

Sound-insulating Technical Data Sheet			STI 024/06
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TECHNICAL DATA SHEET ARTICLE: MAPPYSIL FR AL 203

1. OVERVIEW

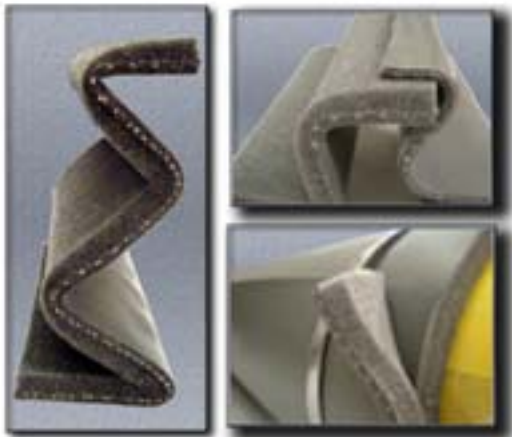
- Mappy Italia S.p.a.** offers ideal materials specifically studied for sound and noise insulation that spreads in the air and for the reduction of the acoustic irradiation and the vibration of roll plates(in the adhesive version), laminated plastics, walls, capsules and any box, coachworks and housing.

Mappysil FR AL 203 stands out because it is a combination of sound-insulating materials for example the polyester-based polyurethane flexible resin (PU) and sound-insulation as Mappysilent FR AL, the material allows excellent sound-insulating performances and vibration damping.

Lastly, Mappysil FR AL 203 has the characteristics of hydro-oil repellece from the cellular conformation of the extended closed cells grid on the PE side.

2. PRODUCT DESCRIPTION

- Mappysil FR AL 203** is a sound-insulating material composed of:



- physical polyethylene, th. 2 mm,
- Mappysilent FR AL , th. 2 mm,
- polyurethane foam, th. 10 mm.

On request:

- Water-based acrylic adhesive, non-toxic covered by a blue monosilic polythene film.

3. APPLICATION FIELDS

- Industry:** treatment of sound-insulating cabins, compressors, mechanical blowers, electrogen groups, engines, machinery and all the cases where there is a liquid (splashes of water, oil) and a small room for the insert of sound-insulating material.
Building stock: insulating of rooms, paving stones, floating floors, suspended floor, suspended ceiling, piping, especially recommended for the covering of the drainage pipes, casings, etc.

4. TECHNICAL FEATURES SHEET (GENERAL)

- Mappysil FR AL 203** is an acoustic barrier composed of two sheets, one of physical polyethylene and one of polyurethane polyester with an intermediate Mappysilent FR AL plate. The polyethylene surface has closed cells and is therefore water-proof, flexible and elastic for adapting to the non-uniformity of the surfaces and to be the vibrations damping element. The sheath of Mappysilent is responsible for the acoustic barrier th. 2 mm (4 kg/ mq). The thickness of the final material is 14 mm and, therefore, it is easily positionable under floor elements or carpets.

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Weight:	4,36 Kg/ m ²
Thickness:	mm. 14 (± 10%)
Standard format:	h. 1000 mm rolls
Standard length:	2 m and others on request
Colour of the material:	anthracite
Soundproofing curve:	see the graph attached

* We can offer the Mappysil FR AL 6 Kg/ m² th. foil on request and according to the quantity 3 mm.

5. TECHNICAL FEATURES SHEET (DETAIL)

5.1 Polyethylene is a polyolefin physical grid foam fully closed and regular.

Thickness:	from 2-3-4-5-6-10-15-20 mm and others on request
Standard Format:	h 1000 rolls
length:	from 50 to 200 mt according to the thickness
Colour:	anthracite or white

Properties	Regulation ISO	Unit	Values	Tolerances
Density	845	Kg/ m ³	30	± 10%
Ultimate tensile strength - longitudinal - transversal	1926	Kpa Kpa	395 250	± 10%
Elongation at traction - longitudinal - transversal	1926	% %	140 120	± 10%
Compression force - 10% plating - 25% plating - 50% plating	844	Kpa Kpa Kpa	19 38 105	± 10%
Residual deformation 22 h load, 23° C - 25% plating - 0,5 h after release - 24 h after release	1856-C	% %	21 12	± 10%
Thermal conductivity: - at 10 ° C - at 40 ° C	2581	W/ mK W/ mK	0.034 0.039	
Range of manufacturing temperatures.	interior	°C	-80/ + 100	
Water absorption (7 days)	interior	vol.%	< 1	
Water vapour transmission	1663	g/ m ² x 24 h	-	
Value μ (23°C, 0-85% um. rel.)	1663	-	-	
Shore	interior	-	17/ 49	
Adhesive dry residual		gr/ m ²	65 (± 5)	
Adhesive resistance at traction (PEEL) - value obtained on steel after 60-secs-contact:		N/ mm	19/ 25	

5.2 Mappysilent Fr AI is a polymeric and mineral charges- based barrier with a metal insert and non-woven fabric outer covering on one side.

Mappysilent Fr AI, not laminated, is indicated for the sound-insulation and the partial damping of the vibrations, especially for the discharge pipes coating and it can be used alone or as insert with multi-layer sheaths made of expanded materials and non-woven fabrics, also organic glass.

STANDARD DIMENSIONS:	DIMENSIONS ON REQUEST:
Plates:	
grammage: from 4 to 6 kg/ m ² ;	
height: 1,000 mm return	
length: 1,000 mm	max 1,500 mm
Coils:	
grammage: from 4 to 6 kg/ m ² ;	
height: 1,000 mm return	
length: according to the grammage	

Characteristic/Feature	Regulation/Test Method	U.M / Unit	Typical Values
Specific Weight/Density	ASTM D 1817 DIN 53550 UNI 7092	g / cm ³	d. 2,00 ± 0,10
Hardness*	ASTM D 2240 UNI – ISO 868 DIN 53505	Shore A	80± 10
Ultimate tensile strength Ultimate tensile strength*	ASTM D 412 DIN 50504 UNI 6065	N / mm ²	> 1,5
Elongation at break Elongation at break*		%	> 40%
Flexibility @ - 30° C Flexibility @ - 30° C	mandrel Ø 5 x thickness mandrel Ø 5 x width	--	ok
Flame propagation/ Flame propagation	UNI – ISO 3795 UL 94	mm/min	< 100

5.3 Flexible self-extinguishing polyurethane resin based on open cell non-trickling polyester with the following properties:

- regular cellular structure and high resistance to the air flow, which means high sound absorption;
- high mechanical resistance;
- excellent resistance to organic solvents.

	Dens.	Lift characteristics				Compression hardness	Dynamic effort		Resistance at traction		Residual Deformation	Elastic output	Porosity	Colours	Config.
	Toll. (±10%)	Compression hardness CV 40 (±15%)	Sink resistance (±15%)	Sink resistance (±15%)	Sink resistance (±15%)	URL (±20%)	Loss of thickness (Max)	Loss of lift	Ultimate tensile strength	Elongation at break (Min)	50% compression (Max)	(Min)	(±2)	Standard colours	St. Config.
U.m.	Kg/ m ³	kPa	N			g/ cm ²	%		kPa	%	%	%	n° cells/ cm		
Values	30	4.0	-	-	-	65	-	-	120	170	20	-	13	antr	B-R

Thermal conductivity: Kcal/ h 0,030 at 20° C

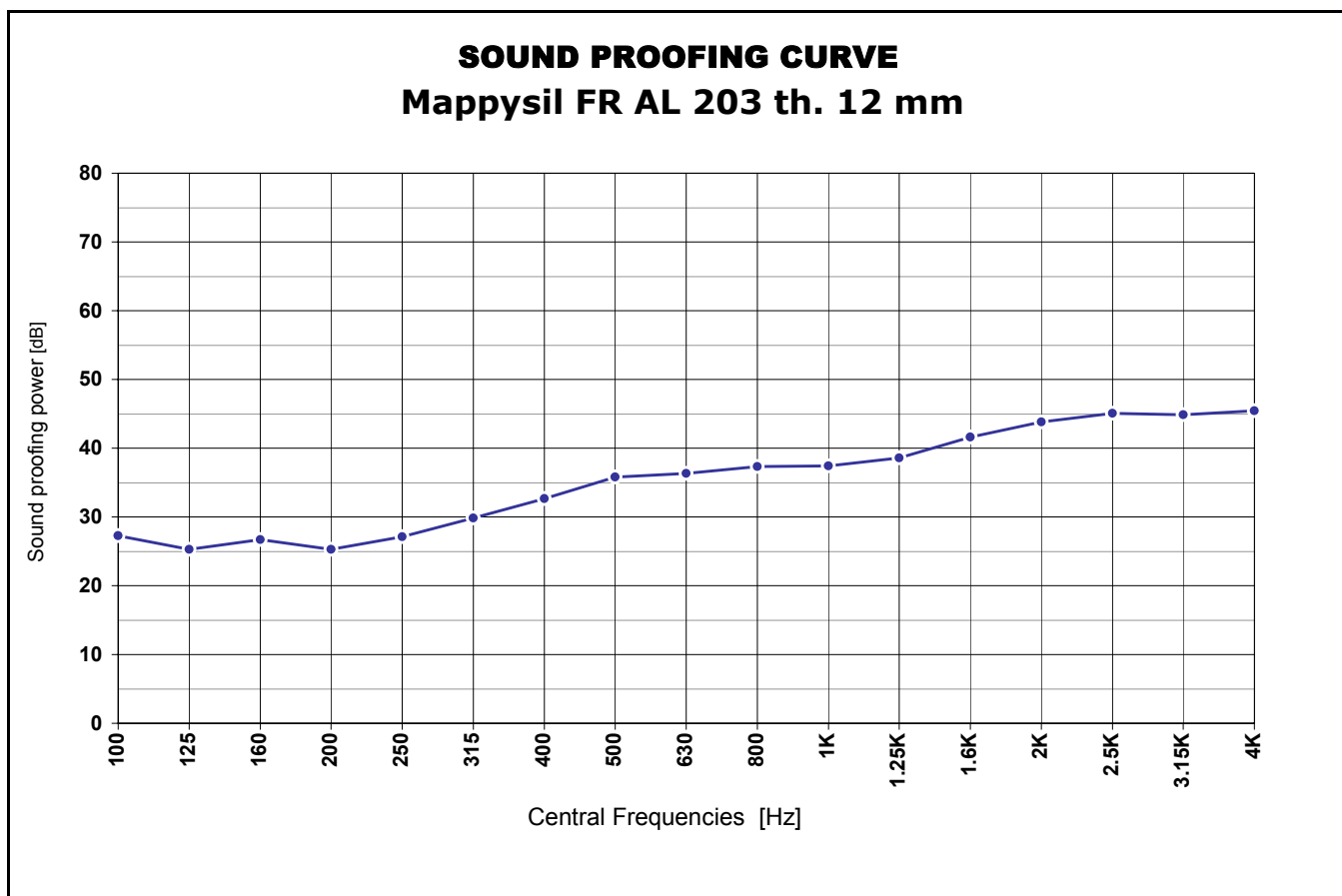
Fire reaction: UL 94 → HF1



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6. SOUND CURVE

6.1 Mappysil FR AL 203 sound-insulating curve



Nota: Data contained in this Product Sheet are based on accurate researches and are considered reliable. Nevertheless users should confirm their own validity and for any specific application, as results depend on the condition of use. Mappy Italia does not guarantee the results and cannot assume any obligation or responsibility on these data.