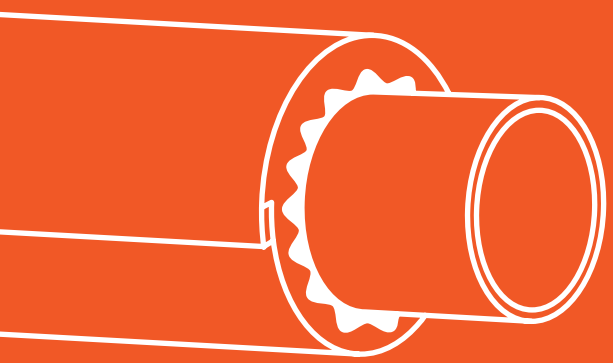


Technical Product Specifications:

SOUNDLAG™

Approval/calculation possibilities:

- 6 Star Green Rating
- AS/NZS 1530.3

FDG

Pyrotek BY FDG

SOUNDLAG™ 4525C FOAM BASED & DUCT LAGGING

Soundlag is a highly flexible foam-based composite acoustic pipe lagging product. It was developed to reduce breakout noise from wastewater pipes, valves, fan housings and ductwork in commercial, industrial and residential buildings.

The product range complies to international fire standards to meet fire safety demands in buildings. All Soundlag products are also equipped with a aluminium foil facing that achieves a Class 0 rating.

Soundlag 4525C provides an optimal soundproofing solution for those seeking compliance to BCA (Building Code of Australia) F5.6 requirements for habitable and non-habitable rooms.

Based on test results, Soundlag™ 4525C can offer a significantly higher performance of up to 5 dB(A) compared to low noise pipe products especially in areas with no ceiling or with penetrations.

The highly dense flexible mass layer delivers excellent sound reduction properties. Soundlag's decoupling layer breaks the vibration path between the substrate and the mass barrier, allowing the vinyl wrap to remain flexible - optimising performance.

With over 20 years of manufacturing, Soundlag has been proven not to crack, de-laminate or cause plasticised tape failure - one of the reasons why it is the leading choice for many acoustic consultants, architects and consulting engineers worldwide.

Applications

- Wastewater pipes
- Hydraulic pipes
- Compressor and pump wraps
- HVAC
- Fan housings

Soundlag™

Features

- Better performance - up to 5 dB(A) with Soundlag 4525C compared to low noise pipe products without ceiling or areas with penetrations
- Class 0 aluminium foil facing
- Tested to AS/NZS 1530.3 with excellent flame resistance (4525C)
- Soundlag range complies to national fire standards
- Broad operating temperature range
- Reduces the noise in hydraulic and wastewater pipes by up to 25.2 dB(A)
- Free from odour producing oils and bitumen
- Contain no ozone depleting substances
- Simple to install - can be cut to size
- Easy to bond
- Endorsed and tested by leading acoustic consultants and engineers
- Soundlag carries a ten years manufactures warranty.

Specifications

Colour	Silver (Aluminium foil facing) Blue convoluted (Soundlag 4525C)
Available	Standard roll size: 1.35 m x 5 m (4.4 ft x 16.4 ft)

Product Specifications

Product	Standard Thickness	Standard Roll Weight	Standard Roll Size	Barrier Weight	Operating Temperature Range
Soundlag 4525C	25 mm (0.98 in)	37 kg (82 lb)	1.35 x 5 m (4.4 ft x 16.4 ft)	5 kg/m2 (1 lb/ft2)	Continuous: -40 to 100 °C (-40 to 212 °F) Intermittent: -40 to 120 °C (-40 to 248 °F)

Material Properties

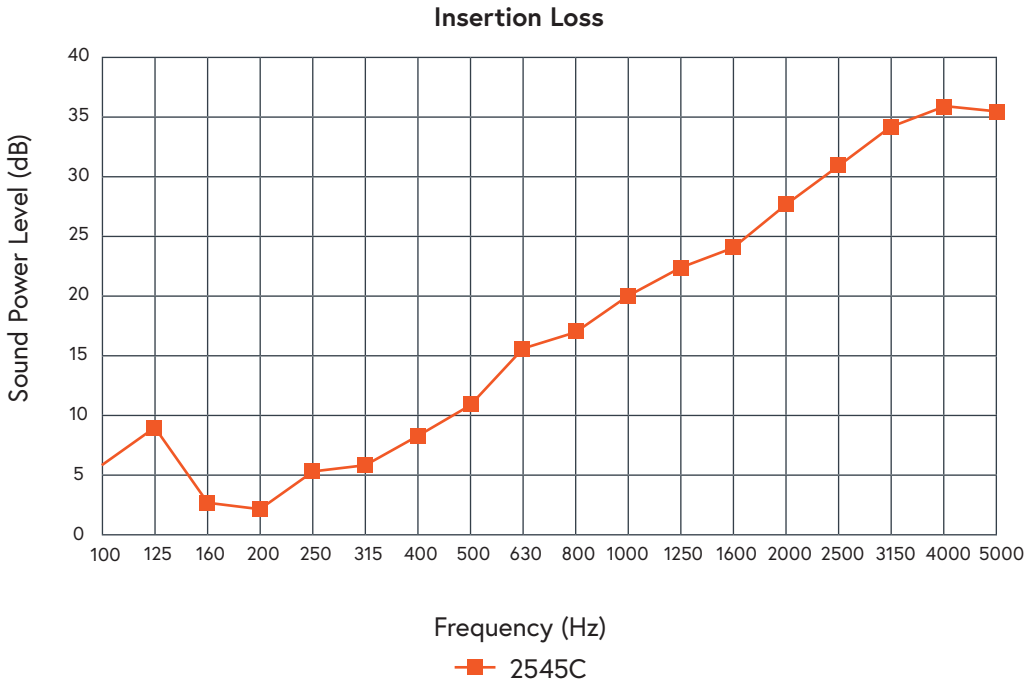
Product	Test Method	Property	Report	Results
Soundlag 4525C	AS/NZS 1530.3	Ignitability, flame propagation, heat and smoke release	16-00429	0,0,0,1
	AS/NZS 3837, ISO 5660-1 & ISO 5660-2	Fire hazard properties	FH 5997-T0	Group 3
	ASTM C518	Thermal conductivity	DI0324/DU01	0.0476 W/mK
	BS 476 Part 6	Fire propagation	381636	Class 0 foil facing
	BS 476 Part 7	Surface spread of flame	381638	
	ASTM D5116	TVOC specific area emission rate	CV 100812	Emissions are less than the Green Star recognised threshold of 0.5 mg/m2/hr

Acoustic Performance

Product	Test	Report	Result
Soundlag 4525C	Insertion loss (single layer)	ATF750B	25 dB
	Insertion loss (double layer)	nss22253b	29 dB
	NCC BCA Volume 1 F5.6 - Sound insulation rating of internal services: Habitable room	Lt 002 20161709	Suitable with ≥10 mm plasterboard*
	NCC BCA Volume 1 F5.6 - Sound insulation rating of internal services: Non-habitable room	Lt 01 r02 2010167	Suitable without ceiling*
	AAAC Rating (Association of Australasian Acoustical Consultants - Apartment and Townhouse Acoustic Rating)	PKA-A186	6 Star Rating
	Transmission loss (ISO 15186-1 & ISO 10140-4)	189 (rev 1)c	Rw 28, STC 28 (barrier layer only)

**Please see report for further information*

Frequency (Hz)	4525 (db)
100	5.6
125	8.5
160	2.7
200	2.0
250	5.2
315	5.8
400	8.2
500	10.8
630	15.4
800	17.2
1000	20.2
1250	22.4
1600	24.1
2000	27.4
2500	30.9
3150	34.1
4000	36.3
5000	35.7
Insertion Loss	25



Tested at National Acoustic Laboratories, Australia Report Numbers: ATF750B, ATF750C

Installation Guide

Soundlag™

The Installation Guide provides recommendations to maximise the service life in various applications.
Soundlag pipe lagging gives the dual benefits of a noise barrier and a noise absorber.

Working Health And Safety

Gloves, protective goggles and any other appropriate safety equipment based on local health & safety requirements and safe work practice must be worn by applicator.

Preparation

- Ensure pipe work pressure testing is complete and the pipe work surface is clean and dry before installing product.
- If the product has been stored on site for a period of time, ensure the material is clean, dry and free from oil and dirt or rips and tears.

Essentials For Effective Lagging

- Coverage of pipe by the lagging material must be continuous.
- There should be no gaps at joints or edges. The smallest of gaps at any joint will result in performance loss. (Refer section 'Treatment of Joints' further in this document)
- A tight seal around all joints and edges is critical for maximum performance. Use reinforced aluminium insulation tape.
- Attention to detail and good workmanship in cutting, applying and fixing the product to the pipe is essential.

How To Measure And Cut Material

For Straight Pipe Sections

Measure the length (L) and outside diameter (OD) of the pipe requiring lagging.

Apply the following formula to calculate and cut the required wrapping width (W) of Soundlag. The formula allows for a 5 (five) percent overlap:

$$W = \pi \times (OD + (2 \times T)) \times P$$

OD = outside diameter of the pipe

P = Percentage overlap (1.03 to 1.1)

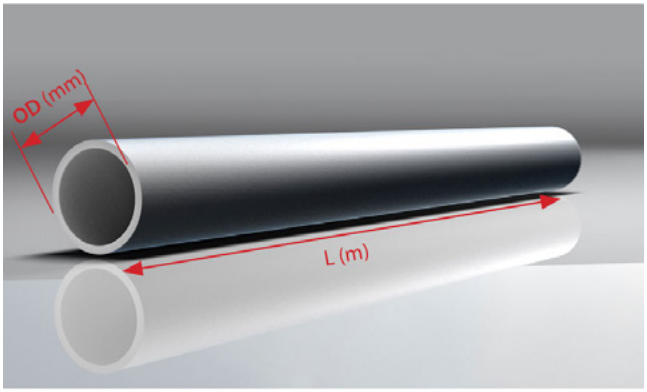
π = 3.14 (pi)

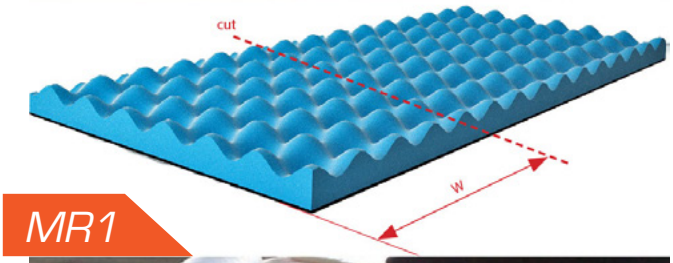
T = Total thickness of acoustic insulation (allow 20% compression on thickness when using convoluted foam or fibreglass decoupling layers.)

Mark the calculated width (W) along the length of the roll and cut material with a retractable knife or scissors (as shown in figures MR1 and CR1).

Soundlag is easy to cut to size with a retractable knife or scissors, minimising wastage.

Always cut from the foil faced barrier side of the material.





MR1

CR1

Reinforced Aluminium Insulation Joining Tape:

FDG can provide a high quality self-adhesive insulation joining tape. This reinforced aluminium foil tape is designed to serve as a joining or covering tape for Pyrotek's 'Soundlag'.

HOW TO APPLY INSULATION JOINING TAPE

1. Tape is easy to tear by hand.
2. Remove the release liner backing
3. Position tape centrally over the sections to be joined and firmly press along the entire tape surface.
4. Wipe or rub with firm pressure across the tape with a cloth or blade to smooth out any air bubbles or buckles.

Do not over-stretch the tape when applying as this will create buckles and voids in the contact area.

Treatment Of Joints On Straight Pipe Sections

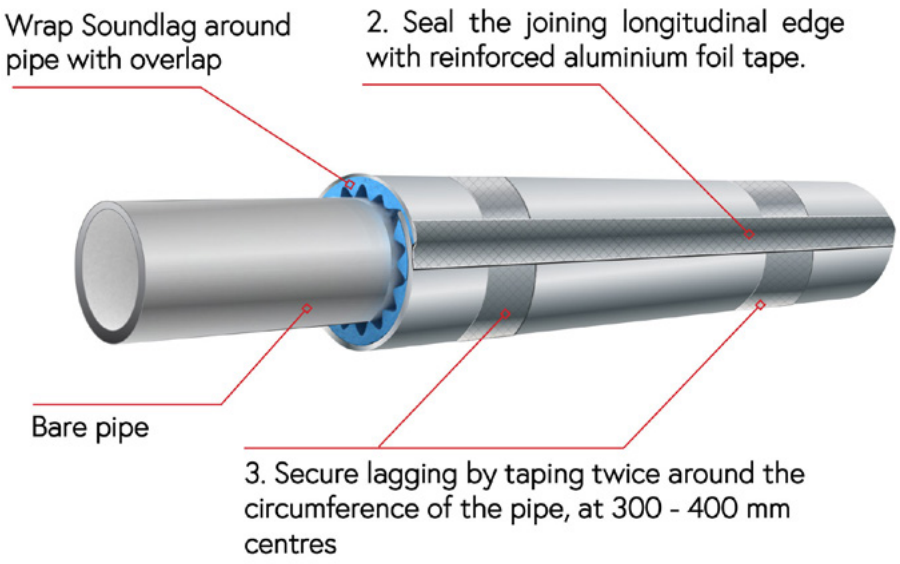
- All joints along longitudinal pipe sections must be fitted with an overlap of adjoining material segments. Overlapped sections must then be taped and sealed with reinforced aluminium foil tape.
- A strip of 30 mm foam can be removed along one or both edges as required to provide for an overlap at joints. (See Overlapping images)
- Images show insulation material segments with foam removed being overlapped at joints.
- Joints overlapped with foam removal provide a smooth surface.

Overlapping

Images (left to right) show the removal of foam before being overlapped at joints. Joints overlapped without foam removal provide a smooth surface.

Lagging A Straight Pipe Section

A diagrammatic representation of Soundlag lagged to a straight pipe section.



Test To Check For A Tight Seal Of Joints

Overlap

A correctly sealed joint will NOT allow the metal object to pass through the tape.

No Overlap

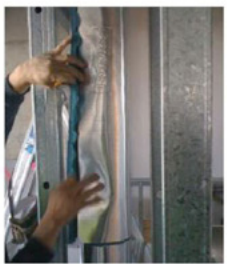
An incorrect butt joint or no overlap will allow the metal object to pass through the tape and lagging.

Soundlag on a straight pipe section *in situ*

Wrap each segment with an overlap

Use small tape patches to secure the wrap and position firmly around the pipe

Tape along the longitudinal overlapped length



Continue lagging adjoining pipe area with the recommended overlap and joint treatment

Tape all joints and edges for a tight seal

The following table is an indicative measure of Soundlag 4525C (1.35 X 5 m roll) coverage on straight pipe sections. The calculation includes an overlap as stated in the formula.

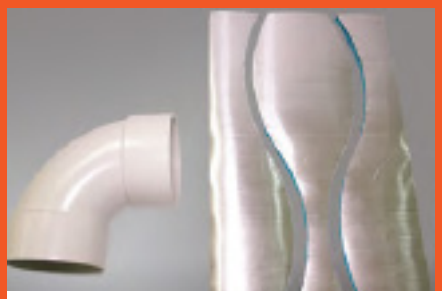
Product Specifications

Nominal Inside Pipe Diameter (mm)	Outside Pipe Diameter (mm)	Actual Cut Length -Wrapping Width- (mm)	Pieces Per Roll (1.35 x 5 m roll) Units	Coverage of Straight Pipe Section (Lineal metres)
32	36	260	19	25.5
40	43	280	17	23
50	56	320	15	20
65	69	360	13	17.5
80	83	405	12	16
100	110	500	10	13.5
150	160	650	7	9.5
225	250	930	5	7
300	316	1135	4	5
375	401	1400	3	4

NOTE: All information above only serves as a general guideline. Different applications can vary case-by-case. Please contact your FDG representative for more information.

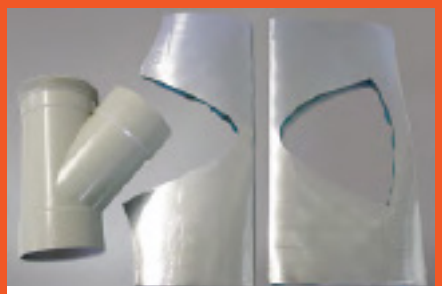
Lagging of Bends and Junctions

Soundlag™ is easily cut with a knife or scissors, then simply wrapped around the pipe using high quality aluminium tape. Remember to always cut from the foil faced barrier side of the material.




90° bend


45° bend




Y junction


Pot gully

Pyrotek BY FDG

SOUNDLAG™

8025C

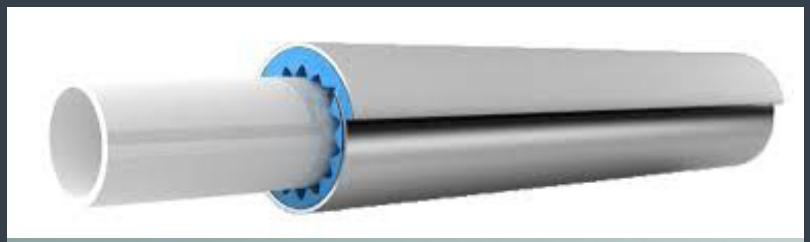
ACOUSTIC PIPE & DUCT LAGGING

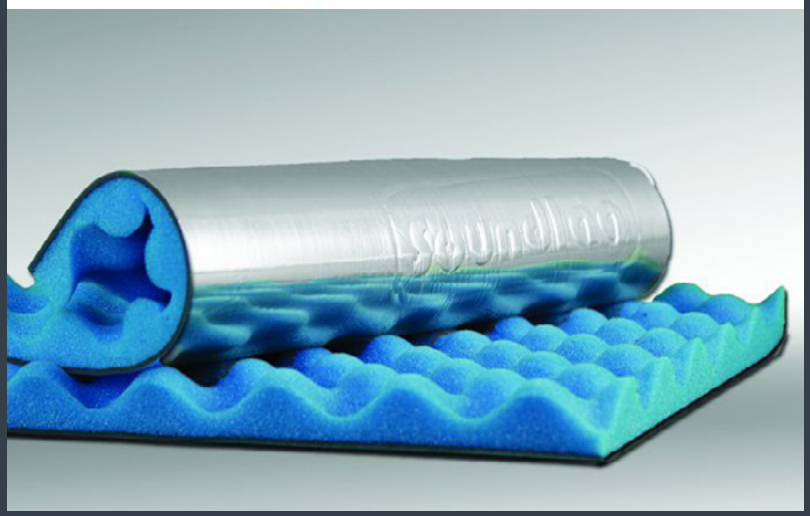
Soundlag™ is a high-performance composite acoustic lagging product developed to reduce noise from wastewater pipes, valves, fan housings and ductwork in commercial, industrial and domestic buildings.

The highly dense and flexible mass layer provides excellent sound reduction properties, whilst the decoupling layer breaks the vibration path between substrate and the mass barrier, allowing the vinyl external wrap to remain flexible - optimising performance. The external foil facing offers a fire resistant covering and an excellent surface to join adjacent sheets.

Applications

- Wastewater pipes
- Hydraulic pipes
- Compressor and pump wraps
- Air-conditioning ducting and shrouds
- Fan housings





Soundlag™

Features

- Free from odour producing oils and bitumen, resulting in low VOC
- Contain no ozone depleting substances
- Broad operating temperature range
- Reduces the noise in hydraulic and wastewater pipes by up to 25 dB(A)
- Varying range of weights and thicknesses
- Choice of foam, polyester, fibreglass or glass wool
- Can cut to size and simple to install
- Easy to bond - matching Tape ALR or equivalent
- Endorsed and tested by leading acoustic consultants and engineers

Specifications

Colour	Aluminium facing — Blue convoluted foam backing (8025C)
Available	Standard roll size: 1.35 x 3 m (8025C)

Product Specifications

Product	Standard Thickness	Standard Roll Width (m)	Standard Roll Size (m)	Roll Weight	Barrier Weight (kg/m^2)	Thermal Conductivity (W/mk)	Operating Temperature Range
Soundlag 8025C	29 mm	1.35	3	34	8	0.0476*	Continuous: -40 to 100 °C (-40 to 212 °F) Intermittent: -40 to 120 °C (-40 to 248 °F)

Tolerances: Length: 1%; Width: - 0 /+5 mm; Thickness: ±3 mm; Weight: ±10%
** Tested to ASTM C518 (report DI0324/DU01)*

Material Properties

Test Method	Property	Report	Results
BS 476 Part 6	Fire propagation	381636	Class 0 foil facing
BS 476 Part 7	Surface spread of flame	381638	

Acoustic Performance

Test Method	Test method	Report No.	Results
Soundlag 8025C	Insertion loss (single layer)	nss22522a	25 dB (LAFmax)

FDG

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