

**TROY  
ACOUSTICS**  
SERIOUS. ACOUSTIC. SOLUTIONS.



Offering Shooting Range Acoustic Solutions Worldwide.

**TROY ACOUSTICS CORPORATION** 2580 Sidney Lanier Drive Brunswick, GA 31525 [www.troyacoustics.com](http://www.troyacoustics.com) 818-376-8490 or toll free 800-987-3306

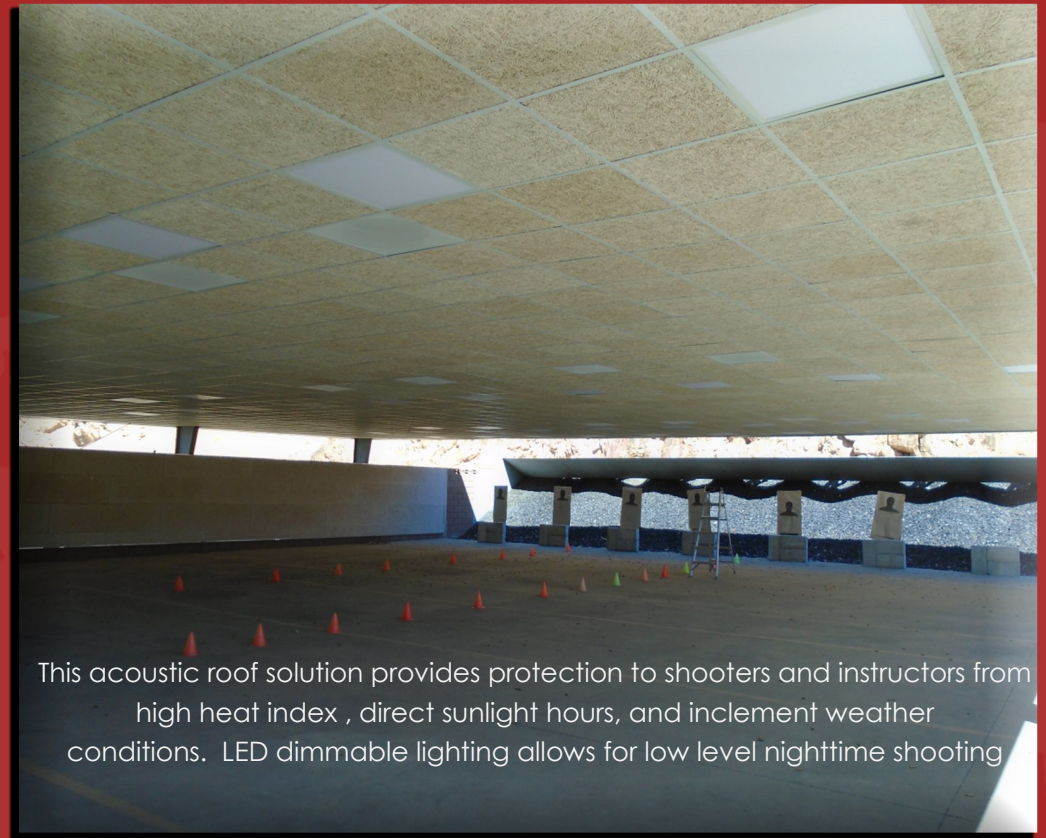


## Acoustic Roof

### TROY ENGINEERED DESIGNS:

- Meets OSHA CFR29 Noise exposure limits
- Meets your local noise ordinance
- Offers major cost reductions compared to building and indoor range
- Offers year-round training under protective cover
- Protects you from satellite and drone surveillance
- Clears smoke out quickly with exhaust system
- Allows entry of vehicles from multiple directions
- Can be installed over your existing outdoor range

***“The acoustic roof design allows us to use our tax dollars wisely and meet the city’s requirement to reduce the noise 10 dB or half the noise level at our existing outdoor range...200’ away”***



This acoustic roof solution provides protection to shooters and instructors from high heat index, direct sunlight hours, and inclement weather conditions. LED dimmable lighting allows for low level nighttime shooting



This basic design can be modified to accommodate different range sizes as well as ballistic containment. Note: some sites may require sidewalls.

## Acoustic Roof

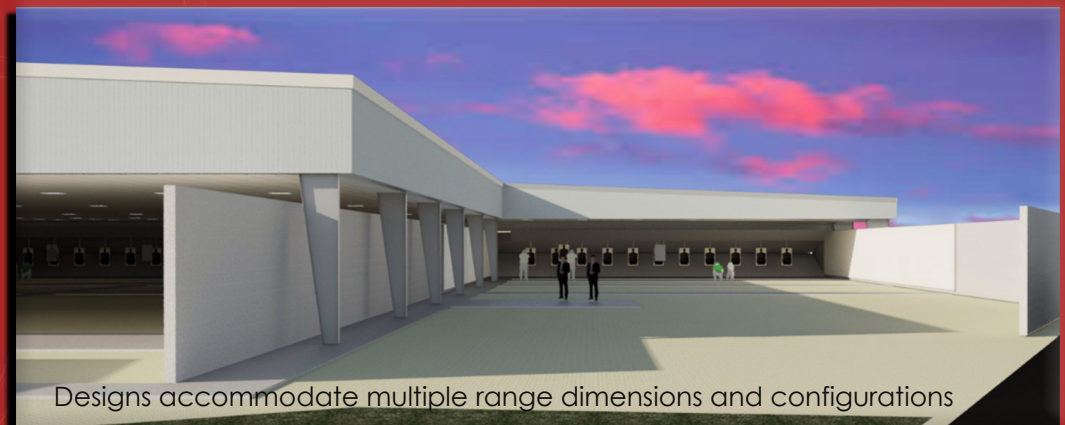
### FLEXIBLE DESIGN OFFERS COMBINATION INDOOR/OUTDOOR RANGES

Designs are limited to the shooting range only. The Troy team will work with your architect or general contractor to incorporate this turn-key range into your overall design.

### OPTIONAL FEATURES

- LED dimmable lighting to meet your training needs
- Freestanding sidewalls, rear wall, In order to achieve the required dBA required by your noise ordinance acoustic side walls may need to be considered .
- Ballistic containment incorporated in roof design for SDZ and VDZ
- Range equipment of your choice (existing or new)
- Custom paint on ceiling or sidewalls
- Pre and post sound testing may be required.

Note: this system strictly includes shooting range components. ADA compliant bathrooms, classrooms, gun cleaning rooms are not included in this design. All permitting , civil work, environmental studies, soil studies are the responsibility of the general contractor or end user. The Troy Team will provide you with a written specification and coordinate with your design team.



## Acoustic Shooting Stalls

Outdoor ranges present many challenges.

Acoustic Stalls offer a cost-effective alternative to an acoustic roof for fixed firing line shooting whether it is a 25-yard range or 1000 yard range. The custom designed stalls are typically a minimum of 24' deep and consists of anywhere from one stall to multiple stalls the full width of your range. Noise reductions of 10dB have been recorded nominally 200' from the stall; or half the noise reduction.

### OPTIONAL FEATURES

- Lighting
- AR Steel lining if requested or required
- Acoustic Ballistic Eyebrow baffle to reduce VDZ (Vertical Danger Zone)
- Acoustical ballistic sidewalls may be required

*Reduces the noise level 10 dB or half the noise level when firing 5.56 and 7.62 rounds\**

*\*conditions will vary dependent upon other hardscape surfaces*

## Fixed Point Shooting

*This is an ideal solution for fixed point shooting; can be modified with eyebrow*



*Shown with eyebrow baffle*

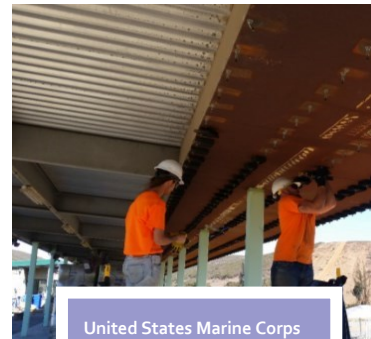
## Acoustic Custom Canopies

Whether you have an existing canopy, or looking to build an outdoor range with canopies and sidewalls only, Troy Acoustics offers solutions that will result in much less noise to the shooter and the neighbors. More comprehensive designs may be required to meet your local noise ordinance.

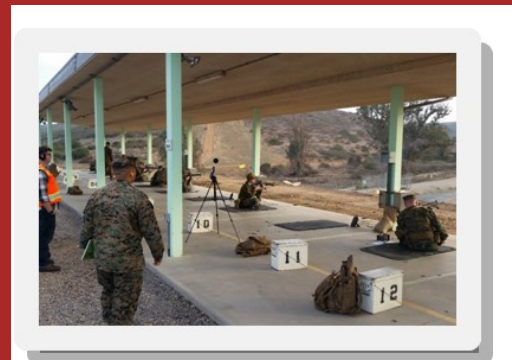
### OPTIONAL FEATURES

- LED dimmable lighting
- AR Steel lining if requested or required
- Acoustic Ballistic Eyebrow baffle to reduce VDZ (Vertical Danger Zone)

*USMC installation: "Ultimately, the acoustical conditions at the firing range were improved. Significant improvement was reported after removing existing outdoor canopy baffling and installing acoustic insulation materials and TROY® Board panels to address firing range noise. Post-abatement acoustic testing after installing the TROY® Board panels at Rifle Range 100 also lowered the average sound pressure levels (3-6 dB for single shot, 3-6 dB for multiple shots)." USMC press release for existing canopy as shown*



*USMC canopy resulted in 3-6 dB reduction for multiple shots*

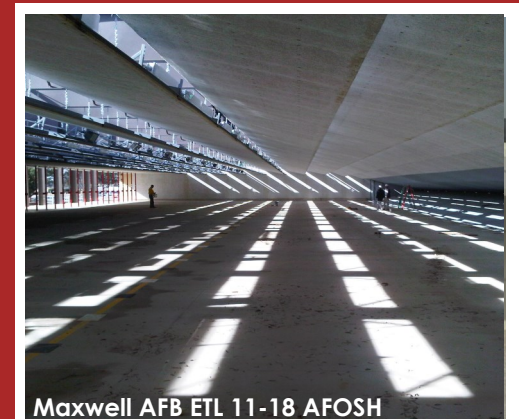
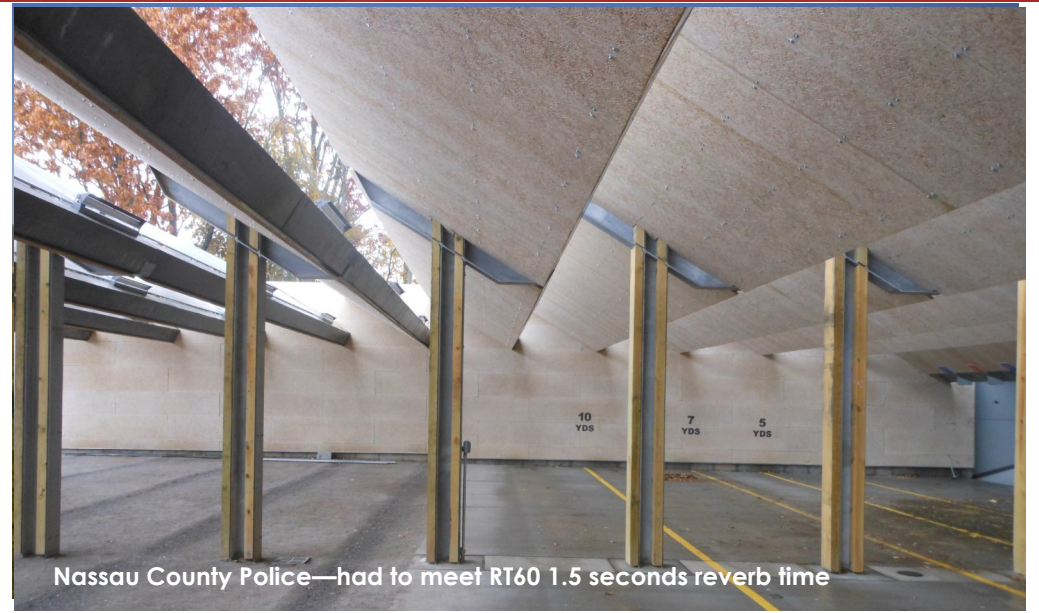


## Outdoor Baffled Ranges

- Meets OSHA CFR29 requirements.
- Meets anti-ricochet and anti-splatter requirements for 5.56 and 7.62 rounds and has been independently tested by the USAF. This allows the use of the Troy Board in lieu of 2 layers of FR plywood (9mm and 11mm) which is required on most other acoustic systems.

*Whether your training range is located in a remote location or the city, it must meet OSHA CFR 29 noise exposure limits.*

*It is recommended that you also require the shooting range industry standard of RT60 1.5 seconds reverb time at all firing points in the range for a safer and healthier environment .*



## DoD UFC compliant Ranges



- The Department of Defense requires all new ranges on military bases to meet the Unified Facilities Criteria 4-179-02 with an **RT60 of 1.3 seconds**. It also requires anti-ricochet and anti-splatter for 5.56 and 7.62 rounds
- All products must meet the Class A E84 test.
- Unapproved systems require Fire rated marine grade plywood to meet this same safety standard

*“The DoD requires post-testing for an RT60 of 1.3 seconds ”*

- COVERAGE INCLUDES: Baffles;/Safety ceiling:  
1" Troy Board and 2" Troy Wool (z-channel on AR by others)
- Side and Rear Walls  
2" Troy Board and 2" Troy Wool compressed into 1.5" z-channel
- Acoustical drop ceiling is required behind the safety ceiling to the rear wall with 1" Troy Board and 6" Troy Wool
- If the ceiling is flat a drop ceiling or safety ceiling coverage applies designed to meet OSHA CFR noise exposure limits and the recognized industry standard of an RT60 of 1.5 seconds reverb time across all octaves from 125Hz to 8000 Hz
- Use existing target system and trap or new equipment of your choice.

Ft . Lewis installation directly onto concrete ceiling and deflectors

USAF ETL compliant outdoor range Barksdale AFB



USAF ETL compliant in progress outdoor range installation Barksdale AFB

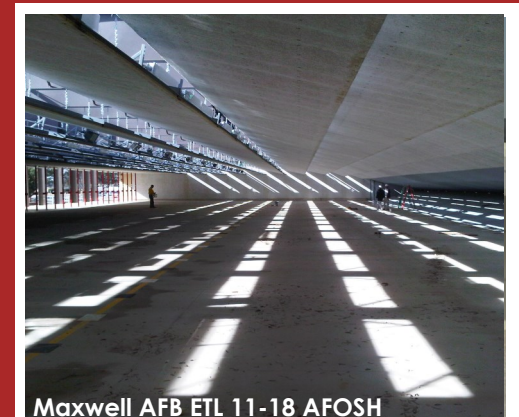
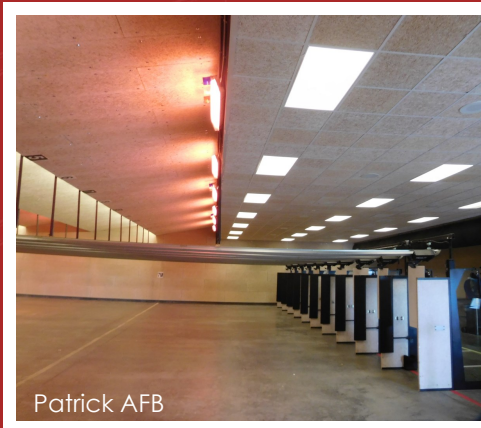


## ETL /UFC compliant USAF

ETL 11-18 AND the first UFC Compliant modular range include

- Andrews AFB ( now known as Joint Base Andrews)
- Barksdale AFB
- Eglin AFB
- Kadena AB
- Keesler AFB (the initial solution with UL stamped boards)
- Maxwell AFB
- Misawa AB Japan (sole sourced)
- Offutt AFB
- Osan AB
- Patrick AFB
- Tyndall AFB
- Vance AFB (in progress)
- Whiteman AFB
- Wright Patterson AFB

*Other USAF installation which is NOT Troy engineered or confirmed as ETL compliant includes Youngstown ARB*



## USACE & Federal ranges

USACE (United States Army Corps of Engineers) installations and Federal Installations on military bases currently require DoD UFC 4-179-02 compliance for all new ranges. This new standard requires **independent post testing**.

- FASTC
- Fort AP Hill
- Fort Bragg (sole sourced)
- Fort Campbell (sole sourced)
- Fort Carson (sole sourced)
- Fort Drum
- Fort Lewis (Fort Lewis)
- FBI Headquarters J Edgar Hoover Bldg; FBI—Quantico
- Parris Island
- US Customs and Border Protection Harpers Ferry
- US Secret Service





## Installation Photos



Council Bluffs  
2005.01.11



Barksdale AFB



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## Installation Photos



Albemarle Police horizontal Troy board installation—shown is Troy Wool and z-channel on sidewall



USMC installation Miramar



Monmouth County Sidewall upgrade installation



## Troy engineered Installations

Troy Boards can be installed horizontally or vertically. Installations over 8' on the sidewall are typically installed horizontally. Note that the 1.5" z-channel is installed 2' on center directly onto the filled CMU or tilt up concrete, and 2" wool are installed vertically for horizontal board installation. **All fasteners, washers and j-channel are part of the system.**

The j-channel is typically 6" off the floor for easy removal of casings that accumulate on the floor.



## ETL 11-18 /UFC USAF installations

Troy Acoustics has completed over 18 ETL acoustically compliant ranges that meet the 1.5 seconds reverb time and the first UFC 4-179-02 compliant modular range

Sole source specifications are available to assure compliance



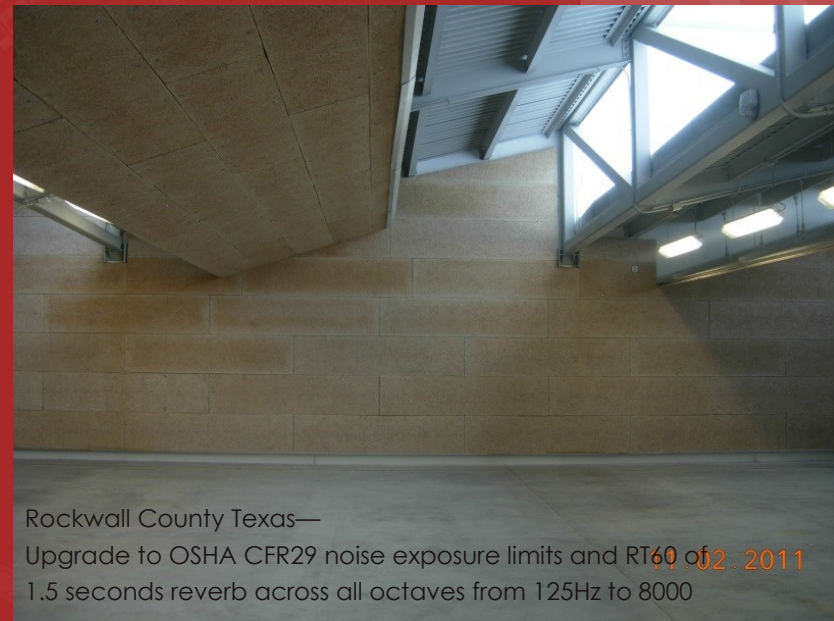
## Law Enforcement installations



O'Fallon Police MO



Chandler Police Department AZ Upgrade



Rockwall County Texas—  
Upgrade to OSHA CFR29 noise exposure limits and RT<sub>60</sub> of 1.5 seconds reverb across all octaves from 125Hz to 8000



US Customs and Border Protection

Troy Acoustics Corporation, a small business registered with SAM, manufactures, designs and installs the high performance Troy System. The system is unique in that it is:

- **USAF APPROVED FOR ANTI-RICOCHET AND UL 27255 CERTIFIED WITH A FLAME SPREAD OF ZERO (0) AND SMOKE DEVELOPED OF ZERO (0)**
- **THE ONLY ACOUSTIC SYSTEM WITH AN EXCELLENT RATING FROM THE US ARMY CORPS OF ENGINEERS**  
(This is the result of a major USACE Case Study on shooting range acoustics)
- **THE ONLY UL R27255 CERTIFIED ACOUSTIC SYSTEM WITH HIGH ABSORPTION ACROSS ALL OCTAVES FROM 125 HZ TO 8000 HZ** This is critical in a shooting range environment. (As independently tested by the USACE)
- **TROY ACOUSTICS SITE-SPECIFIC ENGINEERED SYSTEMS ARE DESIGNED TO MEETS OSHA AND AN RT60 of 1.5 seconds across all octaves from 125Hz to 8000Hz.**
- **TROY ACOUSTIC ENGINEERED SITE SPECIFIC DESIGNS OFFER A FIVE-YEAR MATERIALS REPLACEMENT WARRANTY**
- **ALL PRODUCT IS UL CERTIFIED R27255 TO ASSURE ASTM E84 CLASS A TESTING**

**VISIT OUR WEBSITE RESOURCE LIBRARY**

**TROYACOUSTICS.COM**

It's time we  
made some  
noise  
about how  
quiet  
we are.



# Introducing!

## **TROY** **DIRECT**

If your project calls for materials only, now you can get our same great Troy Boards and Troy Wool, at a great *DI-RECT* price.

You also get our Troy guarantee for tested NRC acoustical performance, plus UL tested zero (0) flame-spread and zero (0) smoke-dispersal fire rating\* as well as Troy's tested anti-microbial performance.

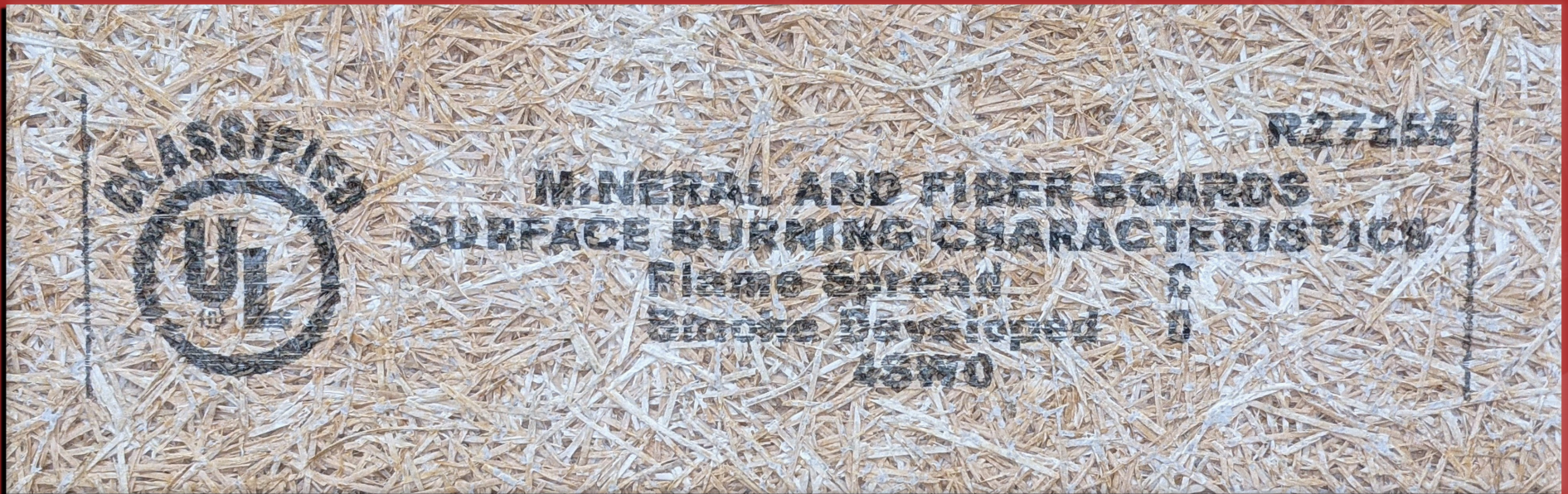
Of course, when you need full design and installation services, Troy *PROJECT* department's got you covered. But you save big when you can source your own hardware, and furring.

Shipping costs apply.



[www.troyacoustics.com/direct](http://www.troyacoustics.com/direct)

# Keep your acoustics in the circle of trust.



Troy Acoustics Portland cement/ wood-fiber boards are tested quarterly for UL compliance with the new **ASTM E 2989** which requires all building materials to be subject to ongoing certification.

Be sure your projects stay in the circle of trust.



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