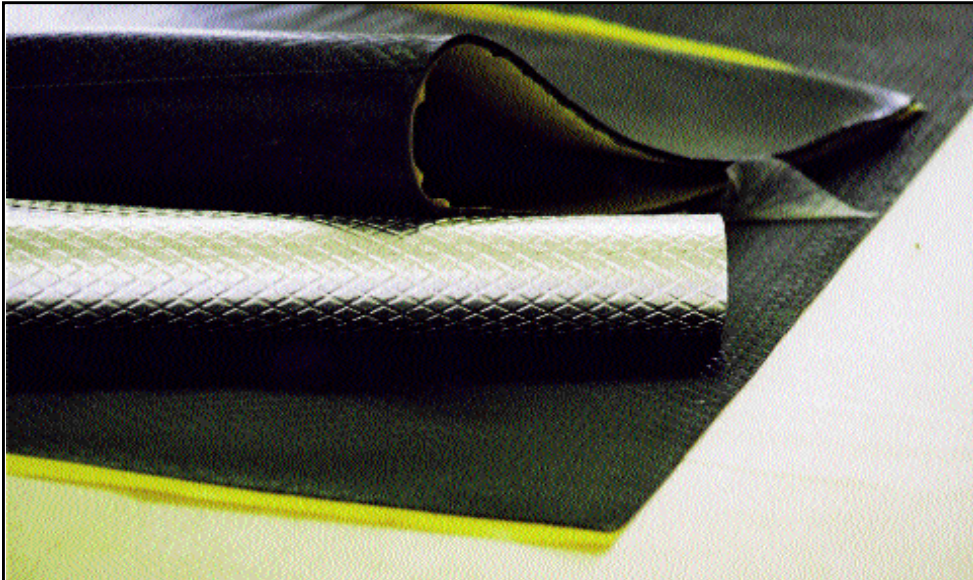


Damping Sheet

Bitumen Based

Description

Bitumen Based Damping Sheets are manufactured from bitumen with added mineral fillers and synthetic rubber to form a highly viscoelastic material.



They are designed to minimise acoustic and vibration radiation of sheet metal. They can improve sound insulation performance of the substrate by adding mass.

Bitumen Based Damping Sheets are available in five standard grades, two of which have an aluminium foil facing on one side for improved fire performance: all have a full self-adhesive backing. They are available in sheets or can be die-cut to size and shape.

Colour

Base material - Black
Surface finish - Black or Silver

Application

Bitumen Based Damping Sheets are used extensively to reduce vibration in flat, resonant surfaces such as vehicle panels, machine guards, domestic and industrial stainless steel sinks and preparation tables.

Operating and Application Temperatures

Bitumen Based Damping Sheets can be used on substrates operating at continuous temperatures between -20°C and 120°C.

For ease of application, **Bitumen Based Damping Sheets** should be applied when the ambient temperature is between 18°C and 25°C. The material becomes brittle and breaks when cold, and should not be handled when the temperature is below 5°C

Fire Performance

Bitumen Based Damping Sheets meet the requirements of FMVSS 302/ISO3795. **DS 3A** and **DS 5A** are supplied with a Class 1 aluminium foil facing on one side to BS476: Part 7: 1987.

Crown Business Park
Old Dalby
Melton Mowbray
Leicestershire
LE14 3NQ
Tel: 01664 821810
Fax: 01664 821820

E-mail:
info@hodgsongroup.co.uk

Web Site:
<http://www.acoustic.co.uk>

Acoustic Performance

Material	Geiger Plate Decay Rate @ 20°C dB/sec
DS 3	15
DS 3A	15
DS 5	35
DS 5A	35
DS 10	98

Bitumen Based Damping Sheets improve the acoustic performance by increasing decay rate. Decay rate is the speed in dB/second at which the vibration reduces after panel excitation has ceased. The higher the decay rate, the better the acoustic performance. An example of this can be seen overleaf.

An Example of Improvement in Decay Rate on 0.8mm Steel

0.8mm Steel	Sound Transmission Loss dB					
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz
Untreated	8	14	20	26	32	39
Treated with DS 10	27	32	32	33	41	43

Dimensions and Weight

Grade	Thickness mm	Weight kg/m ²	Colour	Sheet Size mm
DS 3	1.5	3	Black	1500 x 1000
DS 3A	1.5	3	Silver	1500 x 1000
DS 5	2.5	5	Black	1500 x 1000
DS 5A	2.5	5	Silver	1500 x 1000
DS 10	5	10	Black	1500 x 1000

Note Other thicknesses and weights may be available subject to minimum quantities. Further details available on request.

Storage and Handling

Bitumen Based Damping Sheets should be stored at temperatures between 10°C and 25°C and allowed to stabilise at room temperature prior to use. The material will become brittle and break if handled at temperatures below 5°C. **Bitumen Based Damping Sheets** should be used within 3 months of purchase.

Application and Fixing

To obtain optimum bond strength from the self-adhesive backing supplied on **Bitumen Based Damping Sheets** follow these instructions:

- 1 Allow to stabilise at room temperature prior to use.
- 2 Apply in the horizontal or vertical plane. Where there is a requirement for the damping sheet to be applied to the underside of a substrate, the substrate should be turned upside down if at all possible. The damping sheet can then be applied to the underside from the horizontal or vertical plane and left until the adhesive has fully cured before turning the substrate back to its correct position. If re-orientation of the substrate is not possible, the damping sheet can be applied from the underside providing it is supported against the substrate until the adhesive cures.

It is recommended that some form of permanent additional mechanical fixing also be used to retain DS 5, DS 5A and DS 10 to the underside of substrates. This prevents the downwards pressure and weight of the damping sheet weakening the adhesive bond.

- 3 Clean and dry the substrate with an appropriate cleaner i.e. methylated spirit or similar so that it is free from oil, grease, rust, dust or other particles. For applications onto timber substrates, the surfaces should be prepared using a primary coat of A3038 Neoprene Adhesive, available from **Hodgson & Hodgson Group Ltd**.
- 4 If possible, gently preheat the damping sheet to 30°C and apply when the ambient temperature is between 18°C and 25°C. Do not subject to direct flame.
- 5 Peel off the protective backing, position material onto substrate and apply a constant forward and downward pressure to the surface of the damping sheet to ensure it is securely fixed onto the substrate. A hard timber or steel roller is recommended for this purpose.
- 6 Particular care must be taken to avoid forming air pockets between the substrate and self-adhesive backing, as this will weaken the bond and reduce the vibration damping performance.

For Further Information

contact
**Hodgson & Hodgson
Group Ltd**

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Melton Mowbray
Leicestershire
LE14 3NQ
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