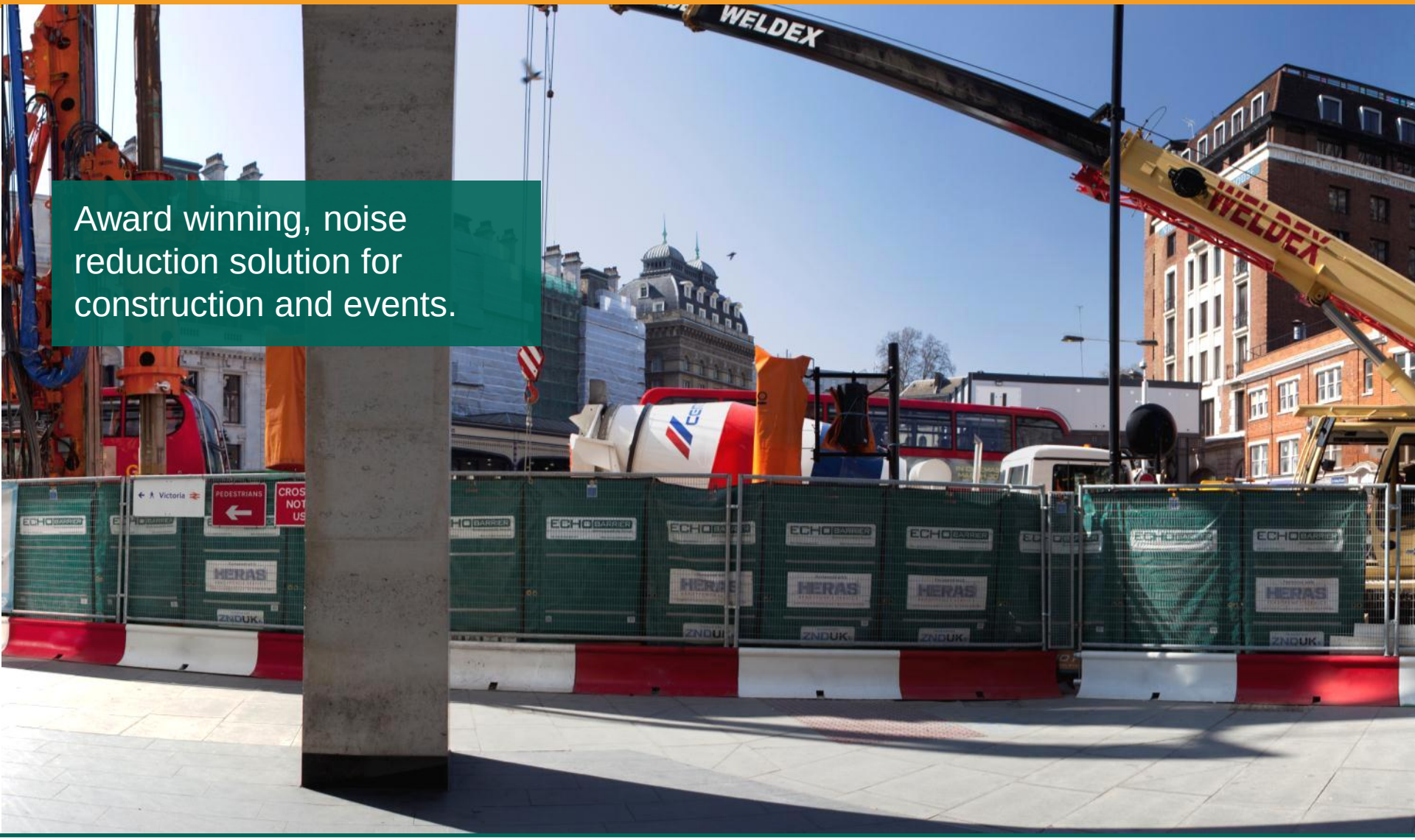
ECHO BARRIER®
Environmentally Sound

Quiet sites.
Less complaints.

More construction business.

Introduction



Award winning, noise reduction solution for construction and events.

History

ECHO BARRIERS were developed because, increasingly, our noise consultancy projects required the use of temporary acoustic barriers as part of Best Practice. There was also growing concern over noise pollution and its detrimental effects to the workforce, local communities and the environment.

We found nothing on the market that we could comfortably recommend to our Clients… something that was **EFFECTIVE**, **PRACTICAL** and **SAFE**.

We decided it was time to DESIGN and DEVELOP a product that finally incorporated new technology along with practical solutions…

After extensive research with world-leading acoustic engineers and thorough laboratory testing, the **ECHO BARRIER** was developed.

History

FIELD PERFORMANCE

We wanted to be certain our new barriers not only succeeded in the lab, but also with the true test of on-site rigors.

For six months, the Echo Barrier was tested on various construction sites with the help of our multi-national clients.

The main concerns for these site teams were:

- Ease of Handling & Installation
- Duration & Manpower Requirements
- Resistance to Water
- Weight
- Durability

Our awards & credentials

Award Winning Technology

Recognition at the Houses of Parliament by both the Noise Abatement Society and by the Institute of Acoustics.

These awards acknowledge innovative ideas and technology that reduce environmental noise on the community.

American Rental Association
ASSOCIATE MEMBER

NATIONAL ASSOCIATION OF THE DEAF
www.nad.org

QUIET MARK

Validated mark of approval
noise abatement society

Institute of Acoustics
sponsoring organisation

HIRE ASSOCIATION EUROPE
Hae Member

Link-up
empowered by Achilles
Registered

THE FENCING CONTRACTORS ASSOCIATION
QUALITY AND SERVICE
Membership No: 201006

carbon footprint
APPROVED COMPANY

iRiS
noise & vibration services

Our clients


Balfour Beatty
VolkerHighways
UNDERGROUND
isg Pearce
MORRISON Utility Services
Southern Water
amec
SBB CFF FFS
greenbelt
Tube Lines
British Waterways
bam
VINCI
Transport for London
MAY GURNEY
MURPHY
Taylor Woodrow
MTV MUSIC TELEVISION
London
carillion
NSW Transport RailCorp
John Holland
BauBedarf
Gammon
SKANSKA
LAING O'ROURKE
CONWAY great people : great work

The value to our customers….

“The costs of the noise mitigation measures range from $3,000 to $9,000 per weekend.

Considering that a noise abatement order could jeopardise a $1.5million contract for a weekend track renewal project, the mitigation costs are low.”

“..planning team requested improvements to acoustic barriers… The new Echo Barrier supplied is perfect for our requirements…”

London Underground report on using Echo Barriers.

Across the world

In only two years, we are very pleased that the superior performance of the Echo Barrier has been recognized and now utilized by major organizations around the world.

Our clients range from prestigious contractors and consultants to event organizers. Our Global offices cover the following regions:-

AUSTRALIA	CANADA
EAST ASIA	EUROPE
IRELAND	MIDDLE EAST
UK	USA

Across the world

International Projects

Sydney Suburban Rail Network (Australia)
- Rail Corp / John Holland

Victoria Station Upgrade (UK)
- Taylor Woodrow / Bam Nuttall

Baker Street Station Refurbishment and Track Renewal (UK) - Vinci

Bond Street Station Upgrade (UK) - Murphy's

Hammersmith Bridge Refurbishment (UK)
- Vinci Rail works (Switzerland) - SBB (Swiss Rail)

Dublin Airport Bombardier Training Centre (Ireland)
- Sisk Contracting

Cross Rail - Paddington (UK)
- Costain Skanska

Rail renewal works London Underground (UK)
- Transport for London

Head Offices for large US multi-national (Ireland)
- Collen Construction

Gatwick Airport South Terminal Extensions (UK)
- Oliver Connell and Sons

Sydney Opera House Refurbishment (Australia)
- John Holland

Hong Kong Jockey Club (Hong Kong)
- Gammon Construction

Park Lane road works (UK) - Lang O'Rouke

Liverpool St Station Points and Crossing renewal (UK)
- Balfour Beatty Rail

M1 Bridge Repairs (UK) - Connect Plus

Heathrow Terminal 1 and 2 Sabre Jetting works (UK)
- Sabre Jetting Services Ltd

Sydney Street Paving works (Australia) - Samstone

Events

MTV Asia 20 year Anniversary (Australia)

Blok Arena (UK)

London Olympics 2012 (UK)

KEW Festival (UK)

20-20 Masterpiece (UK)

Across the world

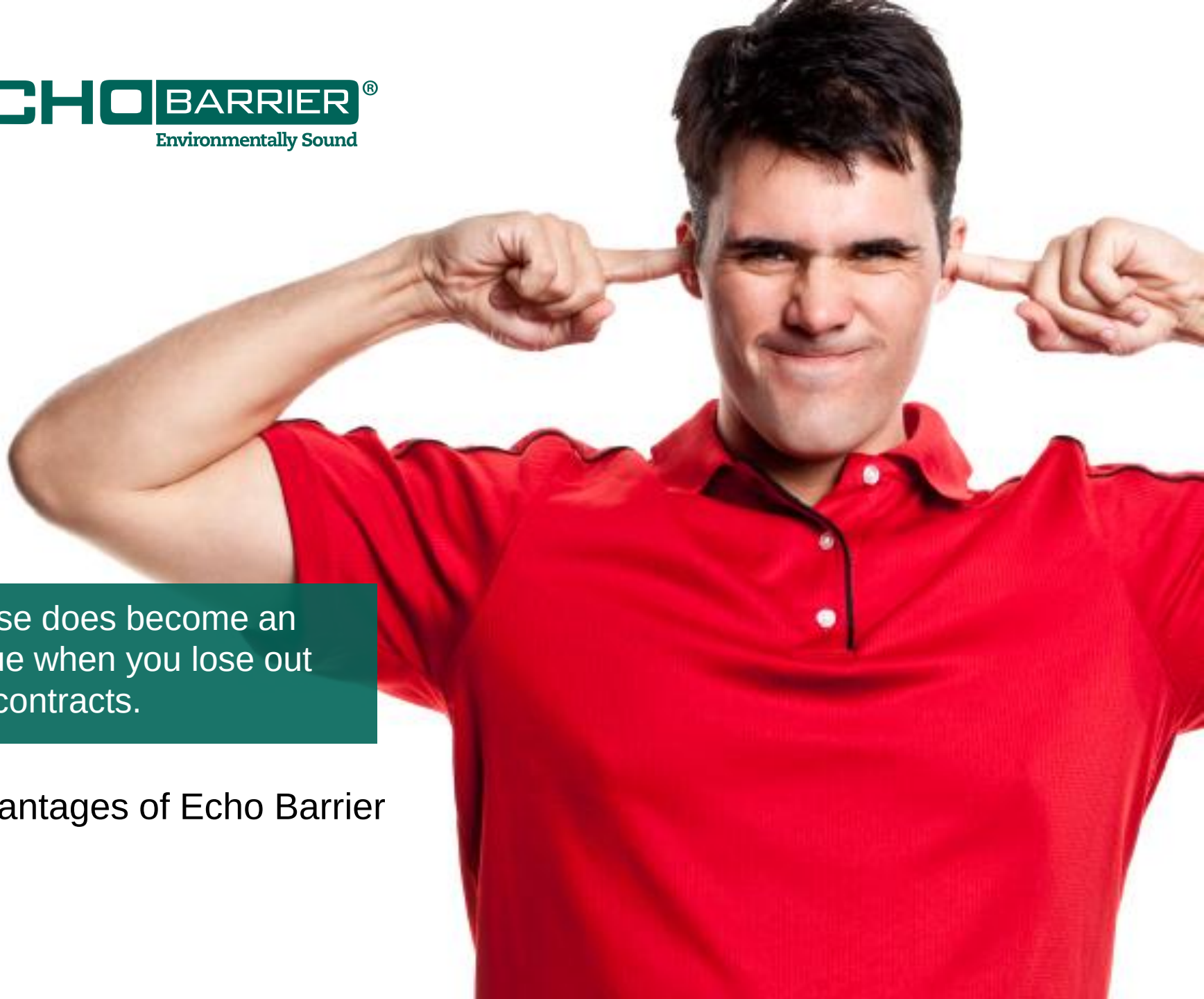
Sound Barriers of Choice

We are proud to say that Echo Barrier is now recognised by Councils and Administrative Authorities across many major cities as the No. 1 solution to temporary noise issues.

2012 London Olympics

We are pleased to announce that we are an official supplier to the London Olympics 2012.

ECHO BARRIER®
Environmentally Sound



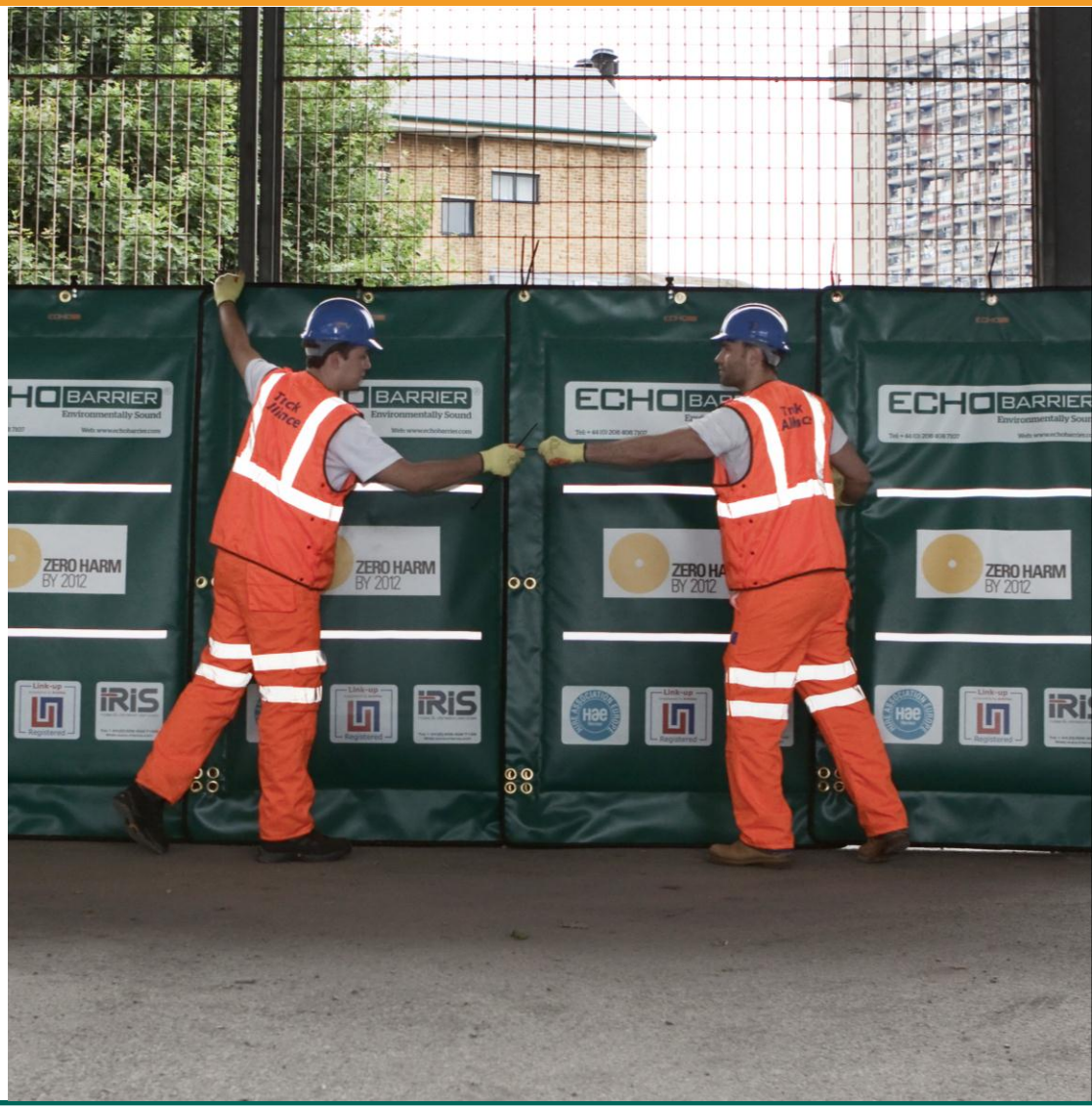
Noise does become an issue when you lose out on contracts.

Advantages of Echo Barrier

Key factors for successful noise barriers

Although some of the requirements and mandates for noise control may differ in the U.S., we believe the key components that ECHO BARRIERS provide for a noise control system, will be just as applicable.

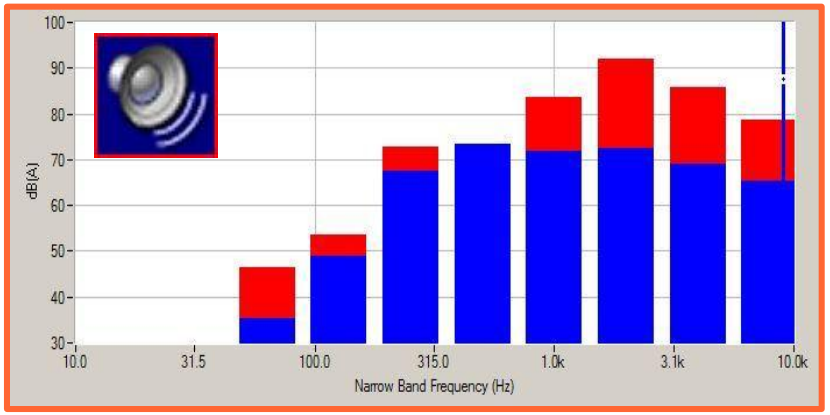
- Field performance
- Ease of use / Practicality
- Durability
- Safety
- Appearance



Field performance

Echo Barriers have been carefully designed to provide a uniquely high level of technical performance. The Echo Barrier can provide the same performance as barriers/blankets that are twice the weight.

A full Technical Presentation follows.



15dB(A) reduction from rock drill

Field Performance Results:

- Reduces Noise Radiated Off Site
- Reduce Complaints & Improves Image
- Better Work Environment / Lessens Occupational Noise Exposure
- Increases Work Hours.

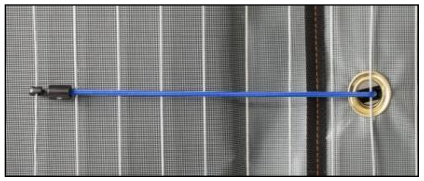
Ease of use & handling

As the saying goes ‘Time is Money’… and the Echo Barriers are designed with that specifically in mind.

Conventional barriers are heavy, cumbersome and require two people to handle and install.

Echo Barrier Features:

- Only 13lbs in Weight
- Sturdy Purpose Design Hooks
- 1 person can do the job of 2 to 3 people
- Install 3 x faster then conventional barriers
- Unique Roll Up Design / Easy Transport
- Stored Flat or Rolled Up
- Purpose made installation kit



Durability

The Echo Barriers are extremely durable and completely waterproof. Heavy PVC and mesh exterior makes them construction site rugged. Will not degrade and lose performance capabilities.

Conventional barriers or quilted ‘blankets’ easily puncture, absorb water and degrade. They become heavy, cumbersome and time consuming to handle. Transport is messy and mildew forms in storage. The product becomes ineffective - and an eye-sore.

Safety

Fire Protection

The Echo Barrier materials are all flame and fire retardant and meet the various international code requirements.

Night Visibility

Dark barriers are difficult to see at night. The Echo Barrier includes reflective strips to ensure safety and high visibility.

No Exposure to Fibreglass

Conventional barriers contain Rockwool or Fibreglass. Once punctured, there is the danger of exposure to the workforce and the public.

Weight – Manual Handling and Fitting

13lbs – wet or dry… Half the weight of conventional barriers + fitting hooks.

Professional appearance

Perception is Everything...

The unprofessional appearance of site fencing/barriers not only project a poor image of a site, but also increase the likelihood of complaints.

Experience has shown that good appearance alone can increase the perceived barrier attenuation by 3 - 5dB…

The Echo Barriers look good… and most importantly… stay looking that way. They reflect the commitment of the user to the well-being of his workforce, the local community and the surrounding environment.

A positive appearance

ECHO BARRIERS are designed to present a positive environmental and safety message to reflect the attitude of the user and the site.

ECHO BARRIERS provide an option for clients to print company logos, advertisements, and / or safety messages.

U.S. requirements

Although laws and guidelines differ, the problems of noise pollution are the same everywhere in the world.

Health and safety legislation in the States requires companies to minimize the risks to the hearing of personnel. Although Best Practice procedures are only ‘at will’, many contractors, consultants and city municipalities are at the forefront in trying to find solutions to minimize noise pollution.

The noise from construction, demolition, infrastructure and other activities has become an increasingly important topic for these organizations when planning projects.

ECHO BARRIER®
Environmentally Sound

Echo Barriers can save you thousands of dollars.

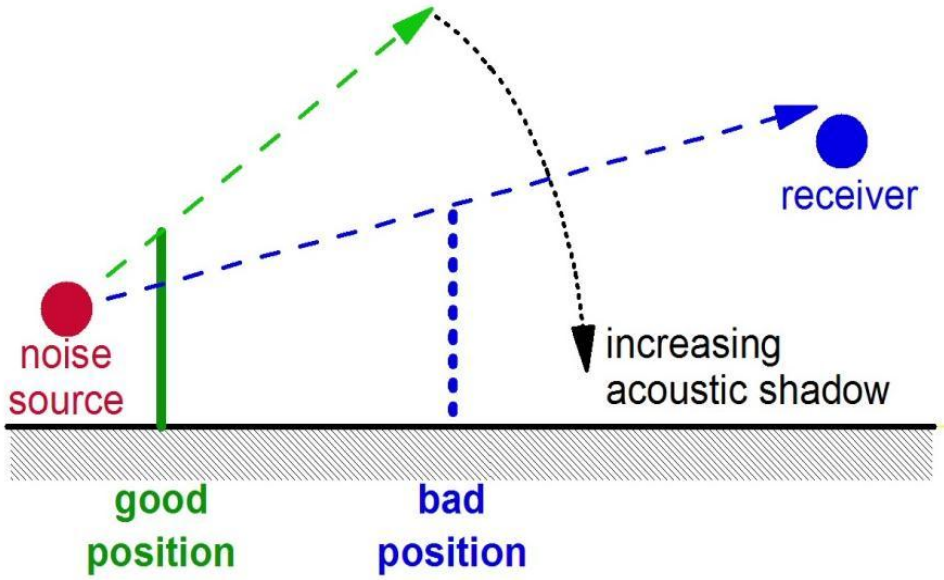
Something you do want to hear.

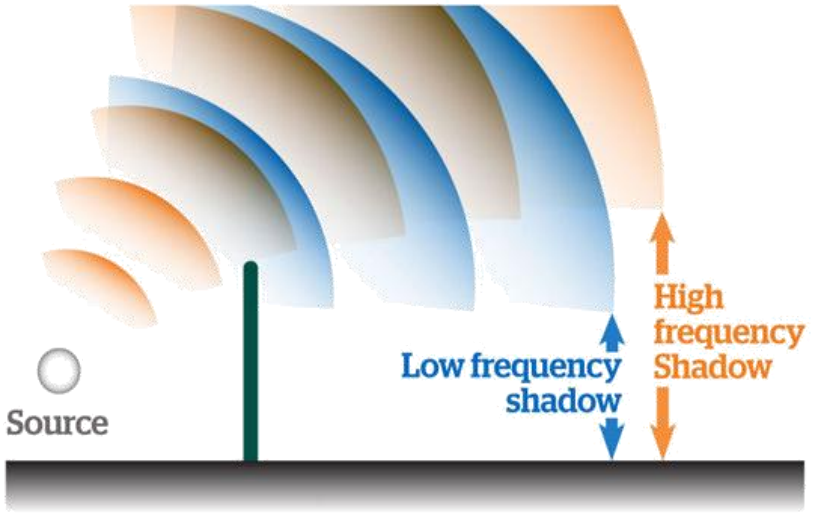
Acoustic innovations in Echo Barrier

Best position for noise reduction

A key to barrier performance: the larger the acoustic shadow, the higher the attenuation and the depth of the shadow increases with frequency.

Our barriers make it easy to optimise the geometry for high performance.

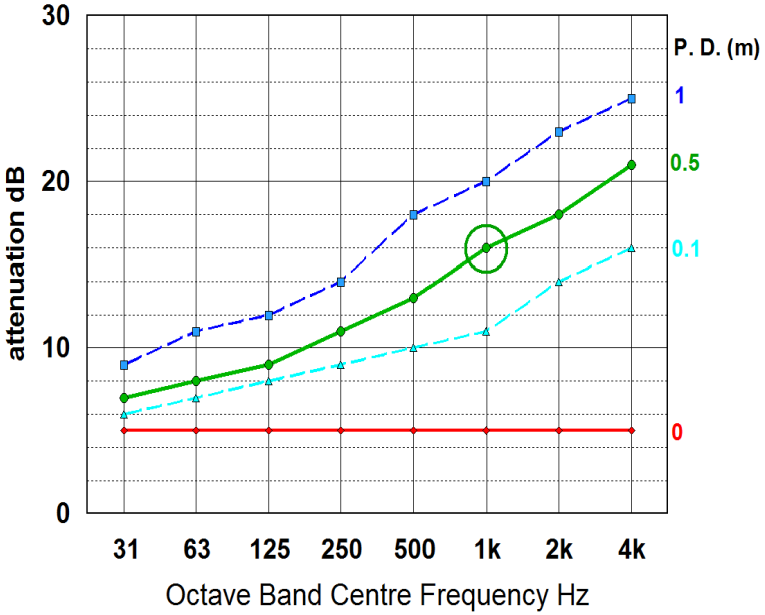


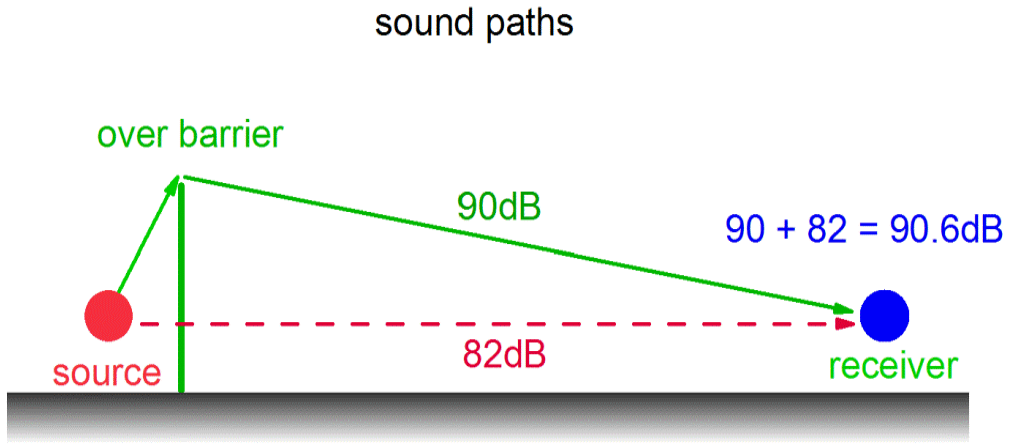


375yd/s = wavelength x frequency

Optimum mass for controlling sound levels

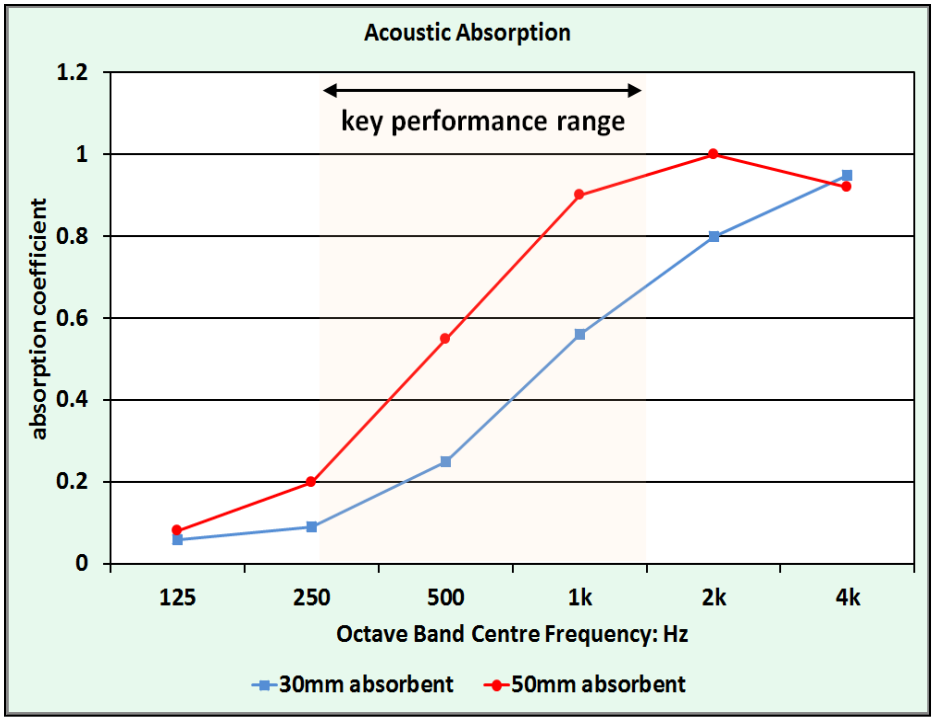
Theory: more mass = higher attenuation… On site, however, there is an optimum mass, above which attenuation does not increase.





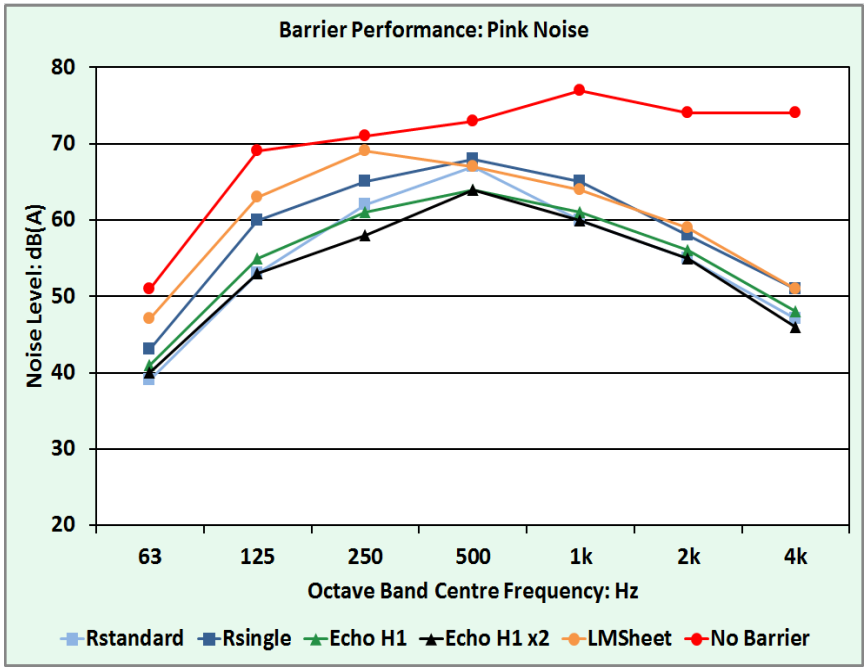
The right materials for acoustic absorption

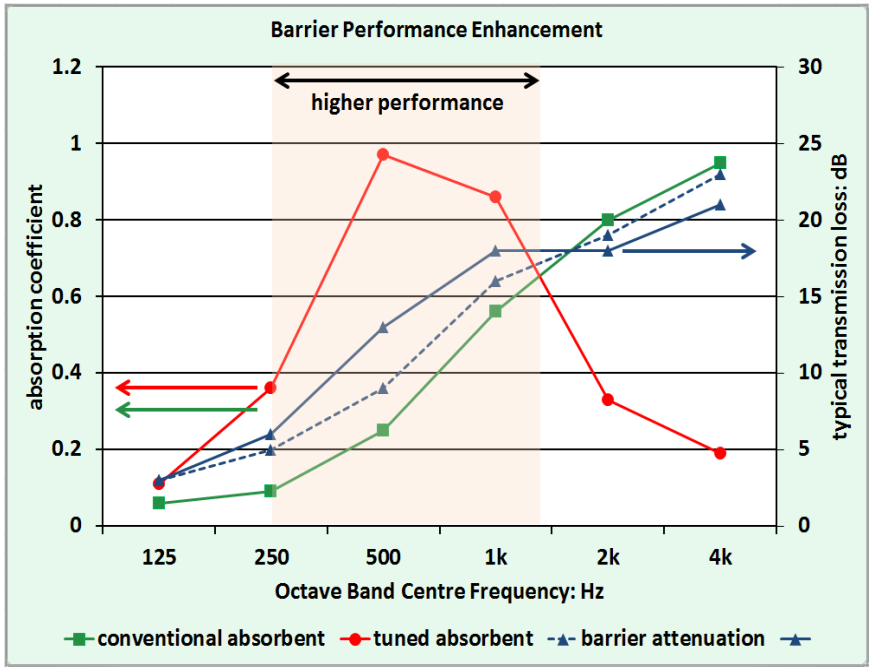
Traditional barriers use ‘low tech’ absorbents such as rockwool and fibreglass - or even reflective materials which bounce the sound back towards the source, creating higher noise levels.



Materials chosen for acoustic absorbent performance

In practice, barrier performance is determined by the attenuation in the mid-frequencies. Instead of using much thicker absorbent, we have tuned our material to double the absorption over the key frequencies. And, uniquely, we've made it waterproof…





A combination of innovations…

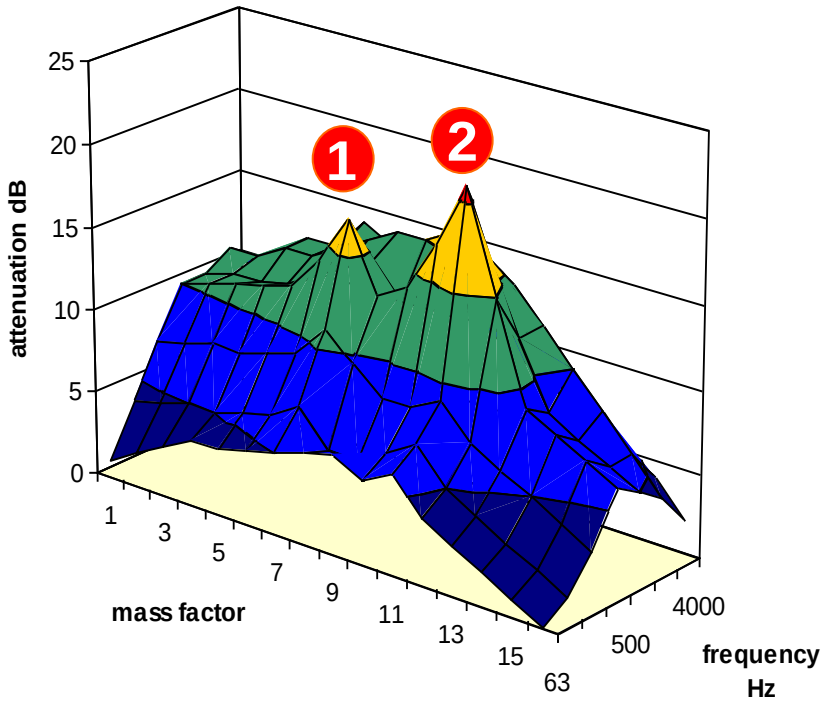
Echo Barrier is designed round two acoustic performance “sweet spots”.

1 Single Echo Barrier

Optimum combination of minimum mass and maximum absorption.

2 Local double barrier layer

Doubling the barrier locally provides c 3 x the performance (typically 5dB of added attenuation).



Performance “Sweet Spots”

Performance surface for combined real-world barrier mass and absorption characteristics

ECHO BARRIER®

Environmentally Sound

Benefits of Echo Barriers to contractors and your city.

Benefits of Echo Barrier

Extended Working Hours

- Reduced project times and increased flexibility can provide very substantial cost savings.

Minimises Noise Complaints

- 10 – 20dB reductions in measured noise levels
- Psychological noise reduction from barrier appearance
- Reduced likelihood of interruptions to work.

Implementing Best Practice

- Important (often mandatory) element of best practice.

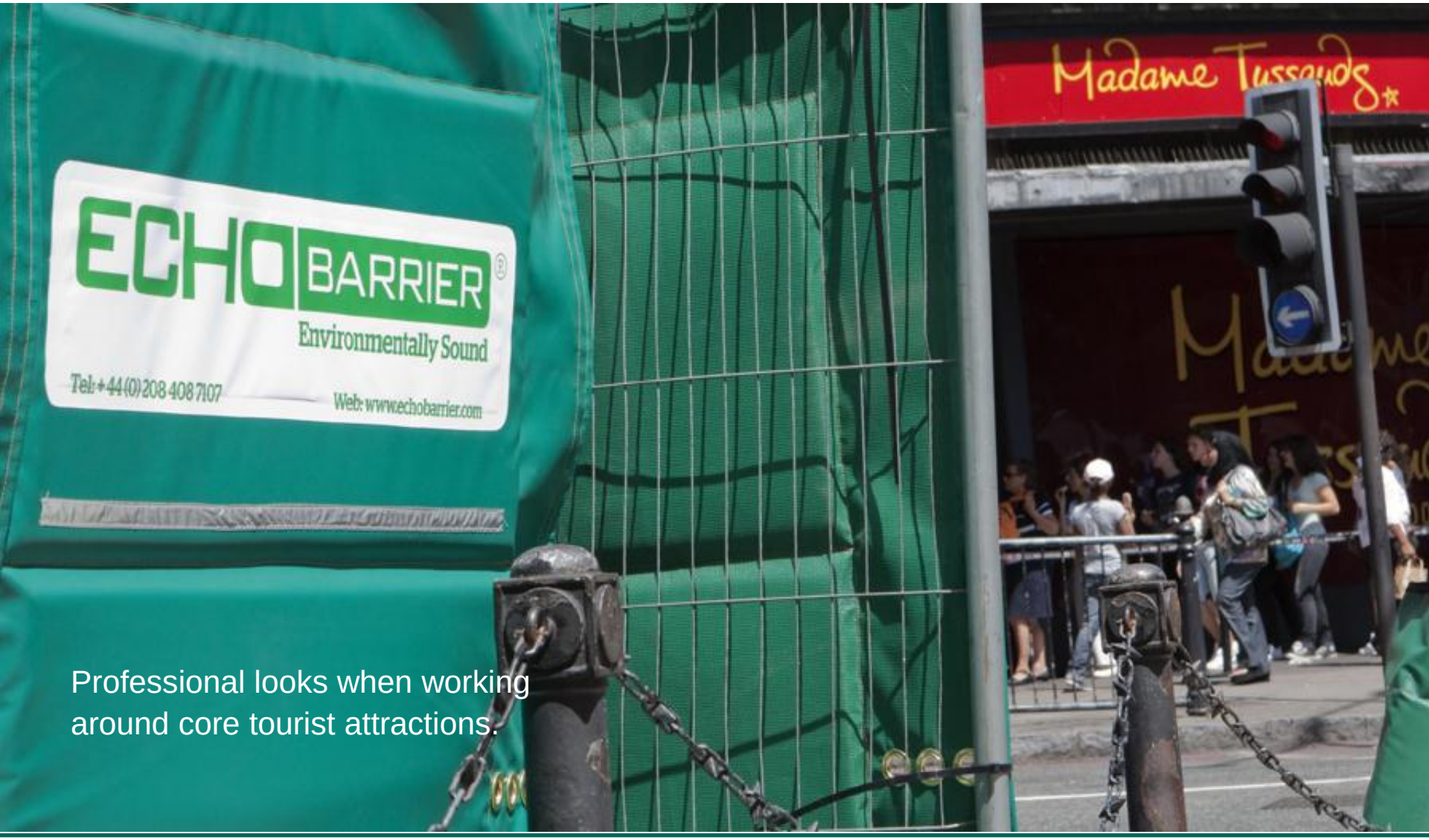
Environmental Credentials and PR

- Public display of your environmental policy that can also be a very effective part of public relations.

Applications & Projects.

Applications – scaffolding

Applications – public areas

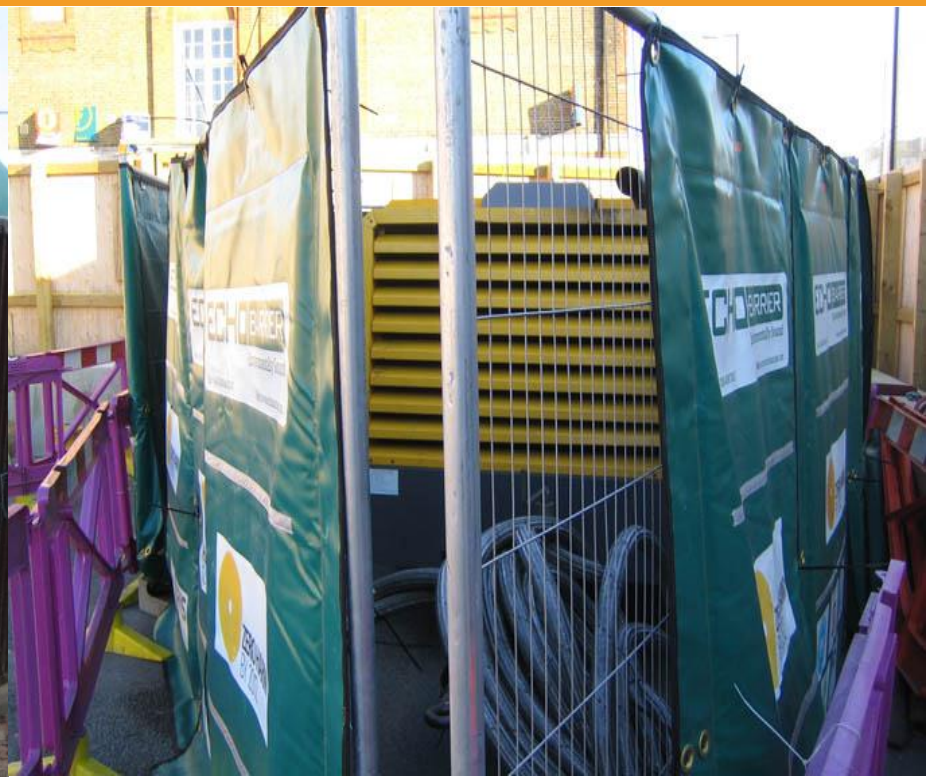


Professional looks when working around core tourist attractions.

Applications – public areas

Allows ‘normal’ lives and activities to co-exist with construction works.

Applications – on site occupational noise



Diesel water pump operator – reduction of noise levels from 99dB(A) down to <85dB(A).

Noise protection for heavy duty machinery.

Applications – events

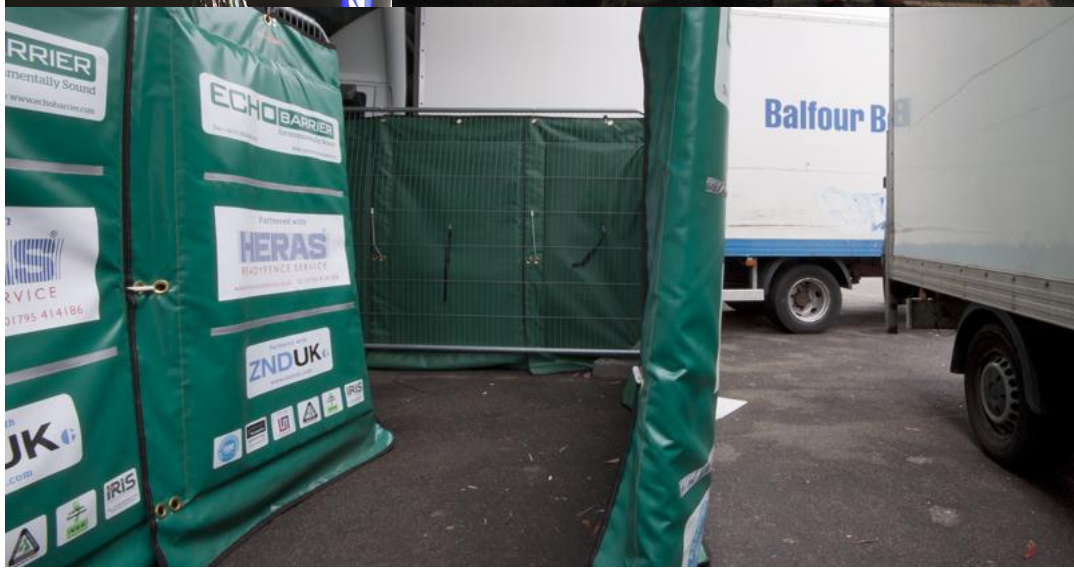
Music festival – Municipality insisted Echo Barriers were used as a requirement to proceed with the festival.

Applications - less than zero complaints

Previous rail maintenance at Edgware road station had caused many complaints. Council instructed site teams to access from next station, extending work period.

Noise management package reduced noise, permitting access through station that reduced the project time - saving a 6 figure sum.

Zero complaints - and two previous complainants actually sent complimentary emails…



Air Conditioning Plant – Kew Library

75dB(A) at 1 yard; 61dB(A) at 12 yards – approx 58dB(A) at nearest window

Air Conditioning Plant

Echo Barrier technology

Fast

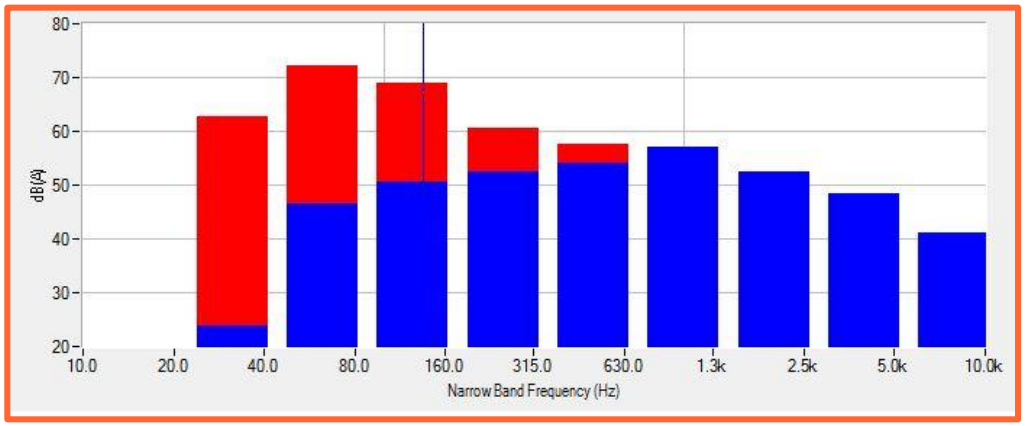
Potentially 1 week from order to problem sorted

Light-weight

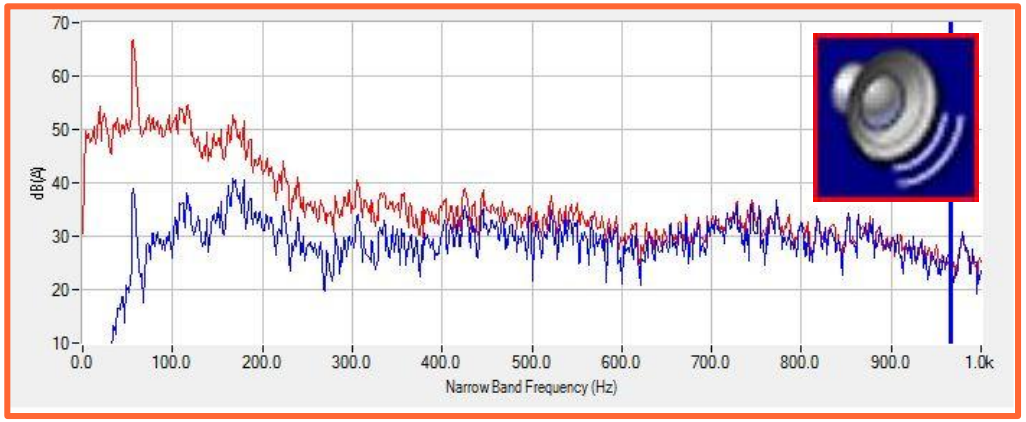
c 15% the weight of conventional structures avoiding potential structural issues

Low Cost

A fraction of the cost of traditional techniques….



61dB(A) – 12 yards – 56.5Hz tone



Air Conditioning Plant

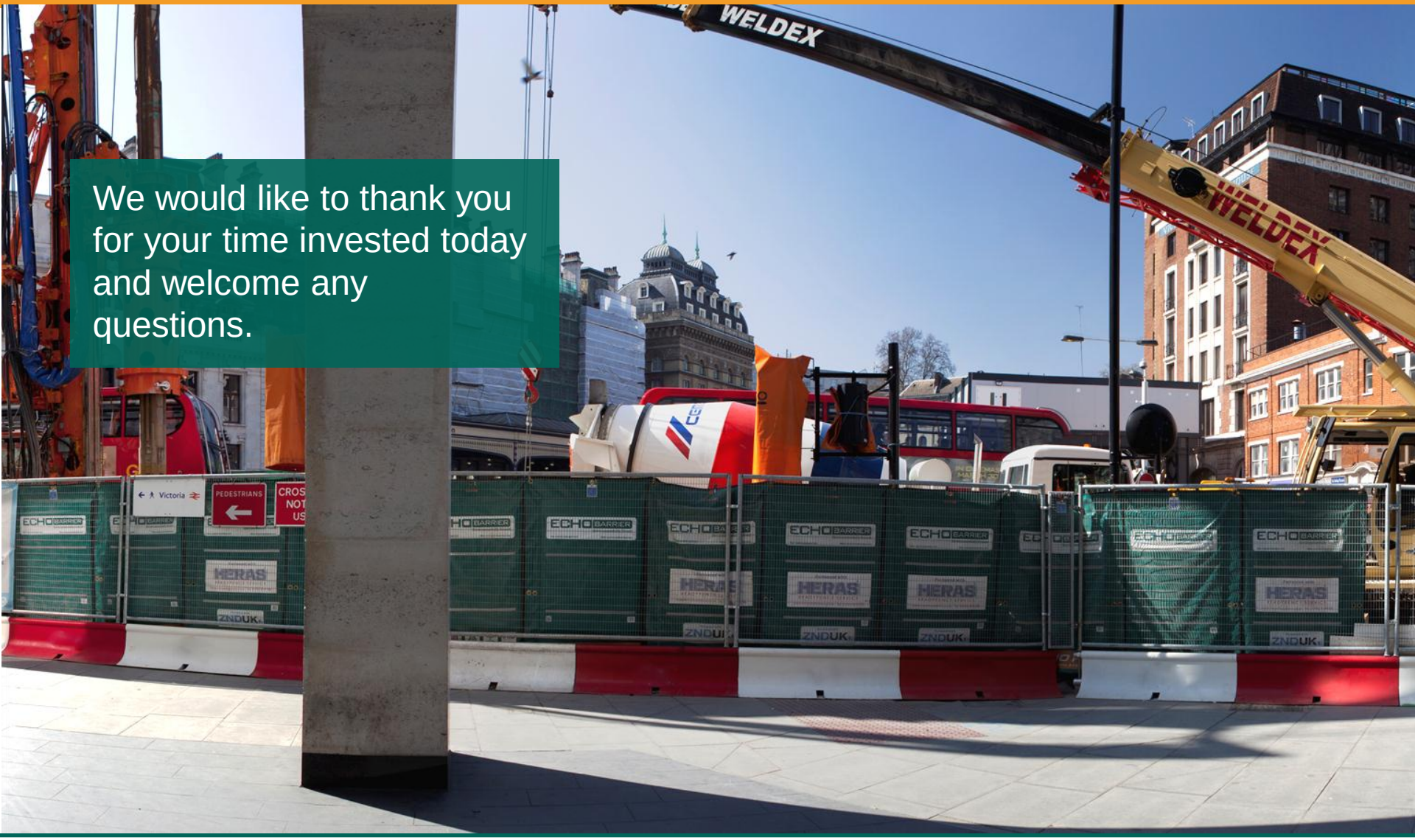
Approximately 58dB(A) at nearest window – 16dB(A) attenuation required

Echo Barrier technology: < 1 week at a fraction of the cost of conventional methods

Summary

- Superior Acoustic Performance
- Industrial Durability
- Weather Resistant
- Lightweight / Easy to Handle
- No Fiberglass or Rockwool Used
- Exceptionally Durable Accessories
- Ability to Double and Triple Layer
- Unique Roll-Up Design
- Compact Storage & Transport
- Space for Branding or Advertising
- Night Time Safety Features.

Thank you



We would like to thank you for your time invested today and welcome any questions.

Echo Barrier in action.

ECHO BARRIER®
Environmentally Sound

Protect community walkways from construction noise

Minimising local business complaints


Concert during London Olympics 2012

Clean attractive work site


Jack hammers from railway or road works


Noisy generators and street works

Echo Barrier USA, LLC | 123 Columbia Court North, Chaska, MN 55318 | 888.254.6622 | sales@acousticalsurfaces.com

Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

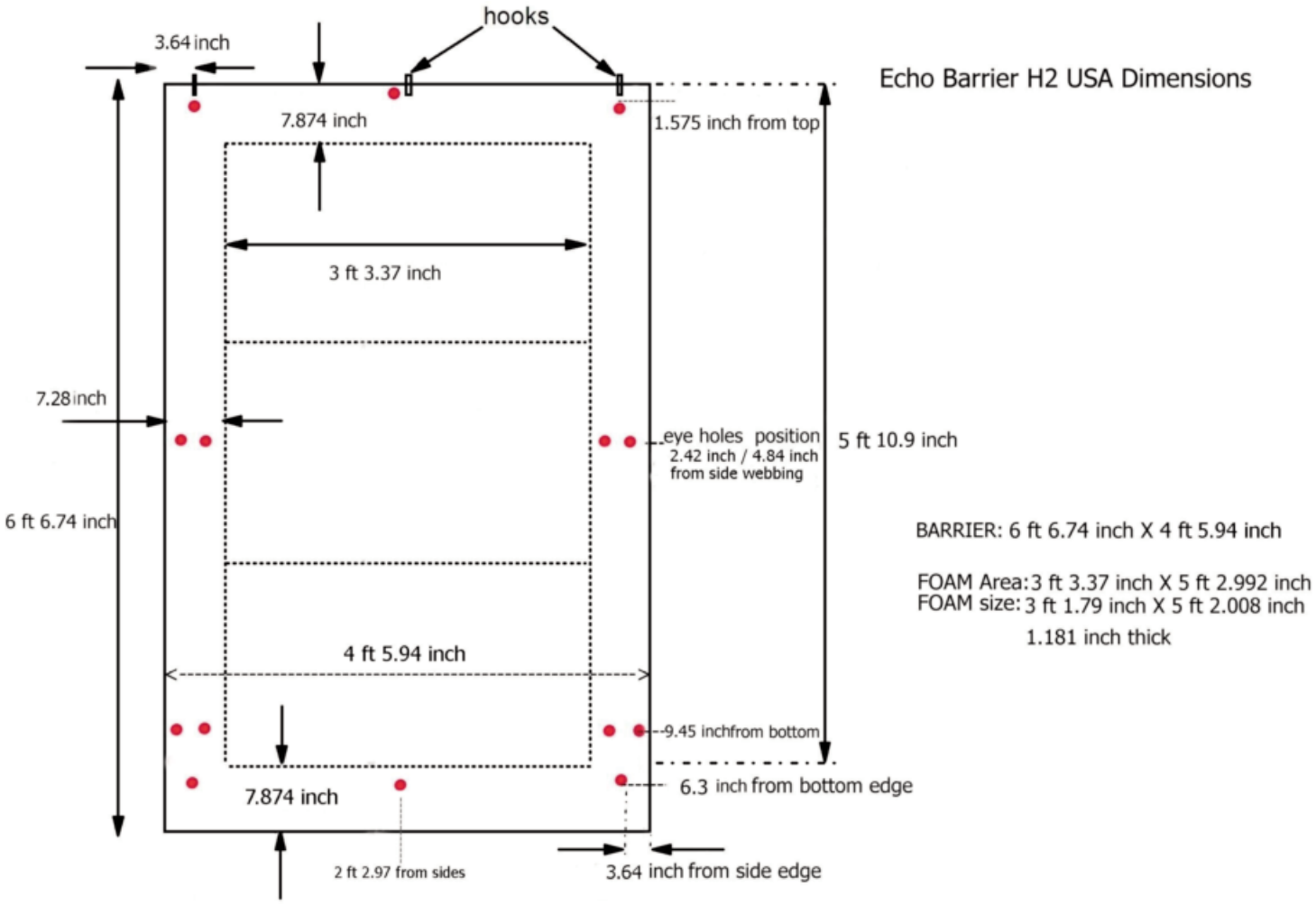
123 Columbia Court North • Suite 201 • Chaska, MN 55318

(952) 448-5300 • Fax (952) 448-2613 • (800) 448-0121

Email: sales@acousticalsurfaces.com

Visit our Website: www.acousticalsurfaces.com

We Identify and S.T.O.P. Your Noise Problems



Echo Barrier H2 USA Dimensions

BARRIER: 6 ft 6.74 inch X 4 ft 5.94 inch

FOAM Area: 3 ft 3.37 inch X 5 ft 2.992 inch

FOAM size: 3 ft 1.79 inch X 5 ft 2.008 inch

1.181 inch thick

Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

123 Columbia Court North • Suite 201 • Chaska, MN 55318
(952) 448-5300 • Fax (952) 448-2613 • (800) 448-0121
Email: sales@acousticalsurfaces.com
Visit our Website: www.acousticalsurfaces.com

We Identify and S.T.O.P. Your Noise Problems

ECHO BARRIER® Installation Guidelines

1. The Echo Barriers are easy to handle and very lightweight (only 13lbs). They have a unique roll-up and lock mechanism that allows for easy carry and distribution around the site.

2. The Echo Barriers are easily installed using cable-ties or bungee-ties onto any supporting structure (fencing, scaffolding, piling rig, hoarding). The cable-ties or bungee-ties are inserted through the eyelets and must be of sufficient length and strength to secure the Echo barriers onto the structure. These eyelets adjoin each other when the barriers are overlapped. For best noise attenuation results, it is recommended that the barrier flaps fully overlap. The structure supporting the barriers must be braced and supported to withstand the added loads created by the Echo Barriers. The wind loads, weight of barriers, ground conditions, weather conditions, barrier symmetry, number of barriers must all be considered when installing onto any supporting structure.

Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

123 Columbia Court North • Suite 201 • Chaska, MN 55318
(952) 448-5300 • Fax (952) 448-2613 • (800) 448-0121
Email: sales@acousticalsurfaces.com
Visit our Website: www.acousticalsurfaces.com

We Identify and S.T.O.P. Your Noise Problem

ECHO BARRIER® Installation Guidelines

3. The sound absorbing side of the barrier (mesh side) must face the noise source (i.e. jackhammers, speakers, etc.) The closer the Echo Barriers hang to the noise source, the greater the noise attenuation.

4. The Echo Barriers can be double or triple layered to increase noise attenuation. When hanging double or triple layers, it is beneficial to offset each layer to cover any exposed eyelets.

5. When removing the barriers from the structure, DO NOT USE box cutters or blades of any sort. These can damage the exterior surface of the barriers. Please only use clippers or scissors when cutting the cable ties.

6. In circumstances where theft is a concern, the Barriers can be secured with security cables fit through the eyelets.

Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

123 Columbia Court North • Suite 201 • Chaska, MN 55318
(952) 448-5300 • Fax (952) 448-2613 • (800) 448-0121
Email: sales@acousticalsurfaces.com
Visit our Website: www.acousticalsurfaces.com

We Identify and S.T.O.P. Your Noise Problem

ECHO BARRIER® Installation Guidelines

We recommend that the barriers be removed from any structure during severe weather conditions -- i.e. hurricanes, tornadoes, and hailstorms. Note: The Echo Barriers will not absorb water.

Do not expose Echo Barriers to a flame or extreme heat for long durations.

Do not run over Echo barriers with vehicles or damage using site equipment or machinery.

No Graffiti is to be placed on the barriers exterior - Although graffiti will not effect the noise attenuation of the barrier and can be cleaned.

Do not expose to extreme Chemicals such as acid. Echo Barriers are resistant to many site Chemicals such as Diesel, oil etc.