Oct 2019

WILHAMS

WILHAMS INSULATION FAR EAST SDN BHD

SoundPro®

PUNF Foam

Sound absorption lining for ducts

PUNF Foam is a fire retardant modified polyurethane acoustic foam designed to meet the stringent requirements of British Building Regulations. Dark grey in colour, PUNF foam 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

Applications

PUNF Foam is used for internal and external duct linings, thermal/acoustic machine coverings and suspended ceiling absorptive panels. Also used as part of composites combined with an acoustic barrier material for acoustic floor treatments and external lagging products. A general purpose acoustic foam that due to its extended properties is highly adaptable.

Physical Information

Standard sheet size:	2m x 1m Also available in rolls of 10m and 20m lengths depending on material thickness
Standard thicknesses:	6mm, 12mm, 15mm, 20mm, 25mm, 30mm, 45mm, 50mm and 70mm
Density:	108 kg/m^3
Indentation hardness:	156 N
Tensile strength:	88 kps
Elongation at break:	188% (min. unaged)
Operating temperatures:	80 C (max. continuous) 110 C (intermittent) -30 C (minimum)

Technical Information

PUNF Foam conforms to the following specifications:

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	– Char 4.5mm
• BS 5852 Part 2	– Pass
• Civil Aviation CAA8 / 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

Acoustic Performance

PUNF 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 BS 3638 : 1987.

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

Ductwork attenuation (dB) – airborne noise

Material	Duct Size	125	250	500	1k	2k	4k
12mm PUNF	900 x 600	0.2	0.6	1.7	3.7	5.3	4.5
25mm PUNF	900 x 600	0.2	0.8	2.9	10.8	6.9	7.2
50mm PUNF	900 x 600	0.8	2.9	7.2	11.0	7.1	6.2
25mm PUNF	450 x 600	0.4	1.0	3.3	14.1	8.3	8.9
50mm PUNF	450 x 600	1.6	3.1	8.7	16.6	8.8	8.6
25mm PUNF	300 x 600	0.6	1.4	3.8	15.1	12.0	11.4
50mm PUNF	300 x 600	2.6	5.4	10.5	19.5	15.1	11.6

Ductwork attenuation (dB) – breakout noise

Material	Duct Size	125	250	500	1k	2k	4k
25mm PUNF	900 x 600	2.9	5.1	8.8	4.2	7.2	13.0

Erosion resistance

PUNF Foam has been tested in accordance with ASTM Standard C1071-86 "Standard Specification for Thermal and Acoustical Insulation (Mineral Fiber Duct Lining Material)", Paragraph 12.7 Erosion Resistance Test and met the requirements of the erosion test at a velocity of up to 10,500 fpm.

Facing and backing materials

PUNF 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

PUNF Foam is easy to handle and simple to install. To facilitate easy handling, it is recommended that PUNF Foam be installed in sheets no larger than 2m x 1m.

Plain PUNF Foam

Installing plain PUNF Foam can be accomplished by either bonding or using mechanical fixings, or a combination of both.

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

Self adhesive PUNF Foam

Installing PUNF Foam with a self adhesive backing provides a quick and efficient means of applying the foam.

- First ensure that substrate surface is dry, clean and free from oil and grease (this can be achieved using solvent cleaner).
- The PUNF Foam with 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 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 acoustic foam 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 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 PUNF 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.

Accessories

WIlhams recommend the following products to assist installation.

Aerosol adhesive

Wilhams SPRAYTACK is a specially formulated non-flammable 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

Wilhams A8514 is a low n-Hexane formula designed specifically for PUNF Foam, and provides rapid tack development. Available in 5 litre cans, which provides approximately 3m² coverage. Wilhams A8514 can be used either as a one way wet or 2 way dry contact adhesive.

Pins and washers

Wilhams 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 consists of a pointed spike attached to a square steel base. The PUNF Foam is held in place by a self-locking washer, which is slid over the spike after the acoustic foam is installed.

Wilhams Insulation Far East Sdn Bhd
15 & 17 Jalan Utarid U5/23
Mah Sing Integrated Industrial Park
40150 Shah Alam, Selangor, Malaysia
Tel : +603-7846 6728 Fax : +603-7846 6540
E-mail : wilhams@wilhams.com.my
Website : www.wilhams.com.my