

**Project**  
Santa Clara Square

**Location**  
Santa Clara, CA

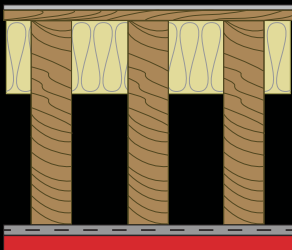
**Architect**  
Irvine Architectural Group

**General Contractor**  
Western National Group

**Acoustical Consultant**  
Veneklasen Associates

**Products**  
3/4" SOUND CURB®  
5/8" FLAME CURB®  
5/8" MOLD CURB® Plus  
1" PABCO GLASS® Shaffliner

### Solution Assembly Details



- Flooring System
- Mineral wool insulation
- 2" x 10" Wood Joists 16" o.c.
- Resilliant channel
- 3/4" SOUND CURB®



## A Sound Approach

Santa Clara Square is focused on providing best in class environment for tenants with sound control a key objective

### Project Summary

Santa Clara Square is an expansive mixed-use community with 1,847 high-end apartments spread over seven buildings. As a signature project for the drywall subcontractor, the goal was to work with their partners, Western National Group, the general contractor and The Irvine Company, the project owner, to provide the best product available on the market to tenants. For Irvine, achieving a higher standard in sound control was key.

### About Santa Clara Square

Santa Clara Square, located in Santa Clara, CA, combines innovative office space, vibrant dining and shopping and modernized living all in one integrated community. Winner of Silicon Valley's Milestone Project of the Year Award, Santa Clara Square combines the best elements of a lively cultural center and a sophisticated technology hub – creating a forward-thinking community unlike anywhere else.

### The Challenge

The focus was on providing units that were as quiet as possible for the wood-framed building structures, according to Jeff Troy, Vice President, Quality Assurance, Irvine Company Apartment Development. To accomplish this, the company put together higher acoustic standards for walls and floor/ceiling construction than agencies and other builders require.

The following were the goals set forth for the project:

- **Airborne Noise:** Normalized Noise Isolation Class (NNIC) performance of 58<sup>1</sup>, a similar measurement as STC but in a field setting
- **Structure-borne Noise:** Normalized Impact Sound Rating (NISR) of 58<sup>2</sup> with a Low Frequency Impact Sound Rating (LIR) of 50 and a Normalized High Frequency Impact Sound Rating (NIHR) of 65<sup>3</sup>

**"Not hearing your neighbor walking back and forth above or playing a guitar was key for us. We've had no resident complaints and the project team we worked with had a lot to do it with it. John Loverde of Veneklasen, the GC, drywall contractor, and PABCO® all contributed to our success."**

*– Jeff Troy, Vice President, Quality Assurance, Irvine Company Apartment Development*





View of a kitchen inside Santa Clara Square Apartment.



Drywall subcontractor installs 3/4" SOUND CURB on ceiling.

[Check out Santa Clara Square](#)

[Learn more about SOUND CURB®](#)

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to consult with us on your next project.

## The Solution

Working with the acoustical consulting firm Veneklasen Associates, they were looking for building solutions that would achieve these higher performance requirements.

John LoVerde, FASA, Principal, Veneklasen selected PABCO® Gypsum's SOUND CURB® for the floor/ceiling solution. The 3/4" thick gypsum panel was used on all floor/ceiling assemblies where there are hard floors typically in the kitchen and main living area in addition to the amenity spaces next to the units.

Along with SOUND CURB®, 5/8" FLAME CURB® Type X and Type C as well as 5/8" MOLD CURB® Plus and PABCO GLASS® Shaftliner were used on the project. According to the drywall subcontractor, about 85% of the total 10 million square feet of drywall used for Santa Clara Square was PABCO® wallboard.

"What makes working with PABCO® so convenient is the fact that it is readily available and one of the most commonly called out products in the fire-tested assemblies we work with, and it always finishes well," according to the drywall contractor. "PABCO also has a great team behind them that is always ready and willing to help support us if we need it."

Beyond the building materials used, a Quality Assurance program was put into place to ensure that the acoustic results desired were achieved. The project team held pre-construction meetings before every new building and phase began explaining the expectations. Once the project was started, the QA team was on the job everyday watching the execution. In addition, Veneklasen wanted to make sure that there were no conflicts between fire and sound so conducted 250 tests on the walls and floors to confirm the acoustical performance required.

## The Results

As a result of the QA program and working closely with Veneklasen on testing, the project has been very successful according to Troy. "We were very satisfied with the acoustic results we achieved which are better than most in the industry," he said.

In fact, the results achieved were higher than originally expected for three out of the four goals, according to LoVerde. See chart below.

## Acoustic Performance Results

Performance Measure	Goal	Result
NNIC	58	59
NISR	58	60
LIR	50	48
NHIR	65	68

What is most important however is tenant comfort and satisfaction. "Not hearing your neighbor walking back and forth above or playing a guitar was key for us," Troy said. "We've had no resident complaints and the project team we worked with had a lot to do it with it. John Loverde of Veneklasen, the GC, drywall contractor, and PABCO® all contributed to our success."

1. Tested in accordance with ASTM Standard E336-20 Standard Test Method for Measurement of Airborne Sound Attenuation Between Rooms in Buildings
2. Tested in accordance with ASTM Standard E1007-19 Standard Test Method for Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures
3. NHIR in accordance with ASTM Standard E3222-20 Standard Classification for Determination of High-frequency Impact Sound Ratings