

Acoustic Barriers

A complete range of solutions for solving environmental noise problems

- Galvanised steel or Aluminium
- Free-draining
- Lightweight
- Easily installed
- Sound absorptive
- Weather tested finishes
- Demountable and relocatable
- Freestanding or add-on cladding
- Horizontal or vertical installation



Acoustic Barriers

A complete range of certified, high performance solid and louvred acoustic barriers to solve a wide variety of environmental noise pollution problems.

- Guaranteed, proven, sound reduction
- Sound absorptive surfaces minimise reflected noise
- Rugged, abuse-resistant, long-lasting steel construction
- Weather resistant and almost maintenance-free
- Wide choice of finishes to blend with individual landscapes


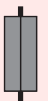


A Complete Range of Barrier Systems

Absorptive

Free standing barrier systems - Type FS and SFS - are sound absorptive on one or both sides, offer excellent sound transmission loss (STL) characteristics and are rapidly assembled from prefabricated components. Panels are simply stacked between steel posts to achieve the desired height.

Louvre Screens

Our range of Noishield™ and Slimshield™ louvres provide highly effective, stylish acoustic screens for mechanical services plant (such as pumps, compressors and chillers) and are particularly suitable when ventilation air must pass freely through the barrier (see the complete range in our acoustic louvres catalogue).

		Type FS	Type SFS	Type C12	Type C38
Configuration		 127mm Thick	 127mm Thick	 76mm Thick	 122mm Thick
Weight (Kg/m ²)	Steel	FS/S - 29.9	SFS/S - 36.7	C12/S - 11.2	C38/S - 13.7
	Aluminium	FS/St/S* - 42.0			
Application		Freestanding alongside noisy equipment	Freestanding between multiple noise sources	Apply to new or retrofit existing metal, wood, brick, concrete, stone or other noise-reflecting walls. Select Types C12 & C38 for enhanced 125Hz sound absorption.	



Applications

- Data Centres
- Suitable for an extensive range of applications including:
- Screening Mechanical Plant such as Generators, Compressors and Chillers
- Roads and Railways
- Car Washes / Drive Thru's
- Aircraft Pens and Airport Boundaries
- Power Stations
- Electricity Transformers
- Factories and other Manufacturing Sites
- Loading Bays
- Railways



Acoustic Performance

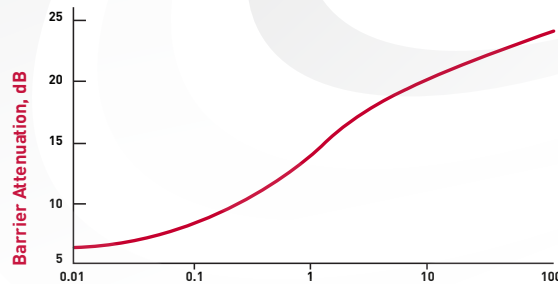
All IAC Acoustics Noishield™ barriers offer exceptional transmission loss characteristics and incorporate proven, sound absorbing materials which prevent noise reflections. Detailed, laboratory-tested acoustic ratings for free standing barriers appear in the table below.



Free-standing Solid Barriers

Barrier Attenuation

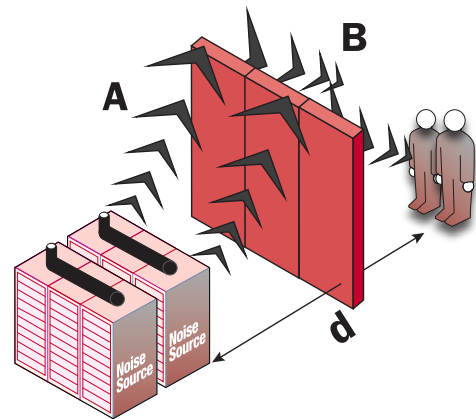
Theoretical attenuation, provided by solid barriers, is shown on the graph below. In practice, the maximum barrier attenuation cannot be greater than the barrier's sound transmission loss (STL).



$$\text{Fresnel Number} = N = \frac{2 \delta}{\lambda}$$

Where: λ = Wavelength of Sound δ = A + B - d

Sound absorptive surfaces reduce reverberant build-up between parallel barriers and other reflective surfaces and increase the ability of barriers to attenuate noise.



Sound Transmission Loss Data, dB

1/1 Octave Band Centre Frequency, Hz	63	125	250	500	1k	2k	4k	8k	STC
FS/S and SFS/S	18	20	32	39	32	31	28	35	30
FSt/S	21	23	36	40	32	33	30	33	33
FS/A and SFS/A	17	23	30	44	51	51	39	39	43

Sound Absorptive Coefficients

1/1 Octave Band Centre Frequency, Hz	125	250	500	1k	2k	4k	8k	NRC
FS/S FS/A & FSt/S	1.12	1.12	1.10	1.01	0.89	0.76	0.57	1.05
SFS/S & SFS/A	0.49	1.04	1.14	1.05	0.96	0.95	0.87	1.05
C12/S & C12/A	0.48	1.08	1.10	0.99	0.92	0.83	0.78	1.00
C38/S & C38/A	0.68	1.19	1.10	1.03	0.90	0.81	0.76	1.05

Test Report 723-20f-95, 723-20o-95 & 723-21e-95 refers.

All data in accordance with ISO standard 354, ASTM C 423 and E 413 with 11.15m² test sample in 262m³ reverberation room. Coefficients greater than 1.0 result from edge diffraction effects. Do not use sound absorption values greater than 0.95.

Acoustic Barriers

Installation & Maintenance

We offer a full design, delivery and installation service, which can also include all necessary structural steelwork. Barriers can be erected by IAC's own, trained personnel. Alternatively, they can be installed by others (contractors, end users etc), preferably under the supervision of an IAC Acoustics engineer.

All IAC Acoustics barriers have guaranteed, rust-proof finishes. Periodic cleaning can be undertaken using water/mild detergent. More stubborn stains and graffiti can be removed using harsher cleaning chemicals, though we only recommend these are applied to Polyester Powder Coated (PPC) surfaces.

Finishes

IAC Acoustics Noishield™ barriers are available in a wide range of standard finishes and colours. These include:

- Galvanised Steel
- Aluminium
- Polyester Powder Coating (PPC)
- Vinyl Coated Steel

Special, optional finishes are also available. For example, barriers can be faced with brick, stone, wood, slate and other materials.

Features & Benefits

- Proven, certified, sound transmission loss (noise reduction)
- Sound absorption to minimise reflected sound
- Tough, abuse-resistant steel/aluminium construction
- Weather-resistant, rust-proof, durable finishes which blend sympathetically with the surrounding landscape
- Very low maintenance and easy to clean
- Assembled from prefabricated components for fast on-site installation
- Structural steelwork included on request



Applications

IAC Acoustics Noishield™ barrier systems give communities effective protection from a large range of noise pollution sources.

These include:

- Utilities: Power Stations, Electricity Transformers, Gas Regulator Centres, Water Pumping Stations
- Transport: Railways, Roads and Airports
- Mechanical Plant: Generators, Compressors, Pumps, Motors and Chillers
- Manufacturing and Distribution: Factories and other Industrial Facilities, Loading/Unloading Bays, Building Construction Sites

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