition |

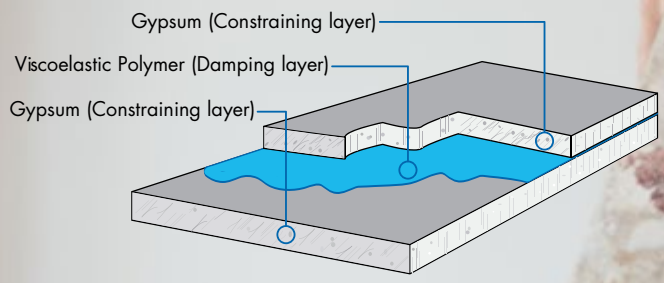
## QUIETROCK® BY PABCO® GYPSUM

QuietRock is the first and most technically advanced sound reducing drywall in the industry. It uses constrained layer damped (CLD) technology to reduce the noise transmitting from room to room. It is a multi-layer composite panel made up of gypsum wallboard laminated with a viscoelastic polymer.

QuietRock sound reducing drywall can be used for new construction as well as remodels for single and multifamily homes. Ideal for retrofit projects, QuietRock can be installed directly to the existing drywall—no demolition required. Installation is easy as it installs and finishes just like regular drywall.

## HOW QUIETROCK WORKS

Standard drywall by itself is rigid, allowing more sound to pass through the wall. Adding a viscoelastic polymer layer allows the drywall layers to flex resulting in less sound being transferred to the next room.



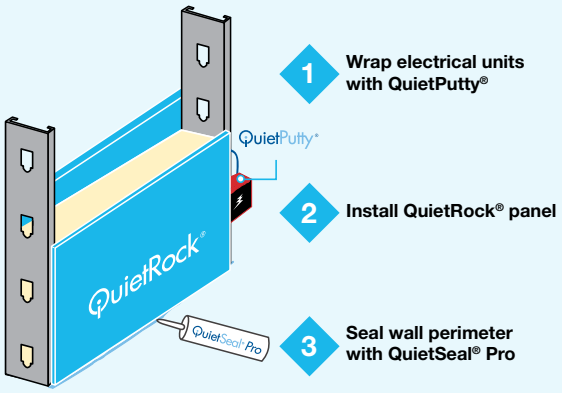

*Cross section of a QuietRock CLD panel.*

## INSTALLATION TIPS

When installing QuietRock, be sure to use QuietSeal® Pro and QuietPutty® to maximize and maintain the acoustic performance of your wall.

- QuietSeal Pro should be used around the perimeters of the wall to prevent noise leaks in your assembly.
- QuietPutty should be used on electrical outlet boxes, rocker switches, HVAC ducts, water hookups, cable systems or any other penetrations in the wall.

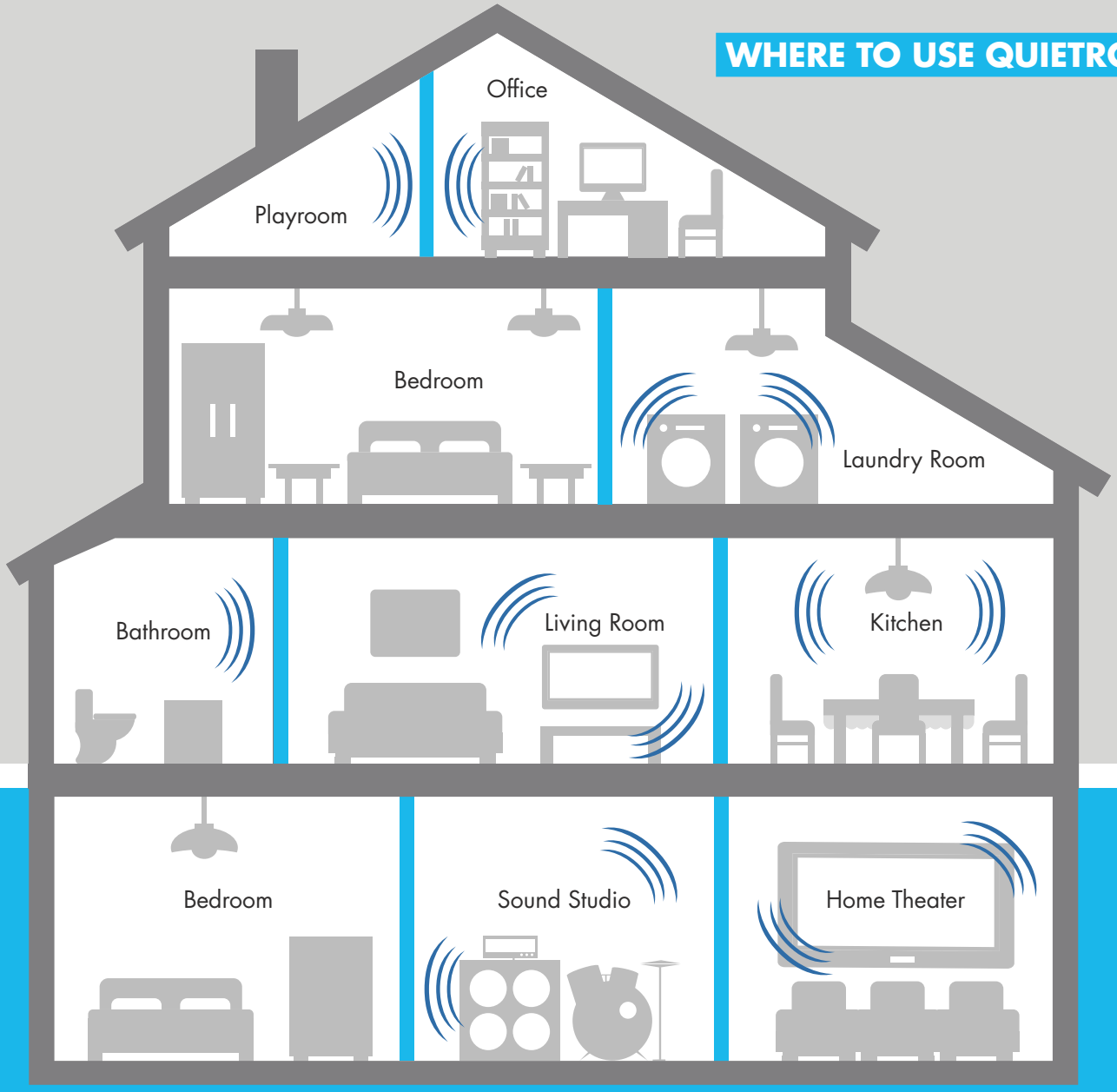
### The Quiet® Sound Damping System in 3 easy steps:






PABCO Gypsum

# WHERE TO USE QUIETROCK




## Laundry Room

Washing machines and dryers can be disruptive. If the baby is taking a nap or company is over, sound reducing drywall can help minimize the noise distraction.

## Bedrooms

The bedroom should be a sanctuary-a place to enjoy a restful night's sleep. Noise from the laundry room or home theater can be disturbing. Sound reducing drywall will help minimize noise coming from other areas of your home.

## Home Office

When working from home, noise from other areas in the house such as the family room can be disruptive. Sound reducing drywall will provide a quieter, office space for increased privacy and productivity.

## Home Theater/ Sound Studio

Media rooms whether home theaters or sound studios are popular amenities in custom homes. Crank up the volume without disturbing the rest of the house. Sound reducing drywall comes in handy here.

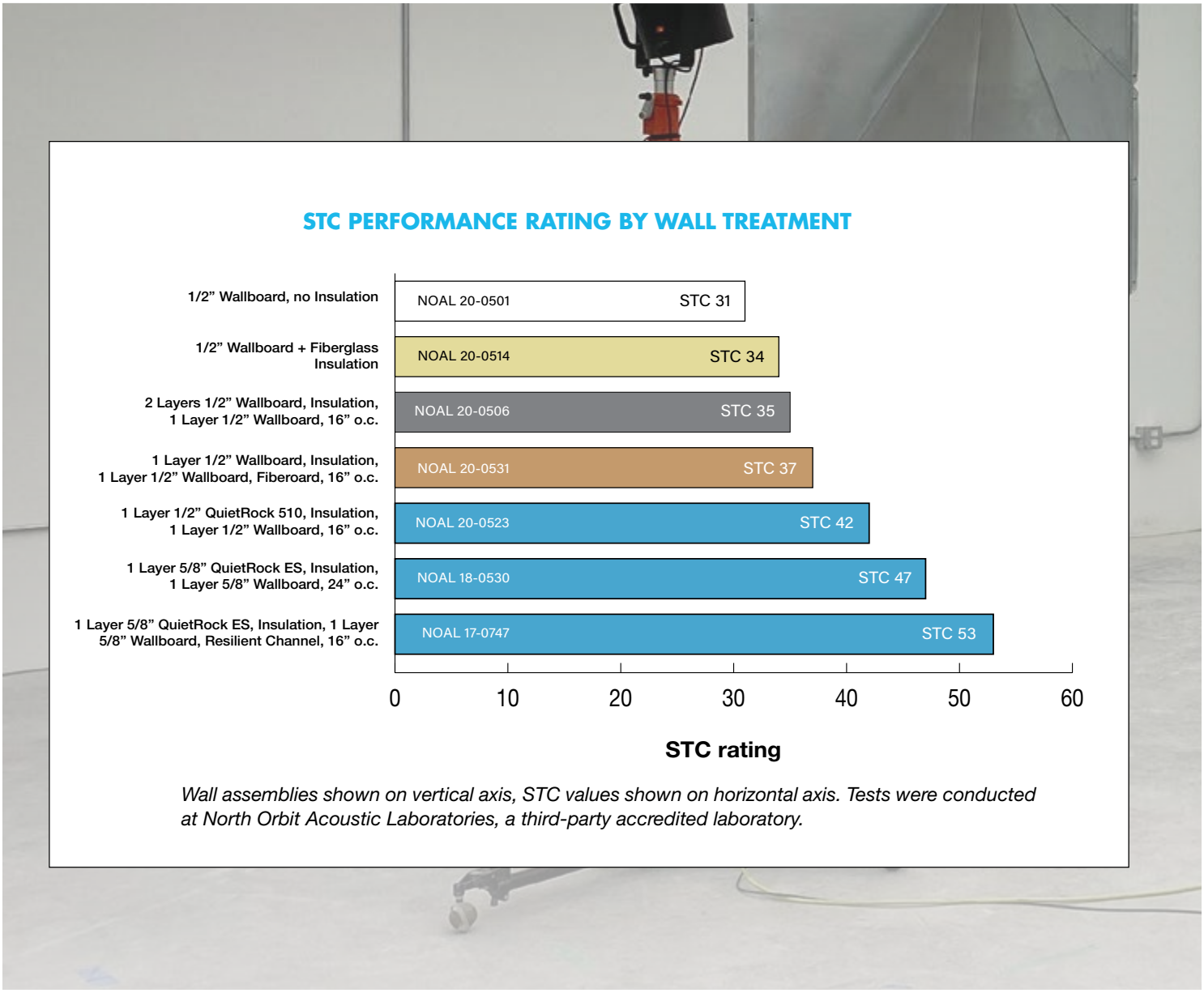
## LABORATORY TESTS PERFORMED

PABCO Gypsum regularly conducts research studies to evaluate varying framing and panel configurations and their effects on sound control. Sound Transmission Class (STC) is currently the most widely known metric for measuring sound isolation in buildings in North America. The STC rating is calculated from Sound Transmission Loss measurements that are conducted at third-party accredited laboratories.

Another common sound control measurement in the home is Impact Insulation Class (IIC). The IIC acoustical rating is used to quantify sound absorption and vibration isolation for floor and ceiling assemblies. A higher IIC means more impact sound has been blocked. For purposes of this brochure, we are focusing only on STC results.

## TEST RESULTS

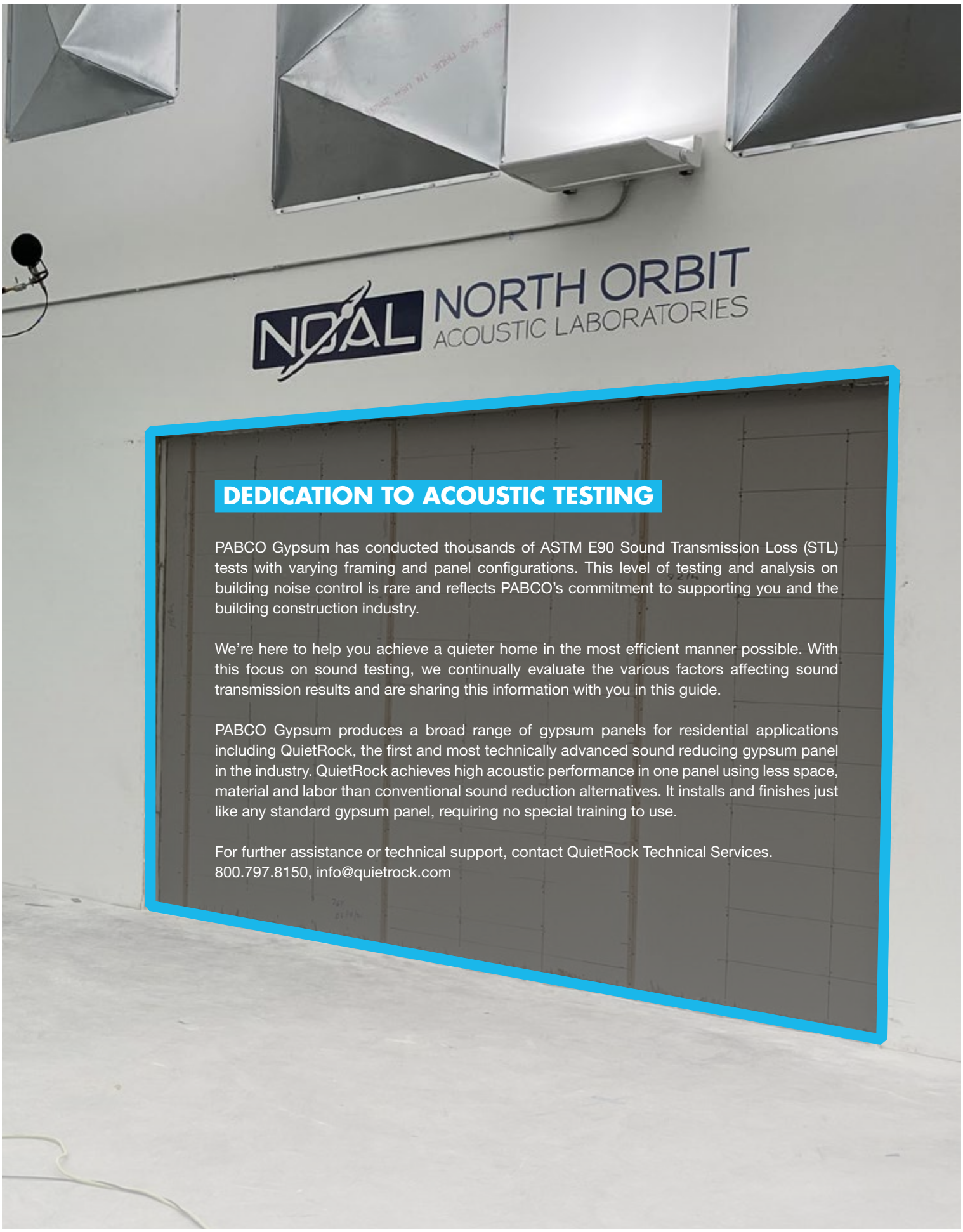
The STC results are shown below for different wall treatments. The chart shows a comparison of traditional wall construction methods vs. best practices for reducing noise in the home. You will see an improvement in STC results as various components in the wall assembly are modified.



### STC PERFORMANCE RATING BY WALL TREATMENT




*Wall assemblies shown on vertical axis, STC values shown on horizontal axis. Tests were conducted at North Orbit Acoustic Laboratories, a third-party accredited laboratory.*




## DEDICATION TO ACOUSTIC TESTING

PABCO Gypsum has conducted thousands of ASTM E90 Sound Transmission Loss (STL) tests with varying framing and panel configurations. This level of testing and analysis on building noise control is rare and reflects PABCO's commitment to supporting you and the building construction industry.

We're here to help you achieve a quieter home in the most efficient manner possible. With this focus on sound testing, we continually evaluate the various factors affecting sound transmission results and are sharing this information with you in this guide.

PABCO Gypsum produces a broad range of gypsum panels for residential applications including QuietRock, the first and most technically advanced sound reducing gypsum panel in the industry. QuietRock achieves high acoustic performance in one panel using less space, material and labor than conventional sound reduction alternatives. It installs and finishes just like any standard gypsum panel, requiring no special training to use.

For further assistance or technical support, contact QuietRock Technical Services.
800.797.8150, info@quietrock.com

QuietRock®
by PABCO Gypsum

QuietRock.com
800.797.8159
info@quietrock.com



QuietRock® 37851 Cherry Street Newark, CA 94560 United States | 800.797.8159 | www.QuietRock.com | PN: 102-00036B-022924