danosa

Acoustic Insulation

M.A.D. 4 AUTOADHESIVE

4mm Self-Adhesive bituminous membrane for low frequency acoustic insulation.

EPD®

EPD S-P-01923

Membrana Acústica Danosa M.A.D.4 autoadhesiva (placas) is a high density membrane of bitumen modified self-adhesive specifically designed to behave as an anti resonant material.rIt is an efficient substitute for lead sheets

Presentation

- Length (cm): 600
- Width (cm): 100
- Thickness (mm): 4
- Surface (m²): 6
- Product code: 610036

Technical Data

Concept	Value	Standard
Mass per unit area (nominal) (kg/m²)	6	-
Improvement to airborne noise on laminated gypsum board partition, ΔR (dBA)	4	EN 140-16
Improved insulation at 125 Hz (between elements resort) (dB)	9.5	EN 140-16
Insulation improvement at 125 Hz (between rigid elements) (dB)	6	EN 140-16
Tolerance (%)	<10	EN 1849-1
Poisson coefficient	0.48	-
External fire behaviour	PND	-

Concept	Value	Standard
Elongation at break longitudinal (%)	Estable	UNE-EN 12311-1
Elongation at transverse break (%)	PND	UNE-EN 12311-1
Watertightness at 10 kPa (Type A)	Pasa	UNE-EN 1928
Water vapour resistance factor (μ)	PND	UNE-EN 1931
Low temperature flexibility (ºC)	< -5	UNE-EN 1109
Young's module (kPa)	70	EN 527-2
Reaction to fire	C s3 d0	EN 13501-1
Resistance to static loading (kg)	PND	UNE-EN 12730
Resistance to root penetration	No Pasa	prEN 13984
Longitudinal tensile strength (N / 5cm)	350 ± 100	UNE-EN 12311-1
Transverse tensile strength (N / 5cm)	250 ± 100	UNE-EN 12311-1
Longitudinal resistance to tearing (nail shank) (N)	PND	UNE-EN 12310-1
Resistance to tearing (nail shank) (N)	180 ± 50	EN 12310-1
Transversal resistance to tearing (nail shank) (N)	PND	UNE-EN 12310-1
Resistance to impact, A (mm)	<10	UNE-EN 12691
Joint Strength: Welding Shear	PND	UNE-EN 12317-1

Addtitional Technical Data

Concept	Value	Standard
Adhesion of granules (%)	PND	UNE-EN 12039
Dimensional stability at elevated temperatures (longitudinal) (%)	Estable	EN 1107-1
Dimensional stability at high temperatures (transversal) (%)	PND	EN 1107-1
Creep resistance at high temperatures (ºC)	>90	UN-EN 1110

Environmental Information

Concept	Value	Standard
Volatile organic compounds (COV's) (µg/m³)	50	ISO 16000-6:2006
Content of recycled raw material (%)	15	-
Post-consumer recycled content (%)	60	-
Manufactured in	Fontanar - Guadalajara (España)	-

Standards and Certification

- The sound certifications are the result of tests in an approved laboratory.
- *For any questions about information on the tests, please consult our Technical Department.

Laboratory	Test (EN 140-3) No	Result (EN 717-1)
L.G.A.I.	97.017.996	RA = 33,2 dBA
L.G.A.I.	98.012.316	RA = 47,2 dBA
L.G.A.I.	98.012.317	RA = 54,3 dBA
L.G.A.I.	98.012.318	RA = 65,8 dBA
LABEIN	B130-134-H91	RA = 64,2 dBA
LABEIN	B130-134-H94	RA = 65,4 dBA
DANOSA	95/MAD/008	RA = 38,5 dBA

Scope

- It is used in industrial insulation as an anti-resonant material, providing acoustic mass to galvanised steel sheets.
- It is used between rigid elements, such as gypsum plasterboard, to improve low-frequency insulation in both vertical and horizontal walls.
- Used between spring elements to increase the overall isolation of the treatment, improving significantly at low frequencies.

Advantages & Benefits

- By adhering to galvanised steel sheets, it improves the resonance of the sheet.
- By increasing the insulation at low frequencies, cavaties used can be kept to a minimal size.
- By increasing the mass of lightweight walls, a higher acoustic performance is achieved.
- It shifts the resonance frequencies of the rigid elements making the insulation stronger.
- Between insulators, it transforms acoustic energy into dynamics, improving insulation at low frequencies.
- Easy to install by stapling to the surface or using M.A.D. Self-adhesive.

Instruction for Use

Preliminary operations

Following the instructions and recommendations of the plasterboard manufacturers, the profiles should be fixed to the substrate including sealing strips.

On the ceiling, the mechanical strength of the damper and profile system must first be checked.

The first plasterboard is then fixed to the supporting structure with a sheet metal screw.

Make sure that this board is dry, clean and free of foreign bodies.
Laying of Danosa M.A.D.6 self-adhesive Acoustic Membrane:
1. On the wall

Start by cutting complete pieces of Danosa Acoustic Membrane M.A.D.6 self-adhesive to the same size as the height of the partition wall. The remnants will be used in the smaller panels or for finishing.

The anti-adhesive film is removed from the top of the piece.

Once the piece has been placed square to the facing, the membrane is pressed tightly against the laminated plaster, avoiding any wrinkles.

In the same way, the anti-adherent film is removed while the membrane is pressed to the plasterboard until the cut piece is completed.

To maintain the continuity of the membrane, the MAD has a recess at the edges that must be matched.

The second plasterboard is screwed to the supporting structure with sheet metal screws.

It is important to butt the joints with the first board, to avoid loss of watertightness.

2. Ceiling

Start by cutting pieces of self-adhesive Danosa Acoustic Membrane M.A.D.6 transversally to the roll at a distance of 1.2m. This produces pieces of 1 x 1.2 m2. The remnants will be used in the smaller panels or for finishing.

It can be applied with a mechanical fixing system or with gluing systems following the steps described in the wall application method.

It is possible to work directly on the ceiling by fixing the membrane to the first plasterboard or, on the other hand, to work on the floor by applying the membrane to the second board.

In the latter case, after fixing the membrane with staples or glue, the membrane and the second board are lifted by means of a mechanical lift.

This assembly is then screwed to the primary-secondary roof structure with sheet metal screws.

It is important to butt the joints with the first plate to avoid leakage.
Note: DPS: Sound Insulation Installation Manual. Details of Singular Points.

Indications and Important Recommendations

- For very heavy ceilings, it is recommended to use a ceiling grid system consisting of primary and secondary profiles. This system helps to spread loads if any shock absorber anchorage point breaks. See SPD 4.3.
- The ceiling dampers are always anchored to the floor joist or a reinforcing construction element. See SPD 4.2
- The facade cladding in a building must end at the dividing wall between different users. See SPD 2.1
- In dry wall cladding for heights over 4 m, we recommend the use of elastic fasteners. See SPD 2.5
- Gypsum plasterboards must always be anchored to the galvanised steel auxiliary structure, never use plate-plate screws.
- Surfaces must be free of dust. If this is not possible due to the construction process, we recommend applying a wet primer of CURIDAN, approximately 50 g/m2.
- Partition walls must be plastered with at least 1 cm. See SPD 3.
- Partition walls should not be anchored to structural elements (except for roofs in dwellings) such as pillars and facades. In order to maintain the stability of the system, the tiling element must be bonded to the internal floating partition walls.
- It is not possible to perforate with installations in the proposed solution in commercial premises located in tertiary buildings or commercial ground floors in residential buildings. See SPD 2.3 and SPD 4.4.
- Recommended temperature for application > 10ºC.
- Impact sound insulation must be used. See "Sound Insulation Solutions Manual" sheets from AA01-AA04.
- It should be borne in mind that this product forms part of A Sound Insulation system, so the Danosa Building Solutions Catalogue, sheets AA13 to AA15; AA23 to AA25; and AA30 to AA33, Installation of Sound Insulation, should be taken into account. Details of Singular Points (SPD), as well as the rest of the Danosa documentation.
- In the case of central heating or water intake installations, decoupling by means of a cross-linked polyethylene shell. See SPD 1.2

Handling, storage and preservation

- Consult the product safety datasheet.
- According to the EEC directives on labelling hazardous substances (GefStoffV), special labelling is not required.
- Material at room temperature can be handled without special precautions as it is stable at room temperature.
- The product, as such, is not classified as hazardous for transportation.
- Under normal conditions, the product is not hazardous.
- In application, the appropriate measures must be taken when handling machinery (mechanical fixing with staples) or for the application of adhesives via solvent.
- Temperatures above 80ºC alter the material and accelerate its degradation.
- Product components do not degrade significantly over time
- Keep away from flames and sources of heat.
- It is marketed as rolled sheets in coil form and transported loose or grouped on pallets, and is stable at room temperature and during transportation.

Notice

- The information contained in this document and any other advice provided, are given in good faith, based on DANOSA's current knowledge and experience when products are properly stored, handled

and applied, in normal situations and in accordance with the recommendations of DANOSA. The information applies only to the application (s) and the product (s) to which reference is expressly made. In case of changes in the parameters of the application, or in case of a different application, consult the DANOSA Technical Service before using the DANOSA products. The information contained herein does not exonerate the responsibility of the building agents to test the products for the application and intended use, as well as their correct application in accordance with current legal regulations. The product images used in our communications are indicative and may differ slightly in color and aesthetic appearance in relation to the final product.Orders are accepted in accordance with the terms of our current General Sales Conditions.DANOSA reserves the right to modify, without prior notice, the data reflected in this documentation.Website: **www.danosa.com** E-mail: **info@danosa.com** Telephone: **+34 949 88 82 10**