

Self-supporting metal panel system insulated with Rockwool for roof and wall applications, which require a high degree of fire resistance.

The **HIPERTEC® ROOF** panel, manufactured in accordance with a system patented by Metecno, consists of a profiled external steel sheet and an internal micro-ribbed steel sheet, with an insulation core of orientated fibre high density Rockwool, arranged perpendicularly to the plane of the panel and positioned in strips, laid longitudinally with off-set joints and transversely compacted, in such a way as to completely fill the space between the metal facings.

Maximum panel length: 15,500 mm.

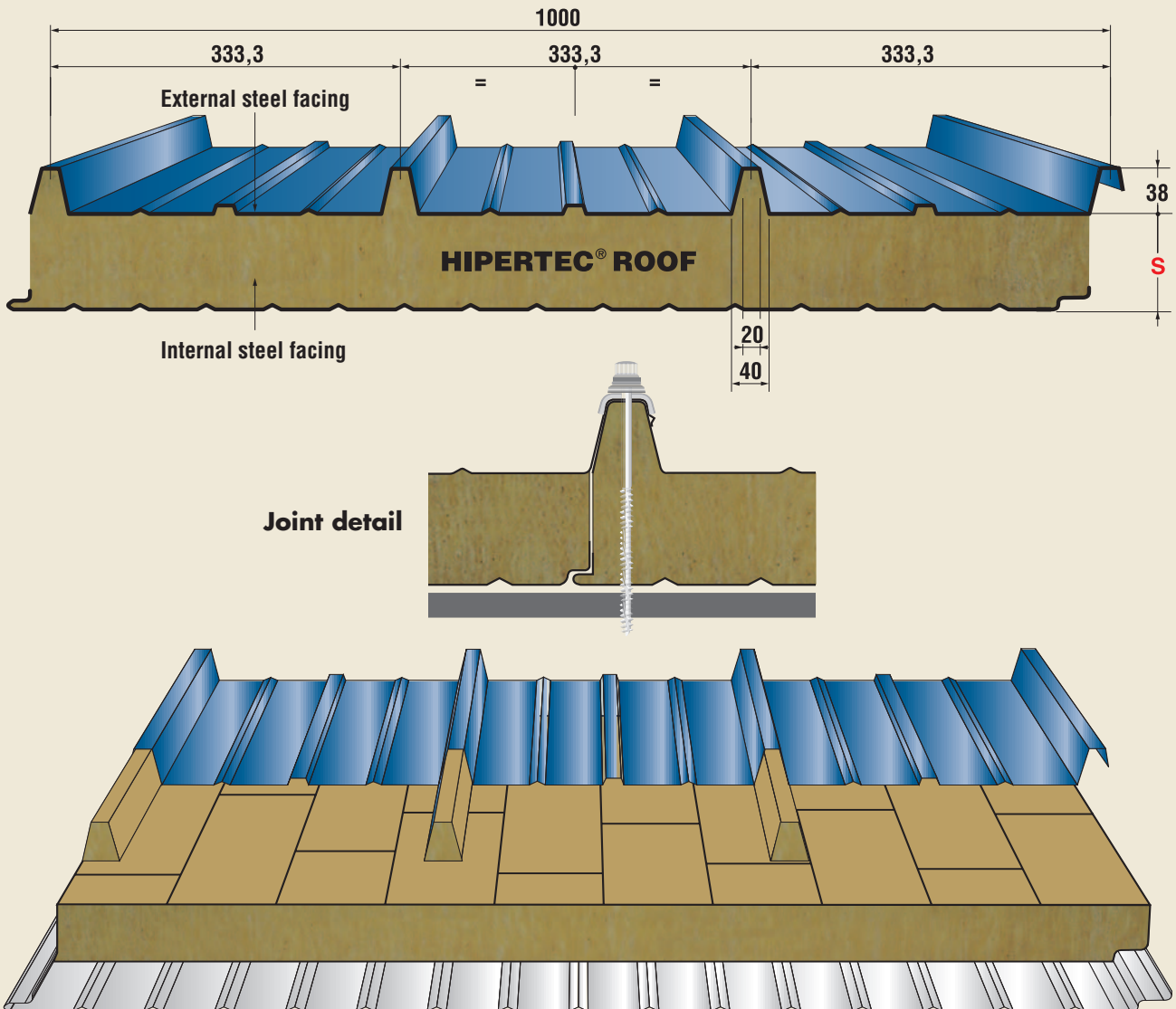


TABLE OF SAFE SPANS

Minimum values with steel sheets, thickness 0.6 + 0.5mm. The spans l in metres, as a function of a uniformly distributed load p (daN/m²), have been obtained from tests carried out in ICITE laboratories and calculated to provide:

- Deflection limit: $f \leq l/200$ of the span
- Operation stresses: 1/2.5 of the breaking moment and 1/2.5 of the breaking cut.
- Permissible deformation: 2% of the panel thickness with a safety co-efficient of 1.5.

S mm	K		Panel weight kg/m ²	Steel thickness														
	Kcal m ² h°C	Watt m ² °C			0,6+0,5	$p = \text{daN/m}^2$	80	100	120	150	200	250	300	80	100	120	150	200
50	0,61	0,71	16,22	$l =$	4,55	3,78	3,23	2,65	2,02	1,67	1,32	3,98	3,65	3,23	2,65	2,02	1,67	1,32
80	0,41	0,47	19,22	$l =$	5,96	5,56	4,83	3,96	3,06	2,49	2,12	5,14	4,81	4,51	3,96	3,06	2,49	2,12
100	0,33	0,39	21,22	$l =$	6,06	5,76	5,46	4,83	3,75	3,05	2,58	5,66	5,28	4,96	4,59	3,75	3,05	2,58
120	0,28	0,33	23,22	$l =$	6,10	5,87	5,64	5,28	4,41	3,60	3,04	6,15	5,73	5,39	4,97	4,39	3,60	3,04

RESISTANCE TO FIRE

Resistance to fire is the ability of the building element to limit the spread of flame, and retain the integrity of the thermal insulation for a period of time. The performance of panel systems when tested is expressed in minutes from ignition to the conclusion of the test, which is determined as the failure point at which the panels ceases to comply with the requirements of the specific test. The significant test performances are as follows:

- MECHANICAL STRENGTH (R)**
- IMPERMEABILITY TO GAS (E)**
- THERMAL INSULATION (I)**

The **HIPERTEC® ROOF** panel was tested at the Istituto Giordano S.p.A. on an unloaded structure in compliance with circular no. 91 of 14/9/61 and the following results were obtained:

ROOF POSITION

HIPERTEC® ROOF thickness 100	REI 120 certificate no. 93595 / 1463 RF
HIPERTEC® ROOF thickness 80	REI 60 certificate no. 93594 / 1462 RF
HIPERTEC® ROOF thickness 50	REI 30 certificate no. 93593 / 1461 RF

WALL POSITION

HIPERTEC® ROOF thickness 100	REI 120 certificate no. 110355 / 1693 RF
HIPERTEC® ROOF thickness 80	REI 45 certificate no. 109609 / 1682 RF
HIPERTEC® ROOF thickness 50	REI 30 certificate no. 109608 / 1681 RF

MAJOR TECHNICAL PRODUCT CERTIFICATES

Agrément Technico ICITE 518 / 98 - ATEX CSTB 925

Zulassung DIBE Z - 10.4 - 237

REACTION TO FIRE

Reaction to fire is the degree in which a material resists combustion. With regard to this, materials are assigned a class (0 through 5), the higher the class, the higher the degree of combustion.

The **HIPERTEC® ROOF** panels, thicknesses 50 - 80 - 100 mm, tested at the Istituto Giordano S.p.A., pursuant to the Ministerial Decree of 26/6/84, **were classified 0/1 for reaction to fire, both in the roof position and in the wall position.**

Since the panel consists of two steel facings with a layer of Rockwool insulation sandwiched between, the Class 0 refers to the external surfaces, with Class 1 referring to the insulation core.

Tests have been also made at foreign Institutes with the following results:

Germany: Panel class B1, insulation class A1 - France: class MO.

SOUND INSULATION

The sound insulation of a material (for example, a panel) is given by the ability to reduce the passage of sound energy between two locations.

The **HIPERTEC® ROOF** panel has been tested to UNI 8270/7 and ISO 717/82 standards and, for the thicknesses 50 - 80 - 100 mm, obtained valuation indices of **R_w = 29-30 dB.**

