TROY ACOUSTICS CORPORATION

SERIOUS. ACOUSTIC. SOLUTIONS.

Shooting Range Acoustics

Solved at the design stage.

The U.S. experts. We created the industry.

LAW ENFORCEMENT | MILITARY | INDOOR & OUTDOOR

troyacoustics.com · 800-987-3306 · Brunswick, Georgia



WHO WE ARE

The U.S. experts in range acoustics

Troy Acoustics created the shooting range acoustics industry. Our field data set the standard.

20+

years defining shooting range acoustics

60+

military, federal and police ranges

UFC

DoD range acoustics standard built on Troy field data



Indoor law enforcement range lined with the Troy System

TRUSTED BY

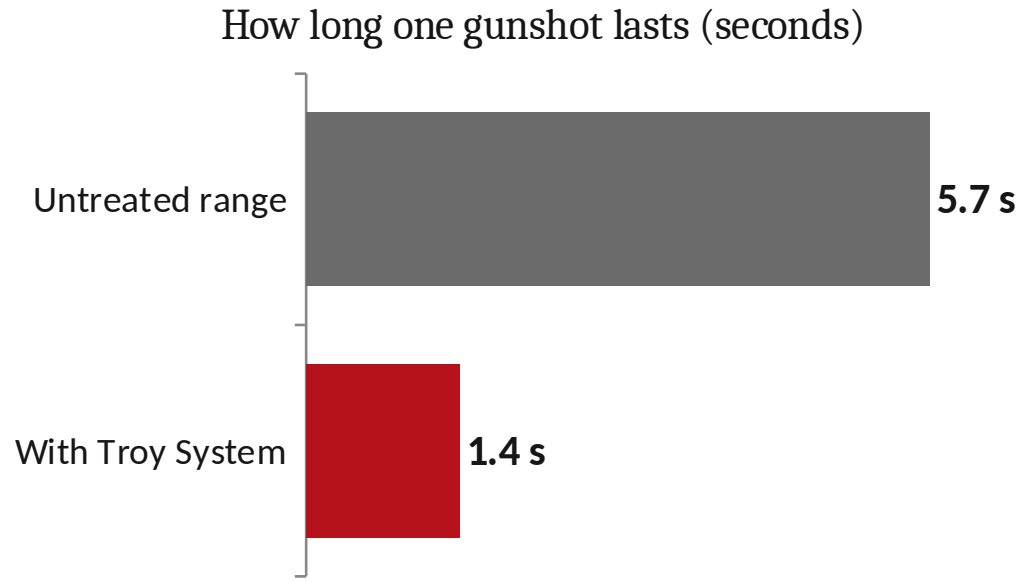
FBI · U.S. Secret Service · Customs & Border Protection · U.S. Air Force · U.S. Army · USMC · Police nationwide

THE CULPRIT

It's not just how loud. It's how long.

In a hard-walled range, one gunshot keeps echoing for up to 6 seconds. Those extra seconds push shooters and instructors past noise exposure limits.

- **Concrete and steel reflect every shot**
- **Gunfire lasts longer in the room**
- **Noise exposure limits are exceeded**



Reverberation time (RT60) at 500–1,000 Hz. Independent measurements by Siebein Associates, AWG 50M indoor range, Ft. A.P. Hill, VA (2014–15).

Cut the time, and you cut the exposure.

Safer inside. Quieter outside.





AWG 50M indoor range, Ft. A.P. Hill, VA — before and after the Troy System

4–11 dB
quieter inside the range

2–12 dB
quieter outside the building

0.67 s
measured at Ft. Drum vs. 1.3 s guaranteed

Every 10 dB ≈ half as loud

4× faster

Each shot dies out in 1.4 s instead of 5.7 s

Lower exposure

Shooters and instructors absorb less noise every session

A better neighbor

Less energy in the room means less sound escapes

Sources: Siebein Associates acoustical measurement report, Jan. 16, 2015 (Ft. A.P. Hill). Troy Acoustics certification test with Army range safety officer present, Ft. Drum, NY, Dec. 18, 2012.

Outdoor ranges, too

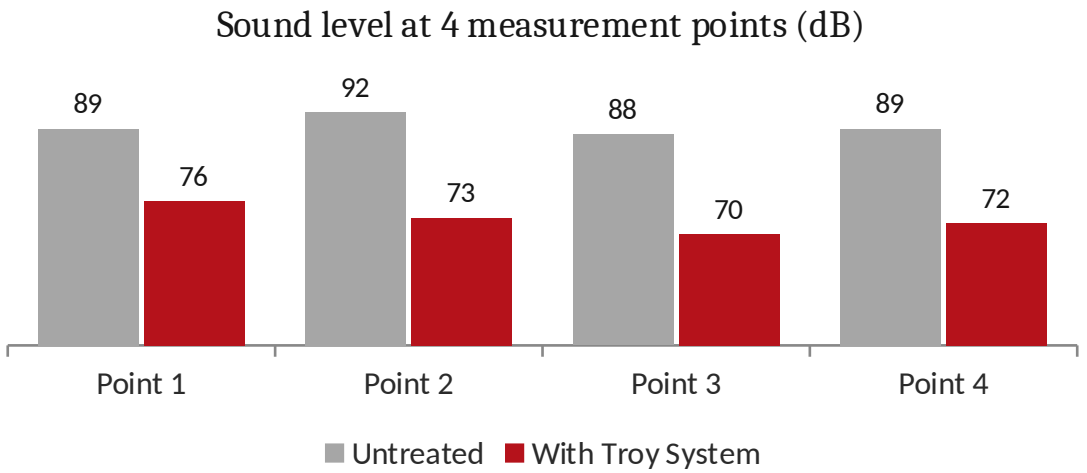

Baffled range


Acoustic canopy


Overhead baffles


Covered firing line

Canopies, baffles and berms reflect gunfire too. Troy absorbs it, so less noise reaches the property line.



13–19 dB lower after Troy treatment — Troy outdoor range project

~10 dB less at 200 ft

Troy acoustic roofs and stalls

3–6 dB less

USMC Miramar, after Troy Board

The hidden hazard: blast overpressure

In 2011, Troy's high-speed recordings proved it: the longer the blast lasts, the more pressure hits the body. Hearing protection can't stop that.

94%

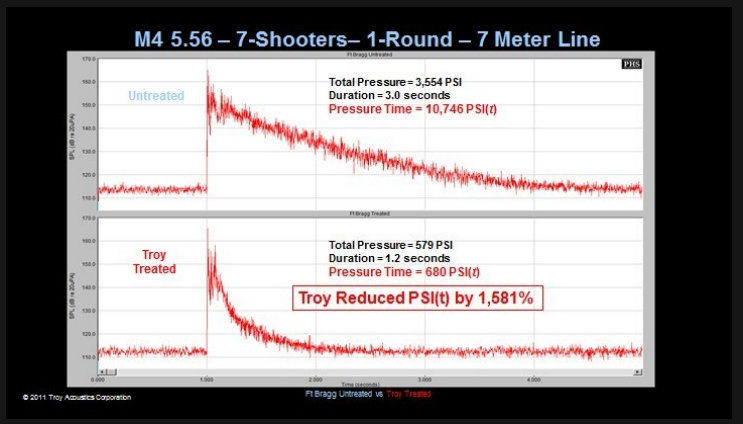
less pressure on the body



10,746 psi(t) blast lasts 3.0 s



680 psi(t) blast lasts 1.2 s



Troy high-speed pressure recording: untreated (top) vs. Troy-treated (bottom)

Pressure over time on the body (psi(t)): 7 shooters, M4 5.56, one round each, 7 m line. Troy Acoustics field test, Ft. Bragg, NC, 2011.

THE SOLUTION

Now a DoD priority. Troy has the answer.

U.S. Department of Defense

Policy memo, August 8, 2024

- Blast overpressure risk management required in weapons training
- 4 psi interim safety threshold
- Breaching charges and .50 cal named as exceeding 4 psi

Source: Deputy Secretary of Defense, “DoD Requirements for Managing Brain Health Risks from Blast Overpressure,” Aug. 8, 2024.

2011 — Troy measures BOP on live ranges

2024 — DoD sets 4 psi guideline

TODAY — 4" Troy Board



4-INCH TROY BOARD

Built to absorb the blast

- Heavier, thicker absorption
- 4" walls · 3" ceiling
- Single layer, no Troy Wool
- Firearms and breach training

UL R27255
0 flame · 0 smoke

NRC up to 1.0
Riverbank Labs

USAF tested
anti-ricochet

USACE
rated “Excellent”

Anti-microbial
ASTM E2180 · G21

5-year
replacement warranty

DESIGN IT RIGHT

Solve it in the design stage, not after

After the problem

- A military indoor range sat unopened for 2 years
- An Ohio police range closed after 3 days of training
- Retrofits mean downtime and a second budget

At the design stage

- Troy specified in the drawings
- Performance guaranteed in writing
- Range opens safe and compliant on day one

EASY TO INSTALL



Channel fastens to concrete or block



Troy Wool drops in (skip with 4")



Troy Board screws on



Ready to train, no plywood backing

Put Troy in your drawings: 800-987-3306 · info@troyacoustics.com · troyacoustics.com · Brunswick, Georgia