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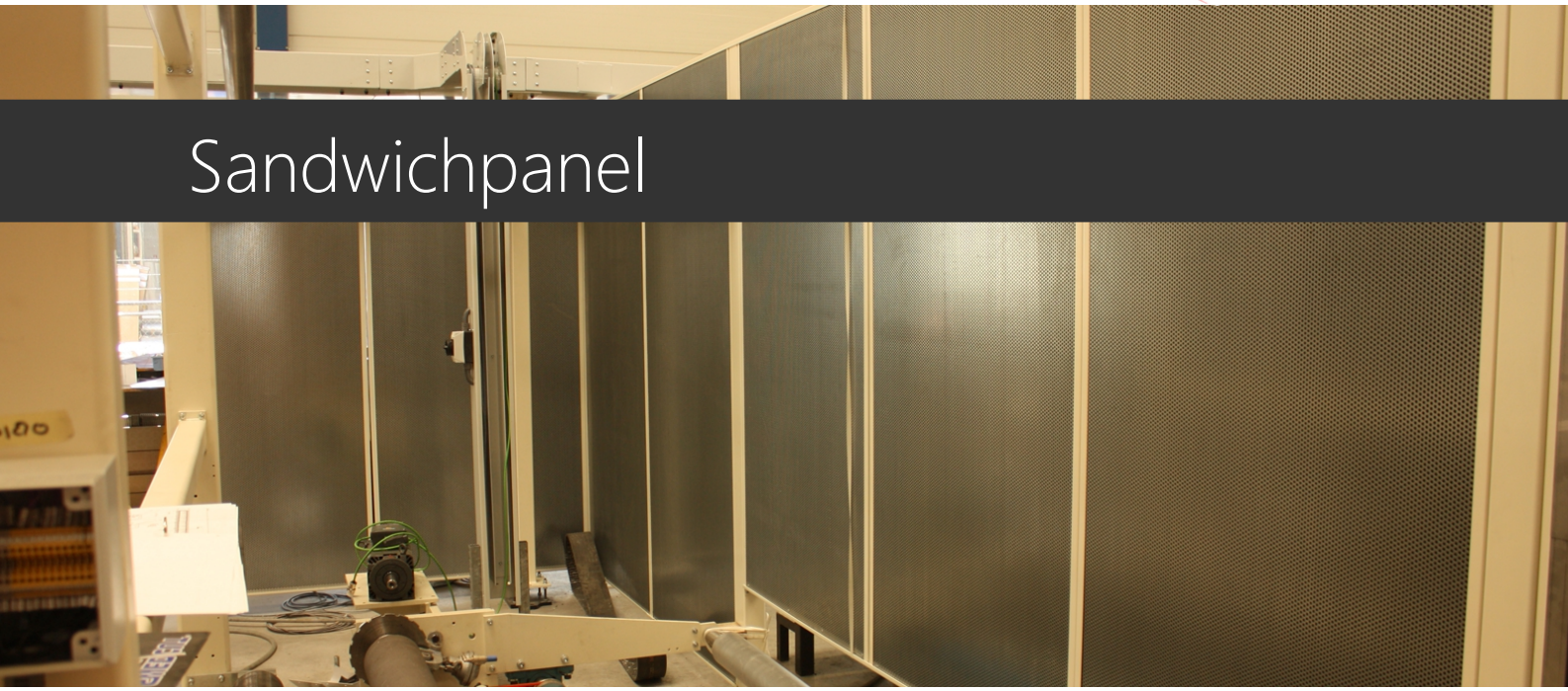
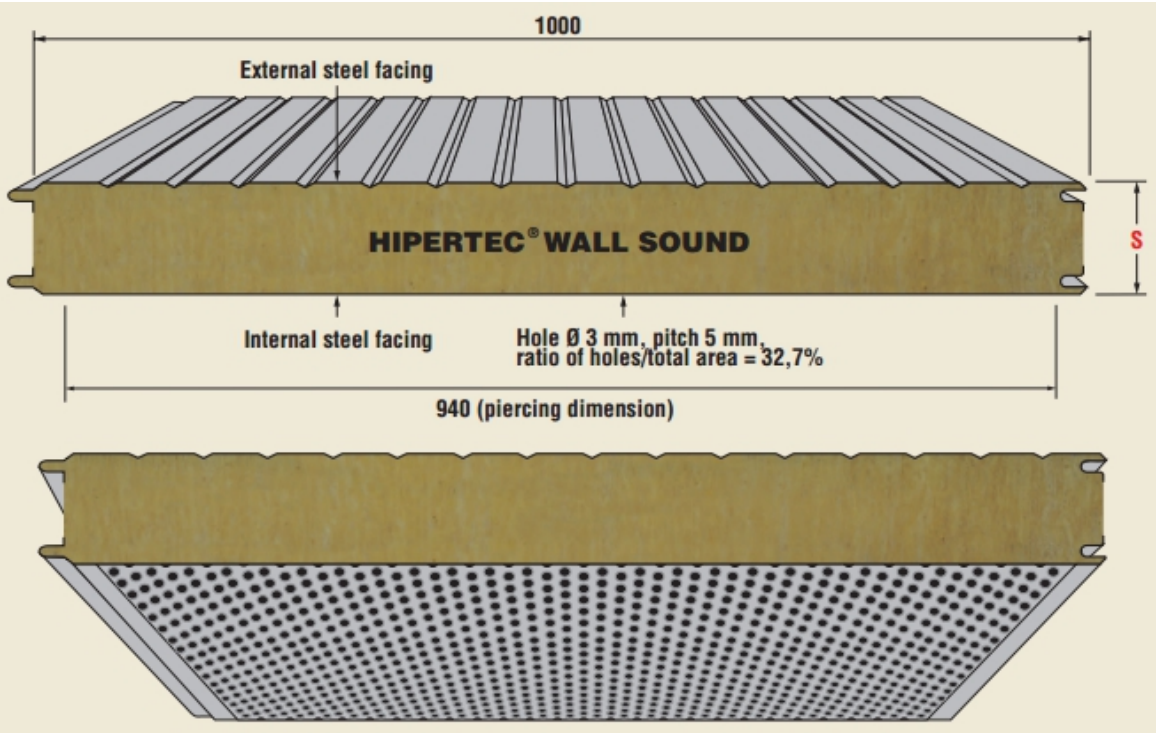


Sandwichpanel

Introduction

Self-supporting panel system, insulated with Rockwool for wall and partition applications, requiring a high degree of resistance to fire, combined with sound absorption.
The panel consists of a micro-ribbed external steel facing, an internal flat, but perforated liner, with an insulation core of high density orientated Rockwool, arranged perpendicular to the plane of the panel and positioned in strips, laid longitudinally with off-set joints and transversally compacted, in such a way as to completely fill the void between the two metal facings.



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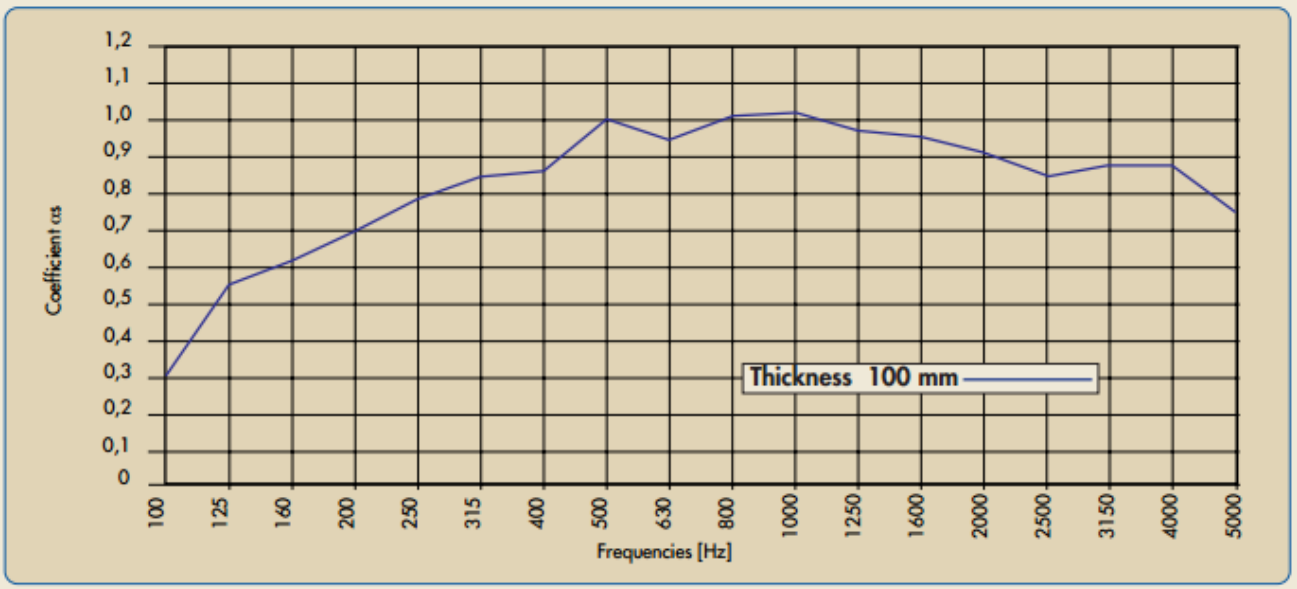
Tables of spans

Minimum values with steel sheets, thickness 0.6 + 0.6 mm. The spans l in metres, as a function of a uniformly distributed load p (daN/m2), have been obtained from tests carried out in Metecno laboratories and calculated to provide a deflection limit:
f ≤ l/200 of the span and a minimum safety co-efficient that complies with the UEAtc standards for insulated panels, which have been established and are implemented by primary European Certifying Organizations.

S mm	K Kcal / m² h °C	K Watt / m² °C	Panel weight kg/m² 0,6 + 0,6	p = daN/m²	60	80	100	120	150	60	80	100	120	150
					p p p					p				
					Δ l Δ l Δ l Δ					Δ l Δ				
50	0,65	0,75	14,37	l =	2,34	2,19	2,04	1,86	1,65	2,07	1,92	1,77	1,65	1,44
80	0,42	0,49	17,37	l =	3,12	2,79	2,55	2,34	2,01	2,70	2,40	2,22	2,01	1,74
100	0,34	0,40	19,37	l =	3,48	3,09	2,85	2,58	2,22	2,94	2,67	2,46	2,25	1,92

Sound absorption

This panel is particularly suitable for acoustic control, providing excellent sound absorption qualities over a wide range frequency spectrum. Tests in echo chambers conducted to ISO 354/85 standards in 50 - 80 - 100 mm thick panels produced a Δ La sound absorption index of between 10-11 dB (A).
The graph below shows the curve of the absorption coefficients at the various frequencies for the 100 mm thick panel.



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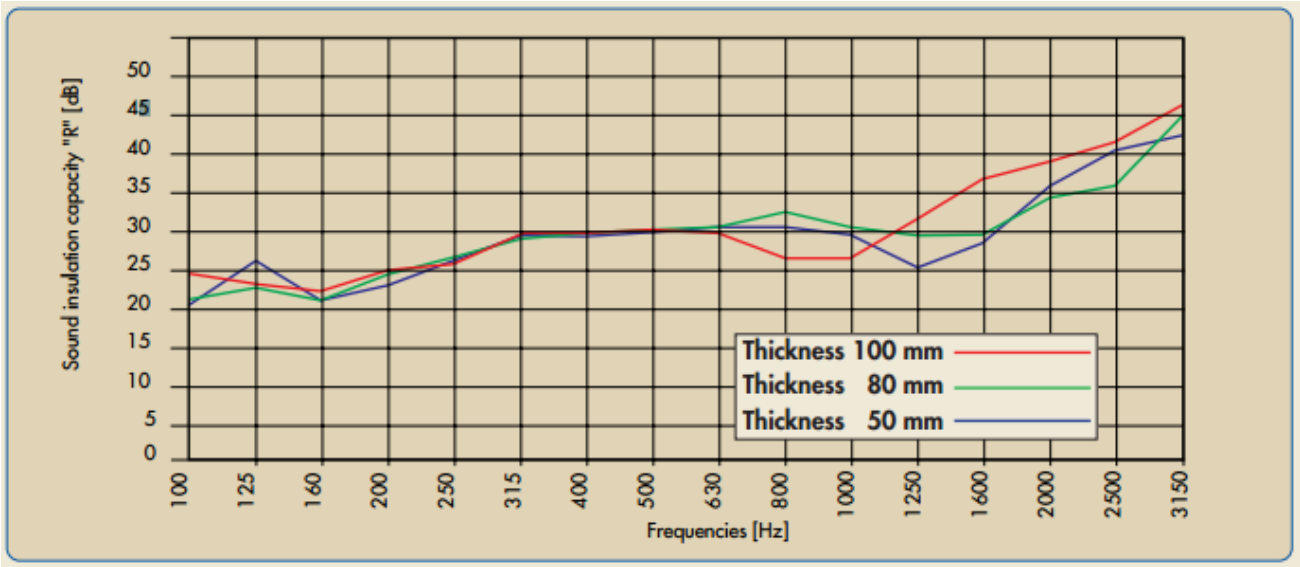
Sound insulation

The panels have been tested to ISO 717/82 standards and obtained indices of Rw = 31.5-33 dB for the 50, 80 and 100 mm thick panels.
The curves of the absorption coefficients of the 100, 80 and 50 mm thick panels at the various frequencies are shown in the graph below



Reaction to fire

Our panels have been tested at the Istituto Giordano S.p.A. on unloaded structures in accordance with Circular no. 91 of 14/9/61 and obtained the following results:
Panel thickness 100 REI 60 certificate no. 111480/1720 RF
Panel thickness 80 REI 45 certificate no. 111477/1717 RF