



POLYURETHANE NON-FLAMMABLE ACOUSTIC FOAM (CLASS 'O')

A general purpose acoustic foam that due to its extended properties is highly adaptable. INS Class 'O' acoustic foam is a fire retardant modified polyurethane acoustic foam designed to meet the stringent requirements of British Building Regulations. Dark grey/black in colour, it is CFC and HCFC free.

ADVANTAGES

- Available in sheet or roll form
- Flexible and easily cut
- Easy to handle and install
- CFC and HCFC free
- Available with various backings including self-adhesive backing and Class 'O' foil facing
- Non-toxic

PHYSICAL INFORMATION

Standard sheet size	2m x 1m (also available in 10m & 20m rolls)
Standard thickness	6, 12, 15, 20, 25, 30, 45, 50 and 70mm
Density	80 to 100 kg/m ³
Indentation hardness	156 N
Elongation at break	188% (minimum unaged)
Operating temperatures	80°C (max. continuous) 110°C (intermittent) -30°C (minimum)

TECHNICAL INFORMATION

Fire tests:

BS 476: Parts 6 & 7	Class 'O'
BS 476: Part 5: 1979	Class 'P'
BS 476: Part 6: 1981	F.p.i index 8.5
BS 476: Part 7: 1987	Class 1
BS 4735	Char4.5mm
BS 5852 Part 2	Pass
Civil Aviation CAAB I FAA	Pass
Flammability (FMVSS 302)	Zero burn rate Self extinguishing
ASTM 1692: 1974	Resists ignition
UL 94 Classification	94-V-0
ATS1000.001 Smoke Toxicity	Pass
Erosion Resistance	10,000cu ft/min
NES (Naval Eng. Standard)	713 Issue 3

APPLICATIONS

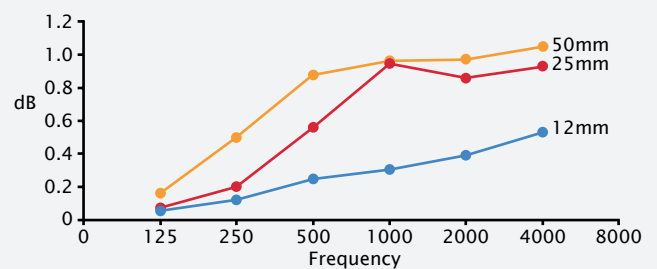
- Internal and external duct linings
- Thermal & acoustic machine coverings
- Suspended ceiling absorptive panels
- Composite constituent combined with acoustic barrier material for acoustic flooring and external lagging

ACOUSTIC PERFORMANCE

INS Acoustics foam is a high performance material that has been acoustically tested at a UKAS certified independent test laboratory.

Random Incidence Sound Absorption Coefficient as tested in accordance with BS3638: 1987

Material Thickness	Frequency (Hz)						
	125	250	500	1k	2k	4k	NRC
12mm	0.08	0.14	0.22	0.32	0.40	0.53	0.27
25mm	0.08	0.20	0.56	0.93	0.84	0.92	0.63
50mm	0.19	0.49	0.87	0.97	0.97	1.04	0.76



Ductwork Attenuation (dB) – breakout noise

Material thickness	Duct size	Frequency (Hz)					
		125	250	500	1k	2k	4k
12mm	900x600	2.9	5.1	8.8	4.2	7.2	13.0



ACOUSTIC PERFORMANCE (CONT)

Ductwork Attenuation (dB) – airborne noise

Material thickness	Duct size	Frequency (Hz)					
		125	250	500	1k	2k	4k
12mm	900x600	0.2	0.6	1.7	3.7	5.3	4.5
25mm	900x600	0.2	0.8	2.9	10.8	6.9	7.2
50mm	900x600	0.8	2.9	7.2	11.0	7.1	6.2
25mm	450x600	0.4	1.0	3.3	14.1	8.3	8.9
50mm	450x600	1.6	3.1	8.7	16.6	8.8	8.6
25mm	300x600	0.6	1.4	3.8	15.1	12.0	11.4
50mm	300x600	2.6	5.4	10.5	19.5	15.1	11.6

FACING AND BACKING MATERIALS

INS foam is available in plain format or with a wide range of facing and backing materials to suit the application or to ease installation. Standard surface treatments available are:

- Self adhesive backing
- Class 'O' foil facing (COFF)
- Melinex facing
- 200gm woven glass cloth facing
- S-V1 polymeric coating
- SVG1 vinyl coated glass cloth facing

INSTALLATION GUIDELINES

InNS Acoustics foam is easy to handle and simple to install. To facilitate easy handling it is recommended that it be installed in sheets not larger than 2m x 1m, but larger sizes are available to special order.

Plain INS foam

Installing plain (unfaced and unbacked) INS foam can be accomplished by either bonding or using mechanical fixings, or a combination of both. First, ensure that the substrate surface is dry, clean and free from oil and grease (this can be achieved using a solvent cleaner). For vertical surfaces, it should be laid, cross bonded, from the bottom upwards using a suitable adhesive such as INS A8514. For overhead or inverted surfaces, a combination of bonding and mechanical fixings must be used to avoid sagging of the foam. Support pins should be fixed to the surface at a rate of 9 pins per m². Once the pins are in place, the foam should be cross bonded, and from one side press the foam to firmly fix the material in place.

Self adhesive foam

Installing foam with a self adhesive backing provides a quick and efficient means of applying the acoustic foam. First, ensure that the substrate surface is dry, clean and free from oil and grease (this can be achieved using a solvent cleaner). The self-adhesive backing is protected with a backing paper that can be peeled off. If it is

required to cut the acoustic foam to size, it is recommended this is undertaken before the removal of the protective backing. When the acoustic foam is cut to size, peel back one edge of the backing paper and line the material edge up square, then gently peel off completely and press until the panel is fixed firmly. Apply an even pressure by pad or roller to ensure intimate contact between the self adhesive film and the substrate surface. When adhering onto vertical or inverted horizontal surfaces, it is recommended to additionally use a mechanical fixing method such as hangers to prevent sagging of the acoustic foam at 9 per m². Note, when using acoustic foam of 25mm thickness or greater on vertical surfaces, it is necessary to additionally use mechanical fixing hangers to help support the acoustic foam to the substrate surface.

RECOMMENDED INSTALLATION ACCESSORIES

Aerosol adhesive

INS Spraytack is a specially formulated nonflammable synthetic rubber adhesive. Available in 500ml aerosol cans, which provides approximately 5m² coverage. Spraytack is a contact adhesive that requires application to both surfaces before bonding.

Brush applied adhesive

A8514 is a low n-Hexane formula designed specifically for INS acoustic foams, and provides rapid tack development. Available in 5 litre cans, which provides approx. 3m² coverage. INS A8514 can be used either as a one way wet or two way dry contact adhesive.

Pins and washers

INS pins and washers are available in two designs:

- 1) With a self adhesive base
- 2) With a perforated base for use with a separate adhesive

Both types consist of a pointed spike attached to a square steel base. The INS foam is held in place by a self-locking washer, which is slid over the spike after the foam is installed.

INSTALLATION SERVICE

In addition to supply of this product INS Acoustics offers a competitively-priced installation service anywhere in the UK. Use of our service ensures that installation is performed to the highest standards by tradesmen fully experienced in the specialist skills of fitting acoustic materials correctly.

For further details contact our technical team on 0151 677 8650.

