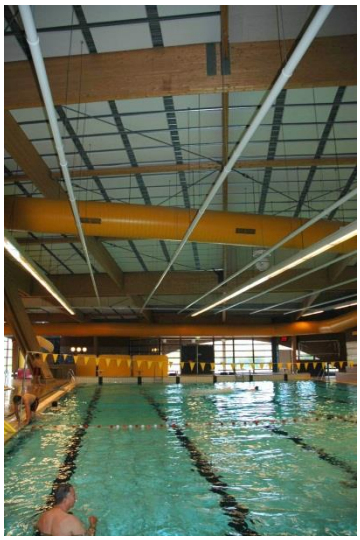
TECHNICAL DATASHEET

PLAKA - PLANO

Melaminic resin foam panels for sound absorption

REF 12.12.10 - Version V01 - 24/08/2020

Description



PLAKA PLANO is a flexible, open-cell foam material made from melamine resin, a thermoset from the group of aminoplastic resins. Its typical feature is the filigree, spatial network structure, which is formed by slim and thus easily ductile fillets. PLAKA PLANO is capable of drastically reducing sound level and reverberation time in halls, for instance.

PLAKA PLANO offers a wide range of attractive features. The outstanding quality characteristics are:

- high sound absorption ability
- low flammability / high temperature resistance
- low weight

Application fields

- Sound studios
- HiFi range
- Open plain offices
- Production and multipurpose halls
- Event venues

Properties

Mechanical properties	
Material	Melamine resin foam
Colour	White, anthracite
Material density	8 – 11 kg / m³
Fire behaviour	According to DIN 4102 : B1 – flame-retardant
Dimensions *Other dimensions available upon request*	1000 x 500 x 30 mm 1000 x 500 x 50 mm 1000 x 500 x 70 mm 1000 x 500 x 100 mm
Thermal conductivity (at 10 °C / d = 50 mm)	λ ≤ 0.035 W/mK
Tensile strength	> 120 kPa
Compressive strength	6 – 9 kPa
Compression set	at 50 % / 23 °C / 72 h :13 – 32 % at 50 % / 70 °C / 22 h :6 – 32 %

Sound absorption properties

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Sound absorption of PLAKA PLANO in the reverberation room as per DIN EN ISO 354.
In addition to the α_s characteristics of room acoustics, the calculated characteristics α_p and α_w are also provided. Both these characteristics are applicable to simplified room acoustic planning and are therefore easier to apply, particularly by architects, although the data on room acoustics are less accurate.

α_s degree of acoustic absorption in acc. with ISO 354
α_p practical degree of acoustic absorption in acc. with ISO 11654
α_w rated degree of acoustic absorption in acc. with ISO 11654
L/M/H form indicator: It is strongly recommended to use this single rating in conjunction with the complete curve for acoustic absorption.

Sound absorption according to the thickness

Fréq. [Hz]	20 mm		30 mm		40 mm		50 mm		60 mm		70 mm		100 mm	
	Thirds α_s	Oct. α_p	Thirds α_s	Oct. α_p	Thirds α_s	Oct. α_p	Thirds α_s	Oct. α_p	Thirds α_s	Oct. α_p	Thirds α_s	Oct. α_p	Thirds α_s	Oct. α_p
100	0.03		0.15		0.10		0.11		0.09		0.17		0.25	
125	0.08	0.05	0.14	0.15	0.15	0.15	0.19	0.20	0.23	0.25	0.26	0.28	0.48	0.44
160	0.10		0.16		0.22		0.32		0.37		0.41		0.60	
200	0.14		0.19		0.29		0.41		0.50		0.65		1.07	
250	0.18	0.20	0.30	0.29	0.43	0.40	0.56	0.55	0.67	0.65	0.87	0.86	1.20	1.16
315	0.24		0.39		0.53		0.70		0.83		1.07		1.20	
400	0.32		0.49		0.65		0.80		0.93		1,2		1.20	
500	0.41	0.40	0.66	0.64	0.78	0.75	0.91	0.90	0.99	1.00	1,17	1.18	1.20	1.20
630	0.48		0.76		0.83		0.95		1.03		1.17		1.20	
800	0.57		0.85		0.87		1.02		1.02		1.08		1.1	
1000	0.69	0.65	0.96	0.91	0.93	0.95	1.01	1.00	1.03	1.00	1.01	1.03	1.07	1.08
1250	0.75		0.92		0.99		1.02		1.02		1.01		1.06	
1600	0.78		0.93		0.98		0.99		1.01		1.00		1.01	
2000	0.84	0.85	0.98	0.96	1.00	1.00	1.03	1.00	1.02	1.00	1.00	1.01	1.00	1.00
2500	0.87		0.96		0.99		1.04		1.02		1.03		0.99	
3150	0.88		0.93		1.02		1.06		1.03		1.00		0.98	
4000	0.87	0.90	0.89	0.94	0.99	1.00	1.03	1.00	0.99	1.00	1.01	1.00	0.96	0.97
5000	0.90		1		1.11		1.06		1.03		1.00		0.97	

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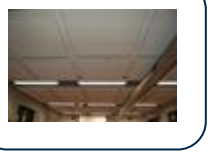

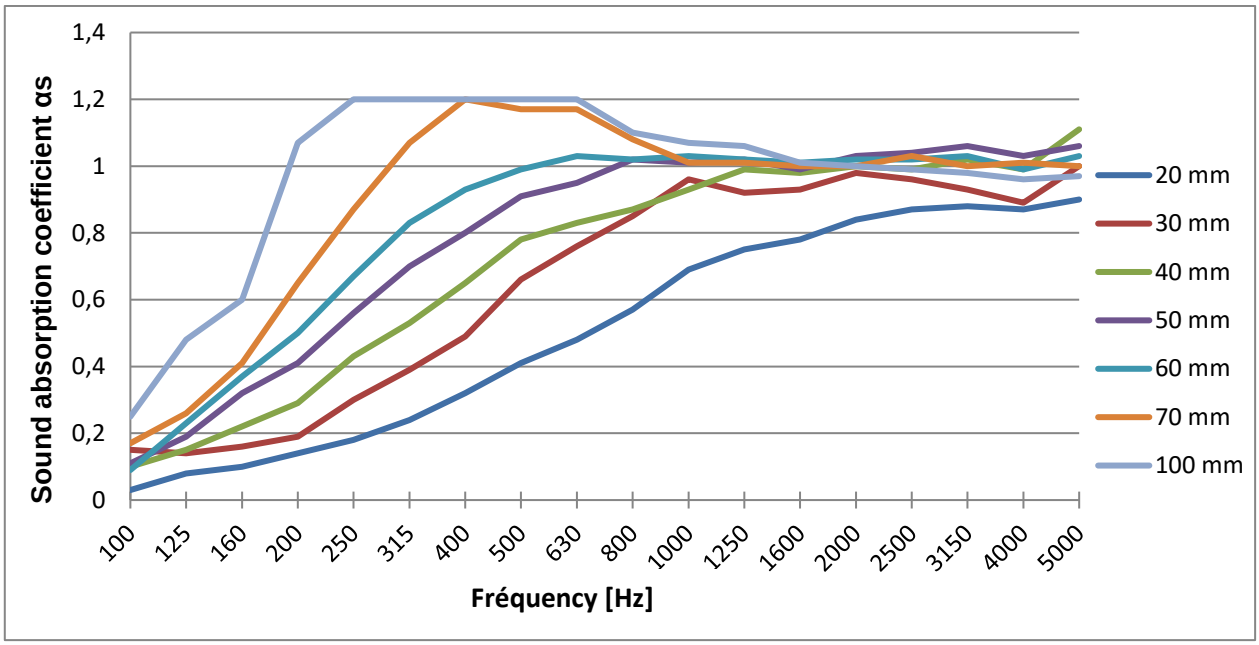

Thickness [mm]	Individual value α_w to DIN EN ISO 11654	Noise absorption class to Annex B DIN EN ISO 11654	Noise reduction coefficient NRC to ASTM C 423
20	0,45 (H)	D	0,55
30	0,60 (M,H)	C	0,7
40	0,70 (M,H)	C	0,80
50	0,85 (H)	B	0,90
60	0,95	A	0,95
70	1	A	1
100	1	A	1

Chemical resistance

PLAKA PLANO are chemically resistant to many substances. They do not contain halogenated hydrocarbons and comply with the RoHS directive.

The chemical resistance of PLAKA PLANO is listed below. In acids, alkalis and water PLAKA PLANO is unstable or has limited resistance in the long term. In all the other media tested, however, PLAKA PLANO proved to be resistant. The basis for this assessment is the compressive deformation test after immersion in the media for 7 days

Chemical resistance in accordance with DIN 53 428 and 53 572 ; Evaluation of compressive set in accordance with DIN 53 572 after immersion for 7 days in the test media at room temperature in accordance with DIN 53 428.

Evaluation : + = resistant
0 = conditionally resistant
- = instable

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Medium group	Medium	Concentration	Evaluation
Alkali	Ammonium hydroxide	25 %	-
	Sodium hydroxide	50 %	0
Acids	Lactic acid	5 %	0
	Citric acid	5 %	-
	Hydrochloric acid	10 %	-
	Nitric acid	10 %	-
	Sulphuric acid	10 %	-
	Phosphoric acid	50 %	-
	Acetic acid	90 %	0
	Formic acid	90 %	-
Hydrocarbons	Light benzine (60 – 140 °C)		+
	Heavy benzine (155 – 185 °C)		+
	Parafin oil		+
	Dichloromethane		+
	Toluene		+
Alcohols	Methanol		+
	Ethanol		+
	Isopropanol		+
	Butanol		+
	Glycolmonoethyl ether		+
	Glycerine		+
Others	Distilled water		0
	Seawater (NaCl solution)		0
	Butyl acetate		+
	Acetone		+
	Diethyl ether		+

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