LANGUAGE
EN

GENERAL CATALOGUE

SANDWICH PANELS
CORRUGATED SHEETS
BUILDING TECHNICAL SYSTEMS

PART OF MANNI GROUP

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

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Isopan: Roof and Wall Sandwich panels

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MANNI GROUP
BUILDING FUTURE

For 70 years, the future of Steel

Strength and reliability, sustainability and beauty. In a word, steel. Since 1945 the solid Verona industrial company Manni Group, has worked and transformed steel into a wide range of products. Continuous investment in Research and Development, constant commitment to achieving maximum levels of quality and service, and concentration on Client needs make Gruppo Manni companies ideal project partners:

- **Manni SIPRE**, leader in the market of structural pre-machined steel;
- **Manni INOX**, an advanced steel service centre;
- **Manni ENERGY**, for the design and construction of renewable energy source plants and energy efficiency;
- **ISOPAN** is Europe's leading manufacturer of insulated metal panels with high coefficient thermal insulation for roofs and walls.

The numbers of a real Leadership

- **12 operating companies**
- **21 production, service and distribution** centers in Italy and abroad
- **400 thousand tons/year** of processed and distributed steel
- **13 million square meters/year** of metal insulating panels produced and distributed in Italy and abroad
- **1000 employees**
- **€ 500 million annual revenue (2014)**
- **10.000 customers**
- **60 countries supplied in 4 continents**

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

The ideal solution for all situations

Isopan manufactures and sells insulated metal panels for roofs and walls with a high coefficient thermal insulation for civil, industrial, commercial and livestock construction. It also developed acoustic panels in mineral fibre, high fire resistance and architectural facade systems.

A wide range of products, colours and finishes allows the creation of customized solutions and innovative design.

Through its Service Centre it is able to offer even mounting hardware, sheet metal for finishes and rainwater collection, translucent and polycarbonate corrugated elements for skylights.

Team Isopan: add value to your project

Besides having one of the widest product ranges in the industry, Isopan makes available the knowledge of constantly updated professionals and highly skilled technicians. Team Isopan supports the Client by interpreting their needs and offering the best solutions.

A deep knowledge of the market, the industry standards and major construction industry trends supports the creation of exclusive products, innovative systems and unique solutions.

A modern logistics facility also ensures timely fulfilment of orders: the strong connection between production and distribution allows very quick delivery both in Italy and abroad.

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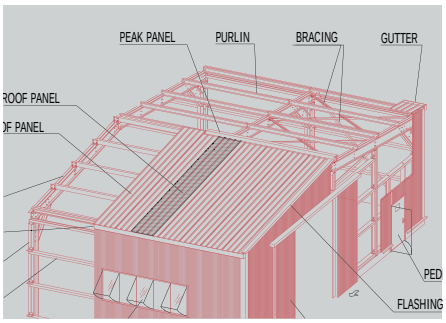
We invest in technology with tomorrow in mind



Continuous innovation in products and processes, high quality standards, broad product diversification and great attention for the Client have made it a reliable partner for many Italyn and foreign companies for which it offers competitive advantage and value.
Testing in line and in the laboratory ensure the high quality standards of materials, while promoting polyurethane chemistry upgrades in order to evolve and expand the areas of use of sandwich panels.
The production of Isopan is in perfect harmony with the environment: the panels, consisting essentially of a metal shape support and an insulating layer of polyurethane or mineral fibre, are made in innovative plants which are able to reduce the environmental impact of the manufacturing process.
Additionally, all Isopan plants worldwide have photovoltaic systems which can produce enough electricity for their own needs.

Certified Quality

Quality certification is the first commitment Isopan has made for its Clients; quality also means the product technical compliance. Isopan caters exclusively to selected suppliers, able to provide materials of proven reliability, always guaranteed and certified in complete compliance with international standards.

Isopan companies are certified ISO 9001 and products are certified according to standards of target markets.

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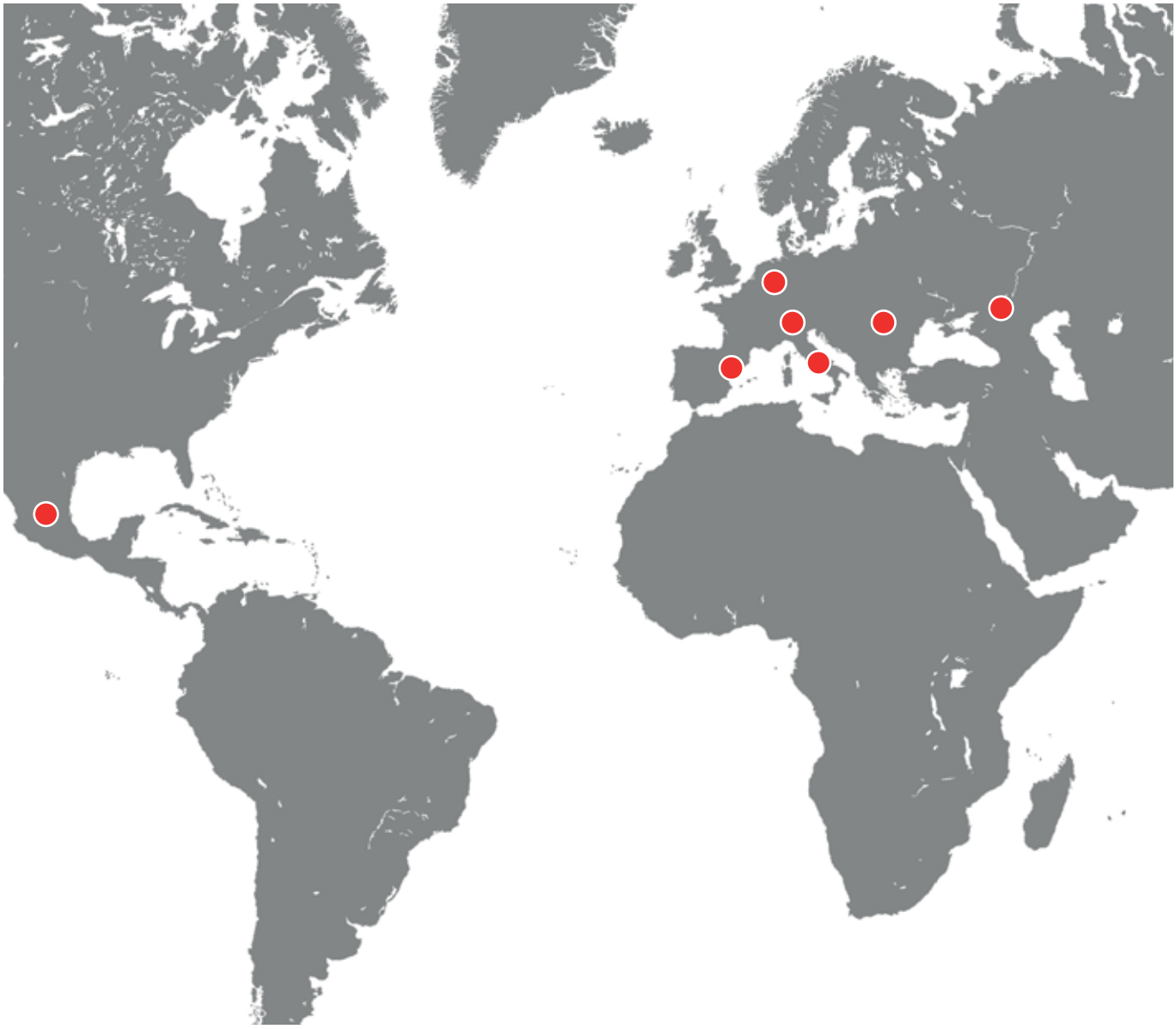
Many markets, one Brand



Isopan is present in Italy with two production facilities in Frosinone and Verona, and in the World with Isopan Ibérica in Tarragona (Spain), Isopan East in Bucharest (Romania), Isopan Deutschland in Halle (Germany), Isopan Rus in Volgograd (Russia), and Isocindu in Silao (Mexico) . There are two sales offices in France and the Czech Republic. A presence throughout the territory and an established network of sales representatives allows the brand to reach the most important markets in the world.
The International Business Division also develops specific solutions for the needs of the different countries where Isopan is distributed. Thanks to the flexibility of manufacturing processes, efficient logistics and efficient technical assistance service, Isopan is able to adapt perfectly to the technical, construction and stylistic standards of the main world markets.

Manni Group HP - Verona, Italy

Isopan Est - Popești Leordeni, București, Romania

Isopan Spa - Frosinone, Italy

Isopan Deutschland - Halle (Saale), Germany

Isopan Spa - Verona, Italy

Isopan Rus - Volgograd, Russia

Isopan Iberica - Tarragona, Spain

Isocindu - Silao, Mexico

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Leaf

MORE THAN JUST INSULATION

For over forty years, Isopan has been actively contributing to the global challenge of improving the building industry, in accordance with environmental sustainability.
Isopan has created and launched a new technology that will allow your bulding to achieve better performances, increased sustainability, higher safety and thermal insulation, combined with Isopan's expertise.

Real sustainability

LEAF technology represents a step torward more sustainable buildings, thanks to the continous effort of Isopan R&D.

Commonly used flame retardants improve fire perfomances of insulating materials, but they contain halogenated compounds, potentially dangerous for the environment. With LEAF technology, Isopan offers best fire perfomances without halogenated flame retardants.

Exceptional Fire Protection

LEAF technology has got the best European Fire Reaction Class attainable for polyurethane sandwich panels, namely B-s1,d0.

The "s1" performance is particulary important for a polyurethane-insulated panel, because it implies that no smoke is produced in case of fire exposure.

More comfort, less costs

LEAF technology improves the thermal performance of the insulating material, by lowering the thermal conductivity of polyurethane foam.

LEAF technology provides therefore lower thermal transmittance values compared to standard products.
This improvement leads to lower heat loss (up to 20%) on the building envelope.

Secure
Fire protection

Isopan panels, thanks to special technical characteristics, can help protect the buildings from fire, impeding fire development and limiting its spread (passive protection).

EN13501 regulations concerning fire resistance and reaction attests to the excellent performance of the range of Isopan panels in mineral wool and good performance of products in Polyurethane PIR proposed for such use.

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isopan for LEED® Certification

ISOPAN INSULATING PANELS CONTRIBUTE TOWARD SATISFYING PREREQUISITES AND CREDITS UNDER LEED ®

Energy efficiency and savings are the guiding concepts to Isopan production management as well as our commitment to the research and development of innovative solutions. Our insulating panels for roofs or walls contribute toward satisfying prerequisites and credits under LEED BD+C (Building Design and Construction) V4 in the following areas:

AREA IP			
Prerequisite	IPP	Integrative process planning and design - Healthcare	Isopan Team
Credit	IPC	Integrative Process	Isopan Team
AREA SS			
Credit	SSC 4	Rainwather management	Isodeck PVSTeel Flat Roof range
Credit	SSC 5	Heat island reduction	Isodeck PVSTeel Flat Roof range
AREA EA			
Prerequisite	EAP 1	Foundamental commissioning and verification	All products
Credit	EAC 1	Enhanced commissioning and verification	All products
Prerequisite	EAP 2	Minimum energy performance	All products*
Credit	EAC 2	optimize energy performance	All products *
AREA MR			
Prerequisite	MRP 2	Construction and demolition waste management planning	All products
Credit	MRC 5	Construction and demolition waste management	All products
Credit	MRC 1	Building life cycle impact reduction - Opt. 4 LCA building	LCA data ref. EPD
Credito	MRC 2	Building product disclosure and optimization Environmental Product Declarations - Opt. 1: EPD	EPD Isocop, Isobox, Isofire **
Credit	MRC 3	Building product disclosure and optimization Sourcing of raw materials - Opt. 2	According to range specification
Credit	MRC 4	Building product disclosure and optimization Material ingredients - Opt. 2: Reach optimization	According to range specification
AREA EQ			
Credit	EQC 3	Construction Indoor air quality management plan	All products
Credit	EQC 5	Thermal comfort	All products *
Credit	EQC 9	Acoustic performance	Isofire Roof Fono, Isofire Wall Fono

* Excluding corrugated sheets
** EPDs: Industry Wide - with Third parte certification - Explicity recognized as partecipant
EPD - EPQ - 20130169 Double skin steel facades sandwich panels with core made of mineral wool
EPD - EPQ - 20130170 Double skin steel facades sandwich panels with core made of polyurethane
Ref. Isocop, isobox, Isofire Roof, Isofire Wall

Mapping Your Green Products
greenmap

MAPPED ISOPAN PRODUCTS

Roof panels
Isocop
Isosmart
Isodomus
Isotap
Isodeck PVsteel range
Isodeck
Isofire Roof Fono
Isofire Roof

Wall Panels
Exposed fixing system - example Isobox
Concealed fixing system - ex. Isoparete Plissè, Isoparete EVO
Isofrigo
Isofire Wall
isofire Wall Fono
Isofire Wall Plissè

Corrugated sheets
Tipo LG40

Systems
Ark Wall
Isocappotto

ISOPAN
BUILDING ENVELOPE SOLUTIONS
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Isopan for BREEAM® Certification

ISOPAN INSULATING PANELS CONTRIBUTE TOWARD SATISFYING PREREQUISITES AND CREDITS UNDER BREEAM

Energy efficiency and savings are the guiding concepts to Isopan production management as well as our commitment to the research and development of innovative solutions. Our insulating panels for roofs or walls contribute toward satisfying prerequisites and credits under BREEAM International New Construction 2016 in the following areas:

MAN	HEA	ENE	MAT	WST	LE	INN
MANAGEMENT Gestione del progetto	HEALTH AND WELL BEING Salute e benessere	ENERGY Energia	MATERIALS Materiali	WASTE Rifiuti	LAND USE & ECOLOGY Uso del territorio ed ecologia	INNOVATION Innovazione

MANAGEMENT	
Man 01	PROJECT BREAF AND DESIGN
Man 04	COMMISSIONING AND HANDOVER
HEALTH AND WELL BEING	
Hea04	THERMAL COMFORT
ENERGY	
Ene 01	REDUCTION OF ENERGY USE AND CARBON EMISSION
Ene 04	LOW CARBON DESIGN
MATERIALS	
Mat 01	LIFE CYCLE IMPACTS - ENVIRONMENTAL PRODUCT DECLARATION (EPD)
Mat 04	INSULATION - INCORPORATED WITHIN MAT 01 AND MAT03
Mat 05	DESIGN FOR DURABILITY AND RESILIENCE 2 PROTECTING EXPOSED PARTS OF THE BUILDING FROM MATERIAL DEGRADATION
Mat 06	MATERIAL EFFICIENCY
WASTE	
Wst 01	CONSTRUCTION WASTE MANAGEMENT
LAND USE & ECOLOGY	
Le 04	ENHANCING SITE ECOLOGY
INNOVATION	
Inn 01	INNOVATION HALOGEN FREE

10 RULES FOR SANDWICH PANELS

- Identify the product if it is used as wall or as roof.
- Identify the aesthetic and architectonic necessities according to the project, choosing the more adapted product in the Isopan product range.
- Identify the structural needs according to the project, choosing the more adapted product and its related fixing elements after having analysed the resistance to loads.
- Identify needs of fire resistance for the construction elements, in order to comply with the safety requirements in case of fire.
- Identify the thermal and/or sound insulation of the wall in terms of efficiency and energy savings.
- Identify the best face according to the degradation resistance of the exposed faces in order to respect the construction durability.
- Verify that the delivery conditions and the qualitative standards of the panel are compatible with the requirements of the project and the construction site.
- Assign the assembly phase to experienced and qualified staff in order to ensure the installation is performed with great workmanship and in accordance with the correct installation instructions.
- Ensure that the standards on panels handling and storage indicated by Isopan are respected.
- Identify a correct and adapted plan for maintenance and inspection in order to ensure the proper durability of the construction according to the Isopan's indications..

LEGEND

Here below are listed the iconographic symbols that identify the technical characteristics of insulated panels and their type of use: the legend makes it possible to interpret the symbols provided for each panel.

PROJECT TYPOLOGY


Architectonic Project


Industrial Project


Agricultural – Zootechnical Project


Project On Low Temperature Rooms


Project On Prefabricated Boxes

PANEL TECHNICAL CHARACTERISTICS


Wall Panel


Roof Panel / Floor


Incombustibility


Sound Insulation


Thermal Insulation


Concealed Fixing


Exposed Fixing


Polyurethane Expanded Foam


Mineral Wool

ATTENTION

All information given in the overload charts refer only to the features of the panel. They can not replace the project calculations made by a qualified technician, who will apply the rules in force in the referring market.
All information about Isopan product characteristics, in terms of suitability, contained in this catalogue, on the website and in the informational material must be verified by the buyer / purchaser with respect to compliance with local regulations in the country of employment.

Roof Panels

ISOPAN
BUILDING ENVELOPE SOLUTIONS
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Isodomus Superior
Isodomus Classic
Isodomus

Produced in: Italy

Siena - Italy

Isodomus & Isodomus Classic

→ see pag. 16

APPLICATION

Isodomus is appropriate for public and industrial buildings' roofs with sheds located in determined urbanised areas. It can be used for new buildings' roofs, but also for renovation of roofs that are obsolete.

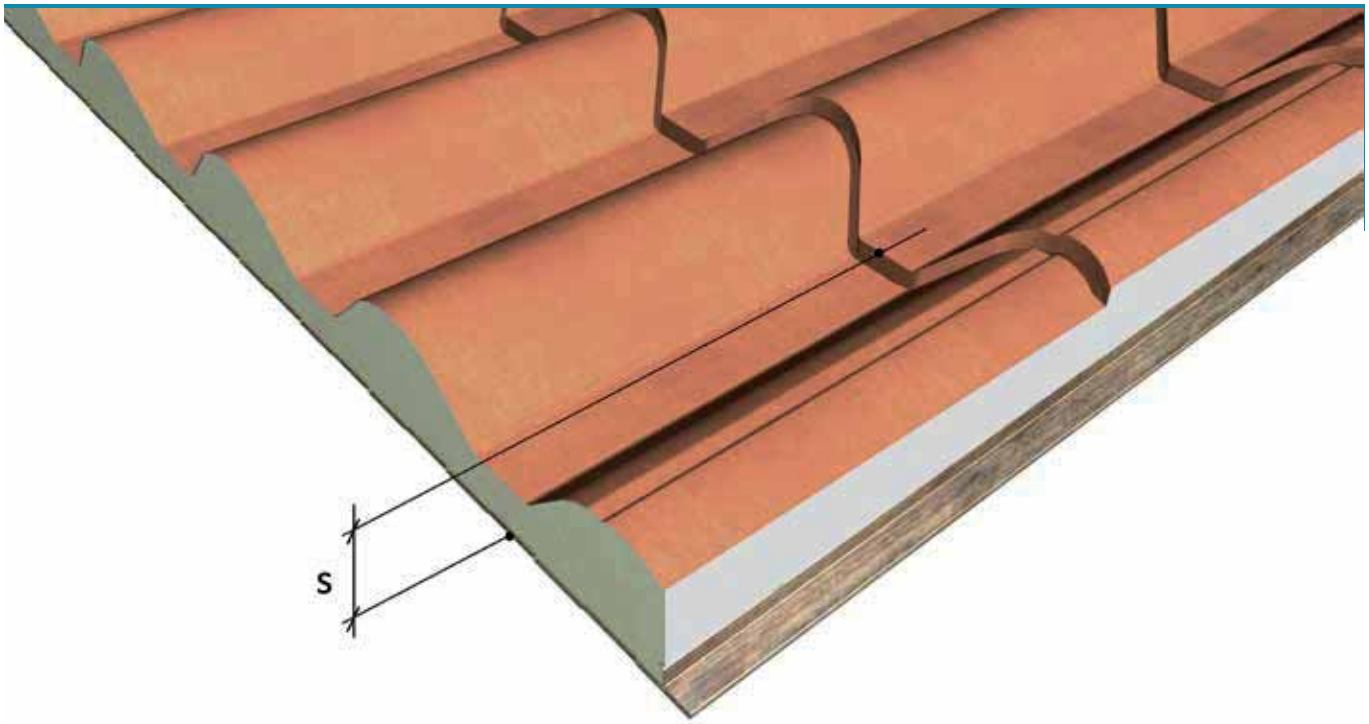
CHARACTERISTICS

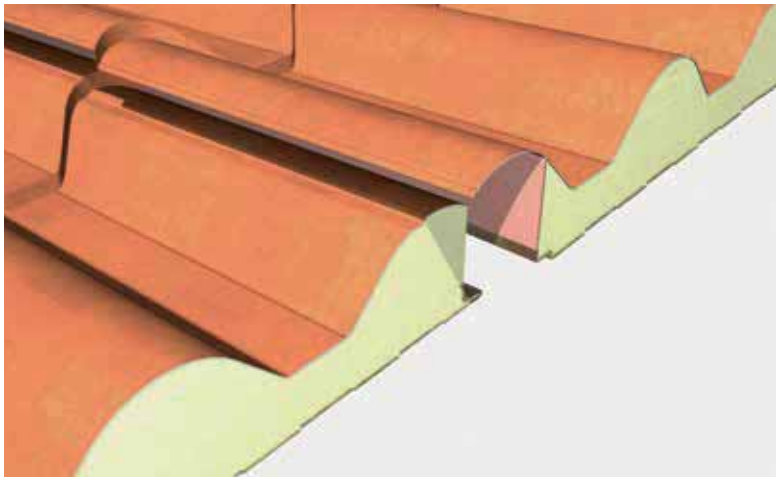
The standard tile or barrel tile shape makes this panel particular with a high aesthetic value that is suitable for public and rural sectors. The fixing system is a penetrating type with the possibility to use exposed caps, the number and the place of the fixing elements should guarantee the stresses resistance.
This range of roof panels is characterised by a wide choice of colours; particularly, colours that simulate the traditional roofs.

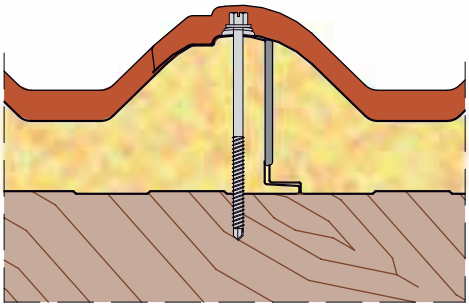
ADVANTAGES

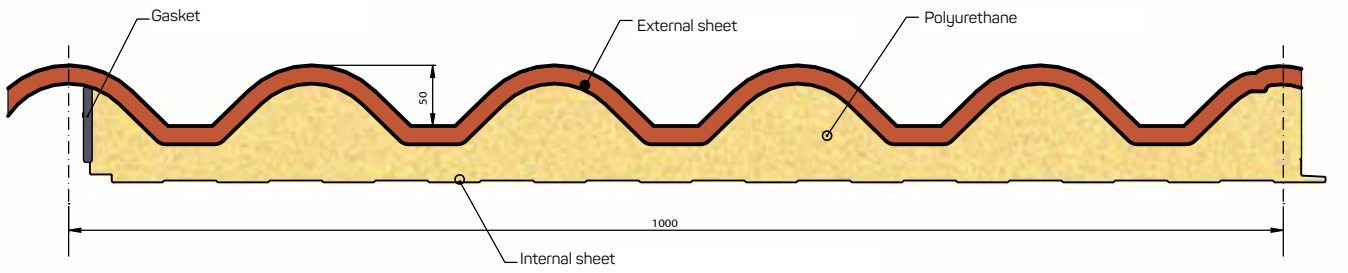
The Isodomus panel made of polyurethane foam allows a high thermal insulation. It is a functional panel fast and easy to install. Moreover, thanks to its special barrel tile shape, it can comply with the standards regarding landscape constraints.

- Architectonic quality
- Earthquake safety
- Lightness
- Versatility
- Functional reliability
- Thermal efficiency
- PIR Insulation (ISODOMUS SUPERIOR)

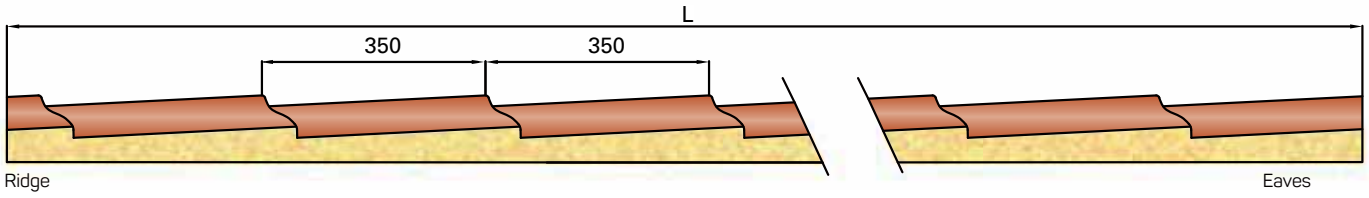


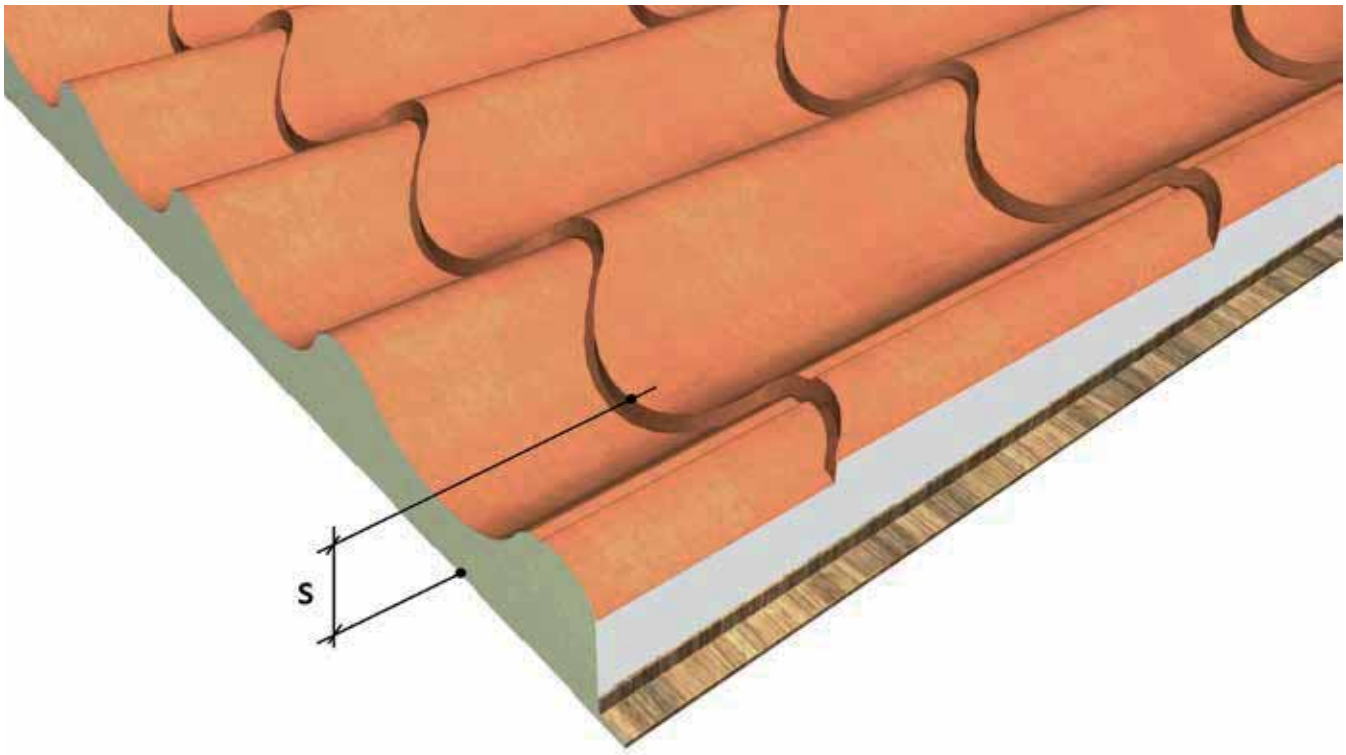


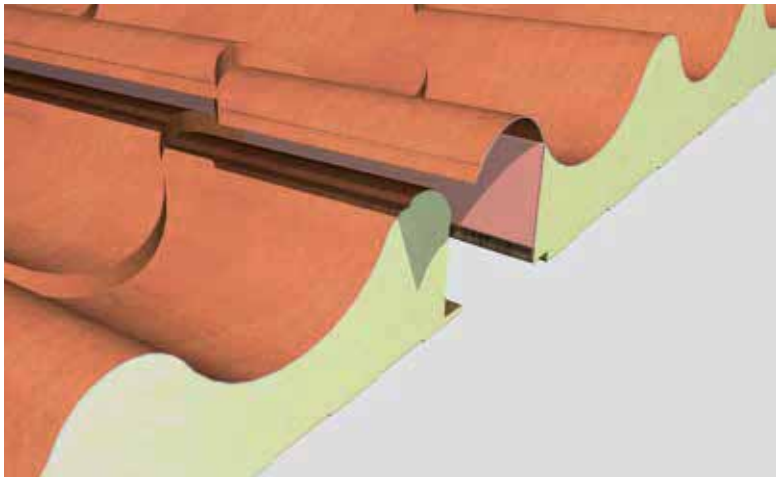


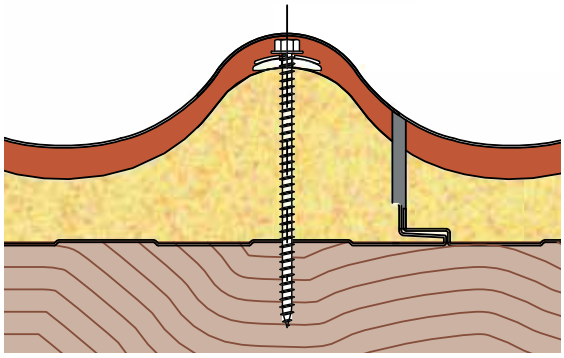


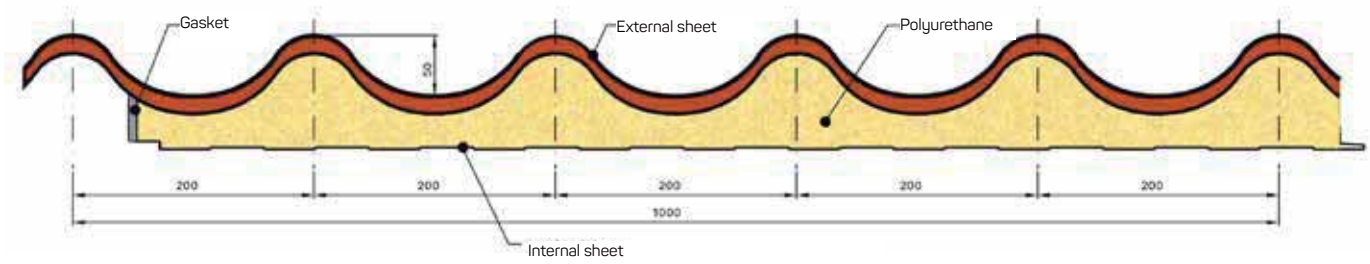
SIDE SECTION











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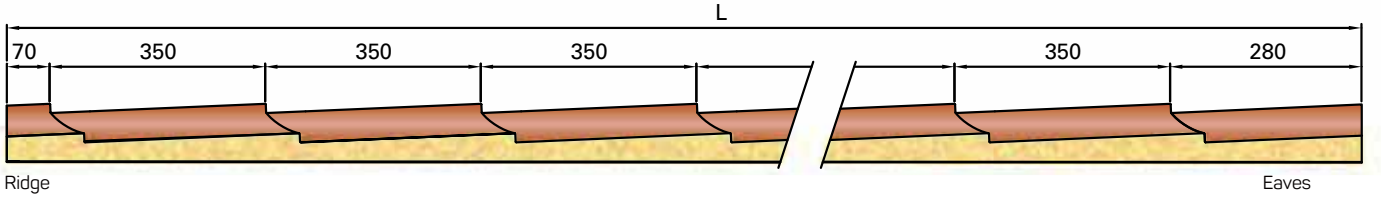

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INSTRUCTIONS OF USE
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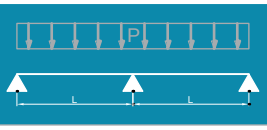
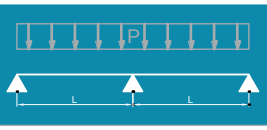
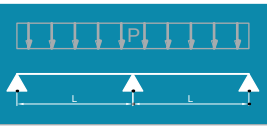
ACCEPTABLE LOADS kg/m²



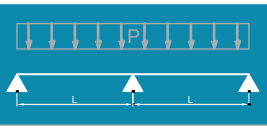
INSULATING CORE THICKNESS mm	SPAN MM							
	1050	1400	1750	2100	2450	2800*	3150*	3500*
External steel sheet 0.5 mmm Internal steel sheet 0.4 mm	30	320	190	115	85	60		
External aluminium sheet 0.6 mm Internal steel sheet 0.4 mm	30	200	120	60				



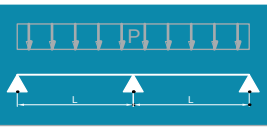
INSULATING CORE THICKNESS mm	SPAN MM							
	1050	1400	1750	2100	2450	2800*	3150*	3500*
External steel sheet 0.5 mmm Internal steel sheet 0.4 mm	40	415	250	175	130	105	80	54
External aluminium sheet 0.6 mm Internal steel sheet 0.4 mm	40	285	210	135	100	90	60	



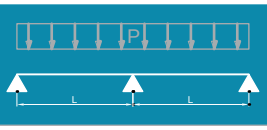
INSULATING CORE THICKNESS mm	SPAN MM							
	1050	1400	1750	2100	2450	2800*	3150*	3500*
External steel sheet 0.5 mmm Internal steel sheet 0.4 mm	50	440	265	190	140	120	90	60
External aluminium sheet 0.6 mm Internal steel sheet 0.4 mm	50	315	235	160	115	100	70	50



INSULATING CORE THICKNESS mm	SPAN MM							
	1050	1400	1750	2100	2450	2800*	3150*	3500*
External steel sheet 0.5 mmm Internal steel sheet 0.4 mm	60	500	305	230	170	145	110	75	60
External aluminium sheet 0.6 mm Internal steel sheet 0.4 mm	60	375	285	190	140	120	90	65	



INSULATING CORE THICKNESS mm	SPAN MM							
	1050	1400	1750	2100	2450	2800*	3150*	3500*
External steel sheet 0.5 mmm Internal steel sheet 0.4 mm	80	580	430	320	260	170	140	90	70
External aluminium sheet 0.6 mm Internal steel sheet 0.4 mm	80	460	355	295	200	155	115	70	55



INSULATING CORE THICKNESS mm	SPAN MM							
	1050	1400	1750	2100	2450	2800*	3150*	3500*
External steel sheet 0.5 mmm Internal steel sheet 0.4 mm	100	620	490	365	275	180	155	95	75
External aluminium sheet 0.6 mm Internal steel sheet 0.4 mm	100	500	390	315	230	170	125	70	60

* On grey facing, no foot traffic on spans. Deflection limit 1/200 ℓ

The indicated values, obtained after laboratory tests on panels not fixed to supports, take into account an adequate safety coefficient. We recommend, during the inspection for maintenance and roof cleaning, to be careful in order to avoid the sheet crush on the deepest ribs. It is recommend to wear shoes with rubber soles and carefully use the tools and / or equipments that could scratch the paint and the underlying zinc, impeding corrosion. It is recommended also to periodically inspect (at least once a year) the roof, to remove eventual wastes that could create unwanted stagnant water. The data's reported in the tables are only indicative. The designer has to check these data's according to the specific application.

Isodomus

ISODOMUS

Weight (Steel sheet)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm				
		30	40	50	60	80
0,5 / 0,5	kg/m2	10,5	10,9	11,3	11,7	12,5

ISODOMUS SUPERIOR - ISODOMUS CLASSIC

Weight (Steel sheet)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm					
		30	40	50	60	80	100
0,5 / 0,5	kg/m2	10,8	11,2	11,6	12,0	12,8	13,6

Weight MONO Version (Steel sheet)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm				
		30	40	50	60	80
0,5	kg/m2	7,3	7,7	8,1	8,5	9,3

Weight MONO Version (Steel sheet)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm					
		30	40	50	60	80	100
0,5	kg/m2	7,6	8,0	8,4	8,8	9,5	10,3

THERMAL INSULATION (U)
EN 14509:2007 A.10

U	PANEL NOMINAL THICKNESS (mm)					
	30	40	50	60	80	100
W / m² K	0,52	0,41	0,38	0,29	0,24	0,19
Kcal / m² h °C	0,45	0,35	0,32	0,25	0,21	0,16

STANDARD LENGTHS

PANEL STANDARD LENGTHS mm													
2100	2450	2800	3150	3500	3850	4200	4550	4900	5250	5600	5950	6300	6 6 5 0
7000	7350	7700	8050	8400	8750	9100	9450	9800	10150	10500	10850	11200	11 5 5 0
11900	12250	12600	12950	13300									

DIMENSION TOLERANCE (EN 14509)

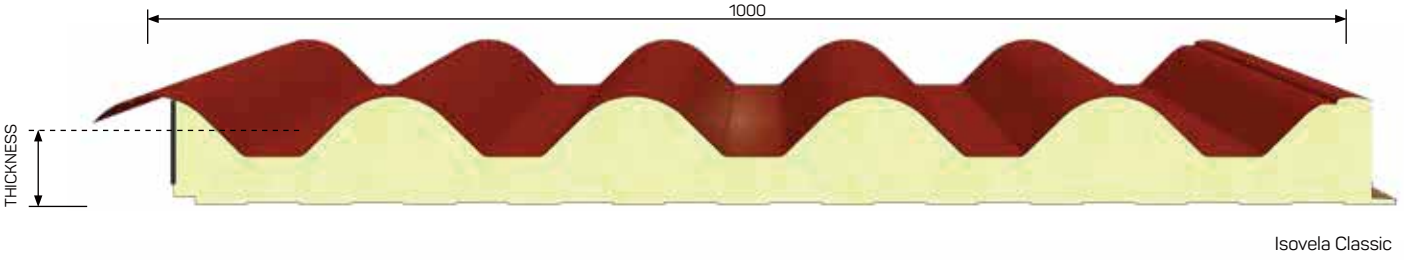
DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Bottom sheet coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling.

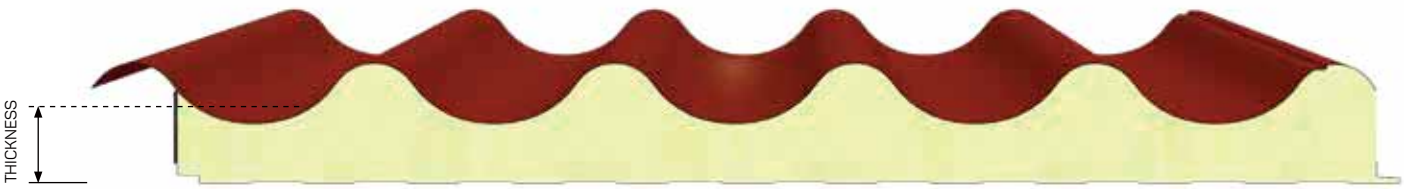
Isovela & Isovela Classic

Manufactured in: Italy

It is a self-supporting double skin roof panel, insulated with polyurethane foam, with a tongue-and-groove joint. On big longitudinal pitches, the panel overlap can be foreseen. The panel is composed by 6 waves that allow to increase the static resistance. It is available in different insulating core thicknesses for building's roofs. The assembly can be made on pitched roofs. The fixing system is a penetrating type with the possibility to use exposed caps.



Isovela Classic



Isovela

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

FIRE CHARACTERISTICS
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

Isovela & Isovela Classic

→ see pag. 16

OVERLOAD SPANS

UNIFORMLY DISTRIBUTED LOAD	STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm			STEEL SHEETS 0,6 / 0,5 mm - Support 120 mm		
	PANEL NOMINAL THICKNESS mm			PANEL NOMINAL THICKNESS mm		
	60	70	80	60	70	80
kg/m2	MAX SPANS cm			MAX SPANS cm		
80	420	445	470	430	470	500
100	380	410	445	400	430	460
120	360	385	415	370	400	430
140	335	365	390	350	380	400
160	320	345	370	330	355	380
180	300	325	350	315	340	360
200	290	310	335	290	320	345
220	270	300	320	270	310	330
250	240	275	300	240	270	310

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm		
		60	70	80
0,4 / 0,4	kg/m2	9,3	9,7	10,1
0,5 / 0,5	kg/m2	11,1	11,5	11,9
0,6 / 0,6	kg/m2	12,9	13,3	13,7

DIMENSION TOLERANCE (EN 14509)

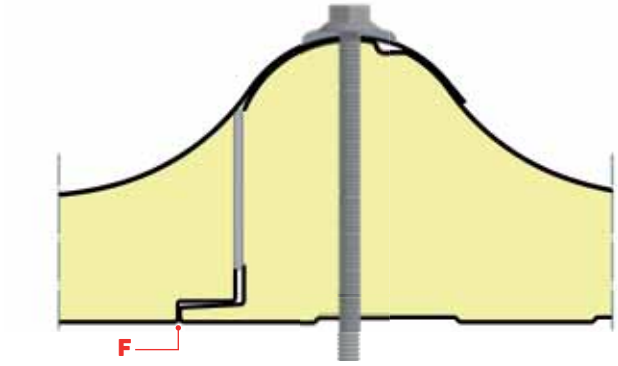
DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Bottom sheet coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

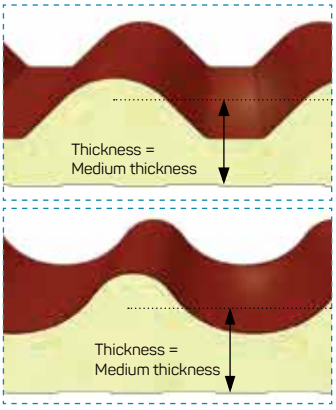
THERMAL INSULATION

According to EN 14509 A.10

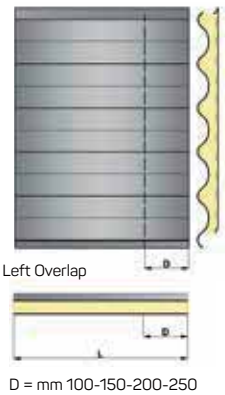
U	PANEL NOMINAL THICKNESS mm		
	60	70	80
W/m² K	0,46	0,38	0,33
kcal/m² h °C	0,40	0,33	0,29



Details of the fixing system and the coupling tolerance



ATTENTION: Nominal thickness value of Isovela and Isovela classic is referred to the the average thickness of panels



D = mm 100-150-200-250
Other measurement after agreement

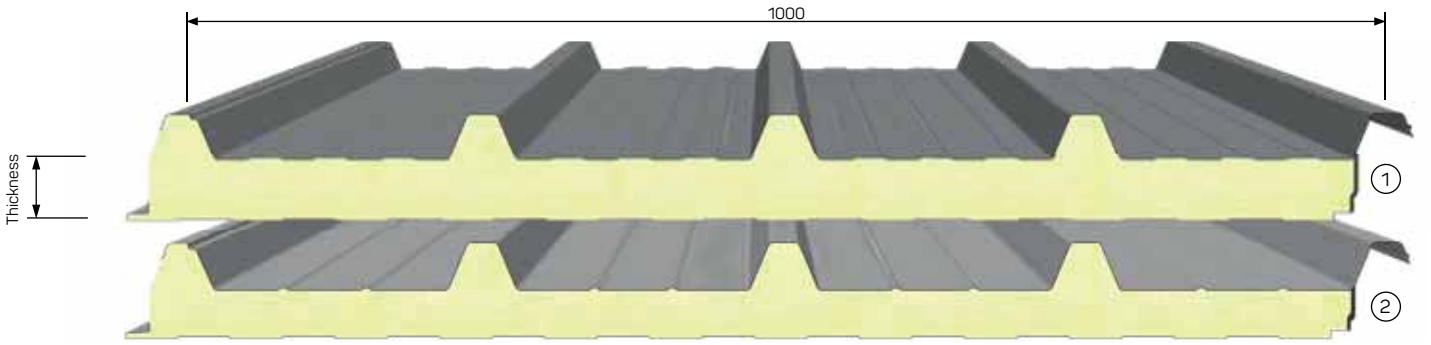
Details of the overlapping system

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

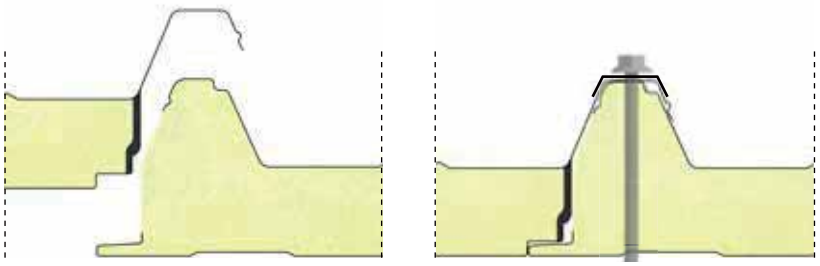
Isocop

Manufactured in: Italy, Germany, Spain, Romania

It is a self-supporting double skin roof panel, insulated with polyurethane foam, with a tongue-and-groove joint. The panel is composed by 5 ribs that allow a good static resistance. It is available in different insulating core thicknesses for building's roofs.



Profile Shape:
1 - Production Plant : Italy, Spain
2 - Production Plant : Germany, Romania



FM APPROVED

On request, Product available with certification
FM APPROVED

For further informations, please contact Isopan

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

FIRE CHARACTERISTICS
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

Isocop

→ see pag. 16

OVERLOAD SPANS

UNIFORMLY DISTRIBUTED LOAD	STEEL SHEETS 0,4 / 0,4 mm - Support 120 mm								STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm							
	PANEL NOMINAL THICKNESS mm								PANEL NOMINAL THICKNESS mm							
	30	40	50	60	80	100	120	150	30	40	50	60	80	100	120	150
kg/m²	MAX SPANS cm								MAX SPANS cm							
80	270	290	310	340	390	440	470	500	320	350	390	420	500	570	630	730
100	250	260	280	300	350	390	440	480	295	320	360	390	450	510	580	670
120	230	245	260	280	320	360	400	460	270	300	330	360	420	480	540	620
140	210	230	255	260	290	330	370	420	235	280	315	340	390	450	500	580
160	200	220	230	255	285	310	340	390	210	260	300	320	370	420	480	550
180	185	215	220	230	270	290	320	370	185	235	280	300	355	400	450	520
200	160	200	210	220	260	270	300	340	170	210	250	290	330	380	430	500
220	140	190	200	210	230	260	280	320	150	190	230	270	320	360	410	470
250	115	170	190	200	220	240	260	300	130	170	205	240	300	340	385	445

UNIFORMLY DISTRIBUTED LOAD	ALUMINIUM SHEETS 0,6 / 0,6 mm - Support 120 mm							
	PANEL NOMINAL THICKNESS mm							
	30	40	50	60	80	100	120	150
kg/m²	MAX SPANS cm							
80	255	290	325	370	435	505	565	605
100	225	255	290	315	385	455	510	590
120	205	230	255	285	340	400	460	540
140	190	210	230	255	315	370	420	495
160	170	190	215	230	285	335	385	455
180	155	170	200	215	265	310	360	420
200	145	160	180	200	240	285	335	395
220	130	155	170	190	225	255	310	355
250	110	145	155	165	200	230	275	335

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

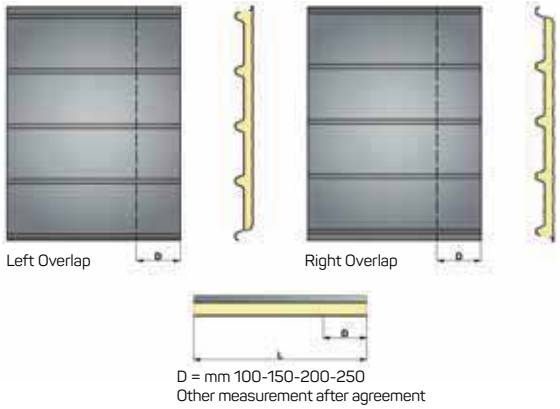
PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm							
		30	40	50	60	80	100	120	150
0,5 / 0,5	kg/m²	9,9	10,3	10,7	11,2	11,9	12,7	13,5	14,7
0,6 / 0,6	kg/m²	11,7	12,1	12,5	12,9	13,7	14,5	15,3	16,5

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Bottom sheet coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling



Details of the overlapping system

THERMAL INSULATION

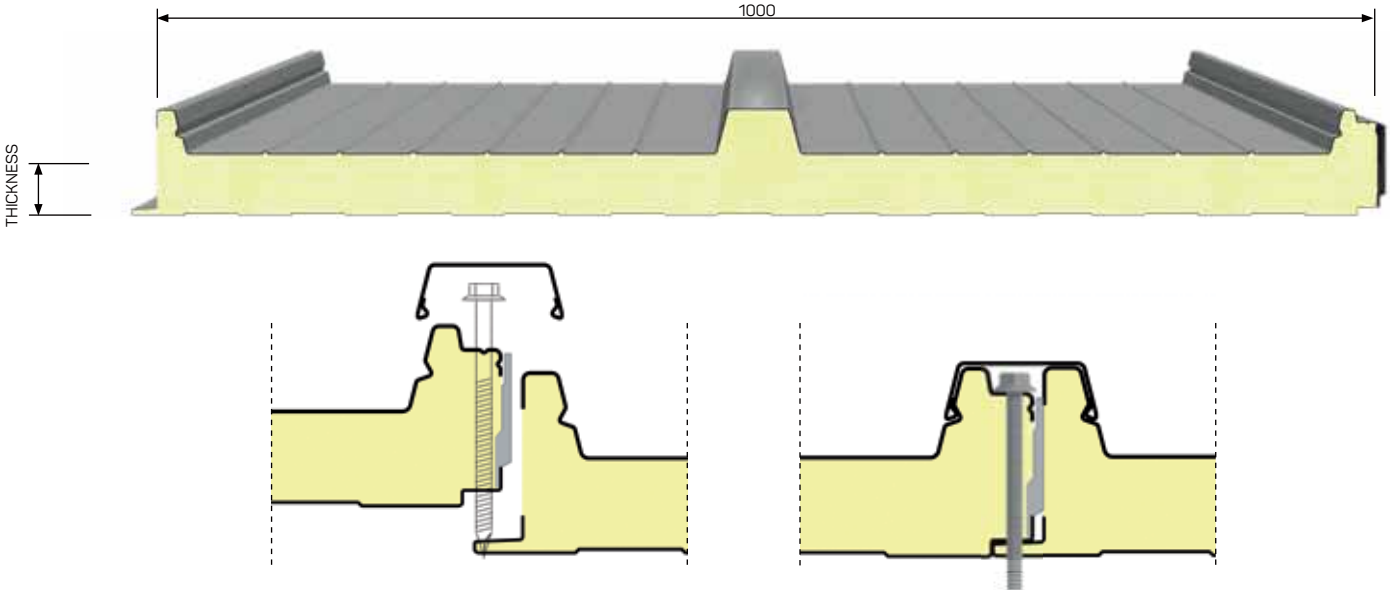
According to EN 14509 A.10

U	PANEL NOMINAL THICKNESS mm							
	30	40	50	60	80	100	120	150
W/m² K	0,71	0,54	0,44	0,37	0,28	0,22	0,19	0,15
kcal/m² h °C	0,61	0,47	0,38	0,32	0,24	0,19	0,16	0,13

Isotap

Manufactured in: Spain

It is a self-supporting double skin panel, insulated with polyurethane foam, with a tongue-and-groove joint, designed for pitched roofs with a minimum slope of 7%. On large longitudinal pitches, the panel overlap can be foreseen. The fixing system is a penetrating type with the possibility to use exposed caps, with the possibility to use caps, in the coupling zone is placed a special flashing.



INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

FIRE PERFORMANCES
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

Isotap

→ see pag. 16

OVERLOAD SPANS

UNIFORMLY DISTRIBUTED LOAD	STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm							STEEL SHEETS 0,5 / 0,4 mm - Support 120 mm				
	PANEL NOMINAL THICKNESS mm							PANEL NOMINAL THICKNESS mm				
	30	40	50	60	80	100	120	30	40	50	60	80
kg/m²	MAX SPANS cm							MAX SPANS cm				
80	295	330	365	400	470	530	600	290	320	355	400	460
120	230	280	310	340	400	450	500	230	280	310	340	390
150	190	240	280	310	365	410	460	190	240	280	300	360
200	145	180	220	260	320	360	400	145	180	220	260	310
250	115	150	180	220	275	320	360	115	150	180	215	275

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm						
		30	40	50	60	80	100	120
0,4 / 0,4	kg/m²	8,1	8,5	8,9	9,3	10,1	-	-
0,5 / 0,5	kg/m²	9,9	10,3	10,7	11,2	11,9	-	-
0,6 / 0,6	kg/m²	11,7	12,1	12,5	12,9	13,7	14,5	15,3

DIMENSION TOLERANCE (EN 14509)

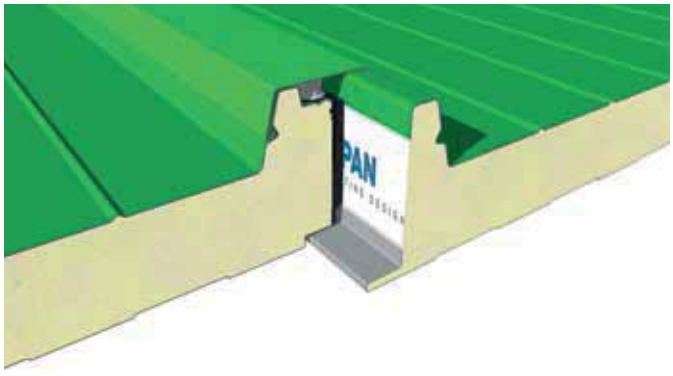
DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Bottom sheet coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

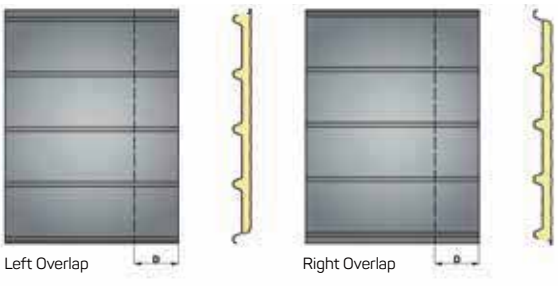
THERMAL INSULATION

According to EN 14509 A.10

U	PANEL NOMINAL THICKNESS mm						
	30	40	50	60	80	100	120
W/m² K	0,71	0,54	0,44	0,37	0,28	0,22	0,19
kcal/m² h °C	0,61	0,47	0,38	0,32	0,24	0,19	0,16



Details of the fixing system and the coupling tolerance



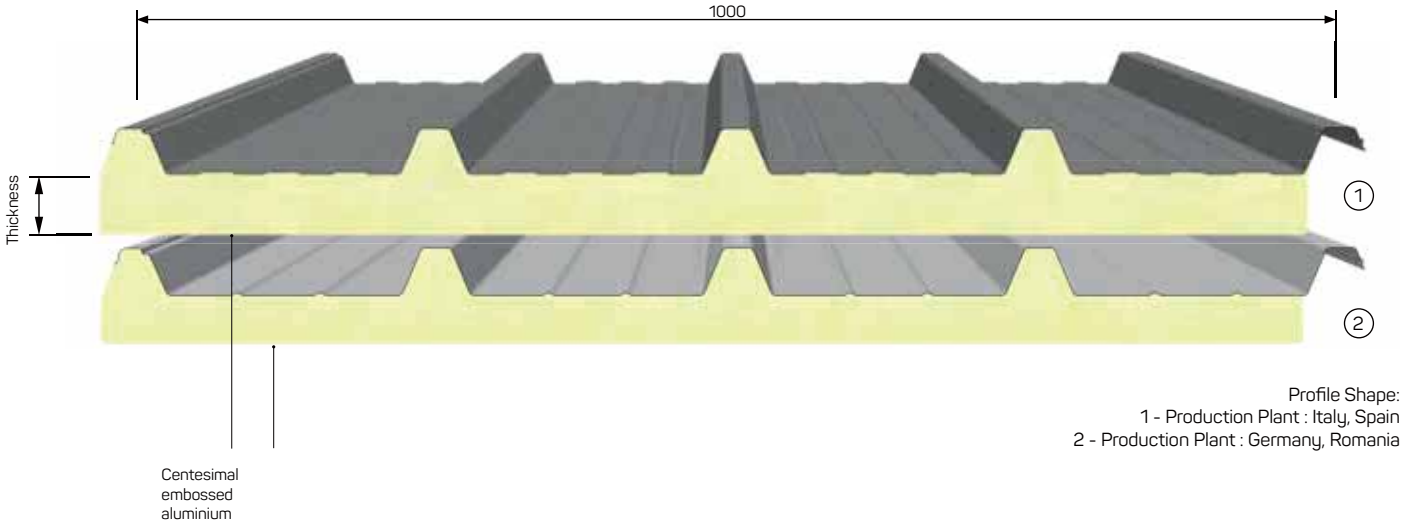
D = mm 100-150-200-250
Other measurement after agreement

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isogrecata

Manufactured in: Italy, Germany, Spain, Romania

Isogrecata is a self-supporting single skin metal faced panel, insulated with polyurethane foam; its internal face is made of centesimal embossed aluminium. The panel is composed by 5 ribs that allow a good static resistance. It is available in different insulating core thicknesses for building's roofs.



Profile Shape:
1 - Production Plant : Italy, Spain
2 - Production Plant : Germany, Romania

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

FIRE PERFORMANCES
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

Isogrecata

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS

UNIFORMLY DISTRIBUTED LOAD	THICKNESS SHEETS mm					THICKNESS SHEETS mm				
	0,5	0,6	0,7	0,8	1,0	0,5	0,6	0,7	0,8	1,0
kg/m²	MAX SPANS cm					MAX SPANS cm				
80	220*	235	250	265	285	250*	270	285	295	320
100	200*	220*	235	245	265	200*	245*	260	275	295
120	180*	200*	215*	230	250	200*	225*	240*	260	280
140	165*	185*	200*	215*	235	185*	205*	225*	240*	265
160	155*	170*	185*	200*	225	175*	195*	210*	225*	255

ALUMINIUM SHEETS

UNIFORMLY DISTRIBUTED LOAD	THICKNESS SHEETS mm				THICKNESS SHEETS mm			
	0,6	0,7	0,8	1,0	0,6	0,7	0,8	1,0
kg/m²	MAX SPANS cm				MAX SPANS cm			
80	160*	170	180	190	180*	190	200	220
100	140*	155*	165	180	160*	175*	190	205
120	130*	140*	155	170	145*	160*	185	190
140	120*	130*	140*	160	135*	150*	160*	180
160	110*	120*	130*	150	125*	140*	150*	170

* Values with stress limitations. Deflection limit 1/200 ℓ

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm					
		30	40	50	60	80	100
0,6	kg/m²	6,9	7,3	7,7	8,1	8,9	9,7
0,7	kg/m²	7,9	8,3	8,7	9,1	9,9	10,7
0,8	kg/m²	8,7	9,3	9,7	10,1	10,9	11,7

DIMENSION TOLERANCE

DEVIATION mm	
Length	± 10
Working length	± 5
Thickness	± 2
Orthogonality and rectangularity	± 3

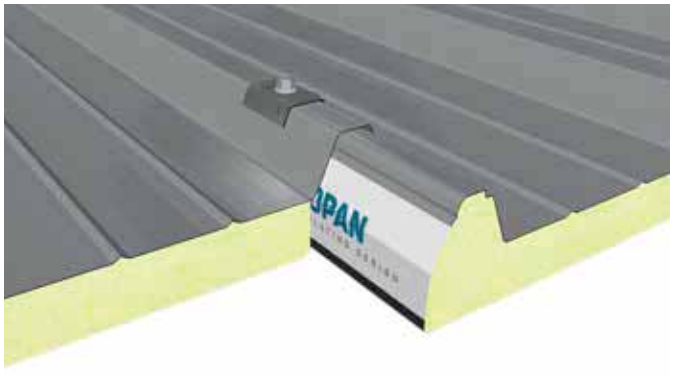
THERMAL INSULATION

According to EN 14509 Annex 10

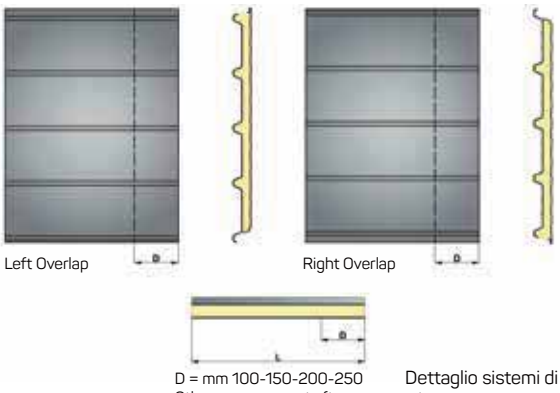
U	PANEL NOMINAL THICKNESS mm					
	30	40	50	60	80	100
W/m² K	0,71	0,54	0,44	0,37	0,28	0,22
kcal/m² h °C	0,61	0,47	0,38	0,32	0,24	0,20

According to the calculation method EN ISO 6946

K	PANEL NOMINAL THICKNESS mm					
	30	40	50	60	80	100
W/m² K	0,55	0,44	0,36	0,31	0,25	0,20
kcal/m² h °C	0,48	0,38	0,32	0,27	0,22	0,17



Details of the fixing system and the coupling tolerance



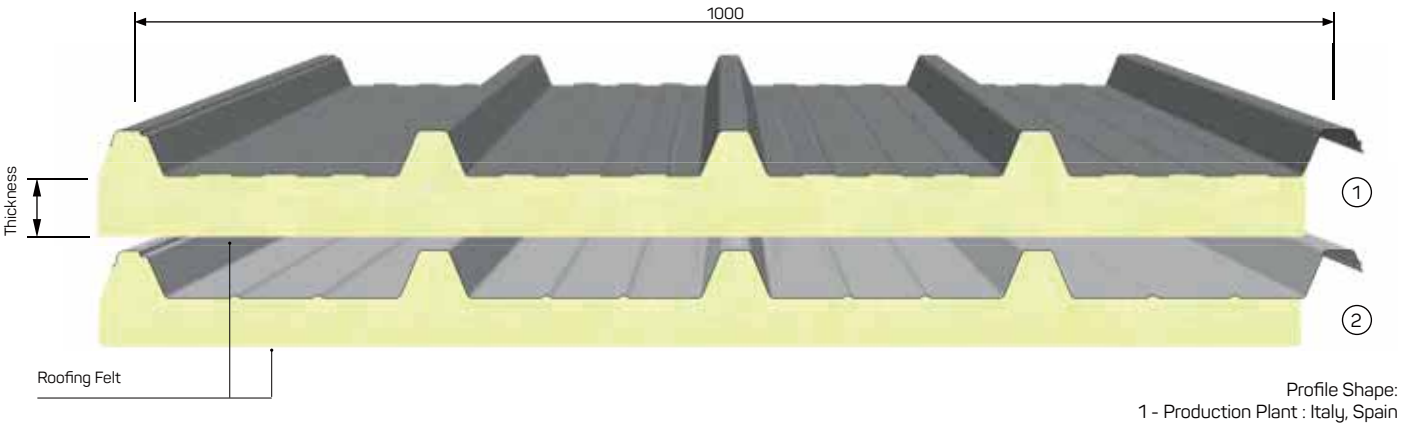
Dettaglio sistemi di sormonto

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isodeck

Manufactured in: Italy, Germany, Spain, Romania

Isodeck is a self-supporting simple skin metal faced panel, insulated with polyurethane foam with internal face made of roofing felt. The panel can be installed upside down for the construction of flat roofs to be waterproofed on site. In fact, the ribbed face is the internal face of the building; it can also be used in the traditional way on hidden faces and continuous slab. The panel is composed by 5 ribs that allow a good static resistance. It is available in different insulating core thicknesses for building's roofs.



Profile Shape:
1 - Production Plant : Italy, Spain
2 - Production Plant : Germany, Romania

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

FIRE PERFORMANCES
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

Isodeck

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS

UNIFORMLY DISTRIBUTED LOAD	THICKNESS SHEETS mm					THICKNESS SHEETS mm				
	0,5	0,6	0,7	0,8	1,0	0,5	0,6	0,7	0,8	1,0
kg/m²	MAX SPANS cm					MAX SPANS cm				
80	220*	235	250	265	285	250*	270	285	295	320
100	200*	220*	235	245	265	200*	245*	260	275	295
120	180*	200*	215*	230	250	200*	225*	240*	260	280
140	165*	185*	200*	215*	235	185*	205*	225*	240*	265
160	155*	170*	185*	200*	225	175*	195*	210*	225*	255

ALUMINIUM SHEETS

UNIFORMLY DISTRIBUTED LOAD	THICKNESS SHEETS mm				THICKNESS SHEETS mm			
	0,6	0,7	0,8	1,0	0,6	0,7	0,8	1,0
kg/m²	MAX SPANS cm				MAX SPANS cm			
80	160*	170	180	190	180*	190	200	220
100	140*	155*	165	180	160*	175*	190	205
120	130*	140*	155	170	145*	160*	185	190
140	120*	130*	140*	160	135*	150*	160*	180
160	110*	120*	130*	150	125*	140*	150*	170

* Values with stress limitations. Deflection limit 1/200 ℓ

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm					
		30	40	50	60	80	100
0,6	kg/m²	7,3	7,7	8,1	8,5	9,3	10,1
0,7	kg/m²	8,3	8,7	9,1	9,5	10,3	11,1
0,8	kg/m²	9,1	9,7	10,1	10,5	11,3	12,1

DIMENSION TOLERANCE

DEVIATION mm	
Length	± 10
Working length	± 5
Thickness	± 2
Orthogonality and rectangularity	± 3

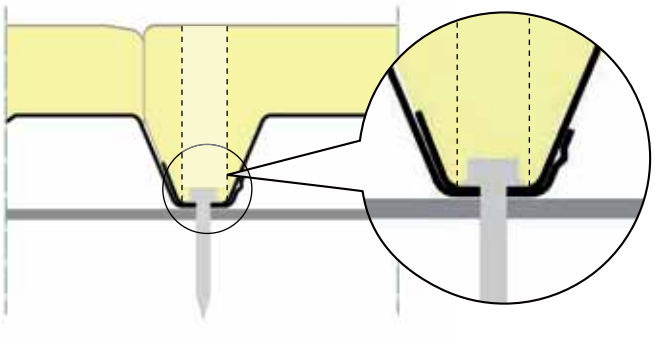
THERMAL INSULATION

According to EN 14509 Annex 10

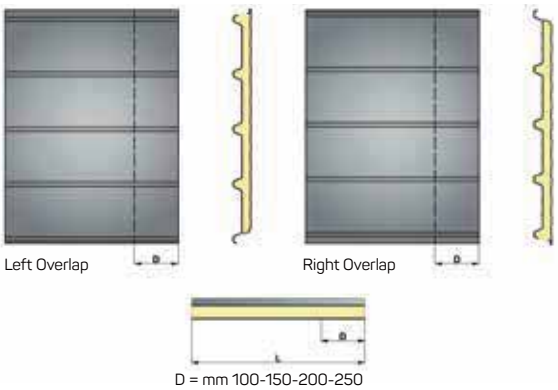
U	PANEL NOMINAL THICKNESS mm					
	30	40	50	60	80	100
W/m² K	0,71	0,54	0,44	0,37	0,28	0,22
kcal/m² h °C	0,61	0,47	0,38	0,32	0,24	0,20

According to the calculation method EN ISO 6946

K	PANEL NOMINAL THICKNESS mm					
	30	40	50	60	80	100
W/m² K	0,55	0,44	0,36	0,31	0,25	0,20
kcal/m² h °C	0,48	0,38	0,32	0,27	0,22	0,17



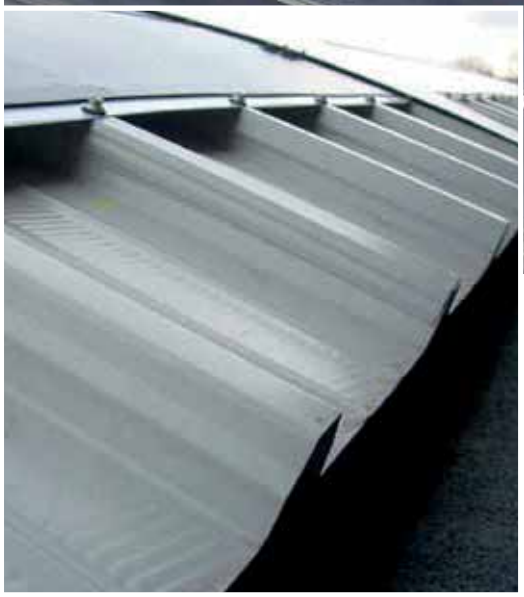
Details of the fixing system



ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isoray 3.3 & Isoray 6

Manufactured in: Italy



Isoray 3.3 - Isoray 6

→ see pag. 16

APPLICATION

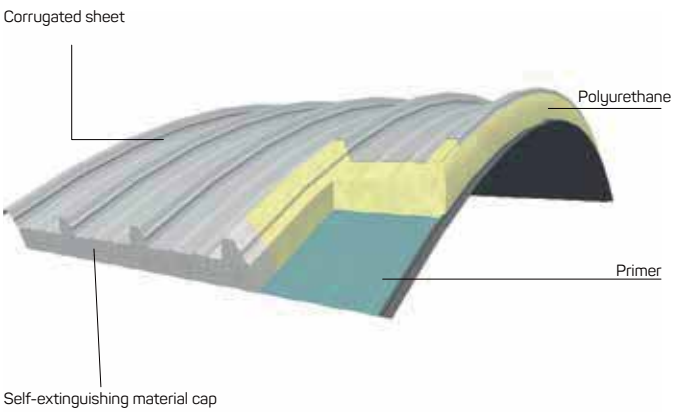
Isoray is a precurved thermo-insulated roof panel. It is designed for roofs that are principally placed on prefabricated structures made of prestressed concrete: it guarantees waterproofness, high thermal insulation and high load resistance.

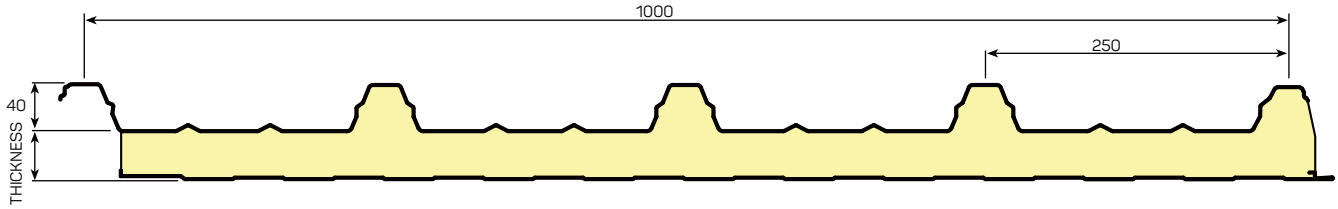
CHARACTERISTICS

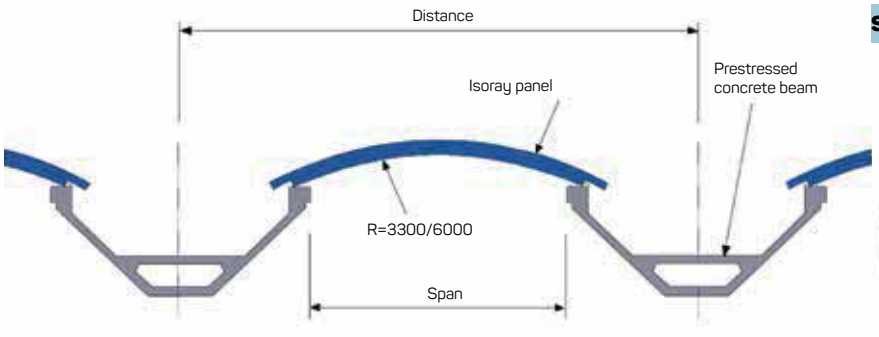
The panel allows you to create curved roofs with a radius of 3.3 m to 6 m, even if it is curved, with the 5 ribs sheet, it shows a high load resistance. The fixing is made at the end of the support structure thanks to steel self-drilling screws.

ADVANTAGES

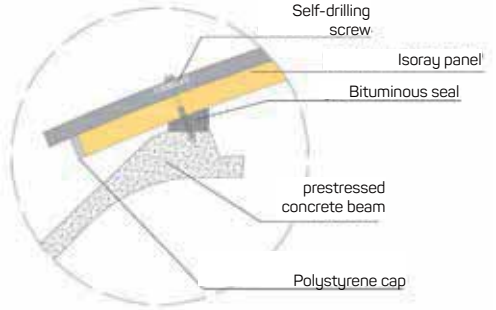
It shows high results of thermal insulation even with a flat roof that is appropriate also for prefabricated elements in prestressed concrete. Isoray is a monolithic solution with a high mechanical resistance and a high thermal insulation power.



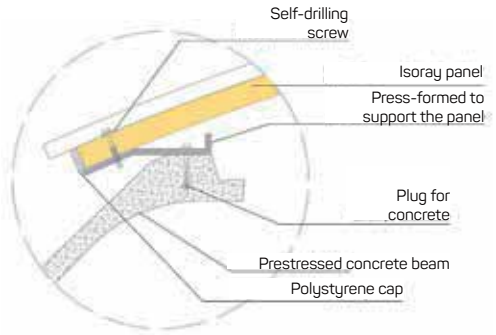




SUPPORT TYPE A



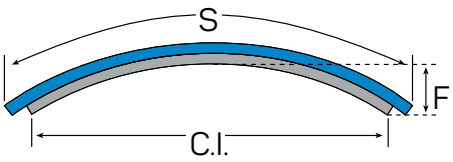
SUPPORT TYPE B



For more information on assembly and fixing systems, please contact Isopan

DEVELOPMENT – CHORD - DEFLECTION (The measures refer to a 40 mm thick panel)

ISORAY 3.3 (measures in cm)			ISORAY 6 (measures in cm)		
Internal chord C.I.	Development S	Deflection F	Internal chord C.I.	Development S	Deflection F
107	120	4	150	162	5
137	151	7	200	214	8
158	173	10	250	265	13
177	194	12	300	317	19
196	214	15	350	370	26
216	235	18	400	423	34
236	257	22	450	477	44
255	278	26	500	533	55
260	284	27	-	-	-
275	300	30	-	-	-



Isoray 3.3 - Isoray 6

ACCEPTABLE LOADS (LOAD BEARING SCHEME (kg/m²)

ISORAY 3.3 with 0.5 mm thick steel faces						
CORE THICKNESS mm	CALCULATED DEFLECTION m					
	1	1,5	2	2,5	2,75	3
40	410	370	290	250	230	210
50	490	425	340	280	260	240
60	590	490	380	300	220	260

ISORAY 3.3 with 0.6 mm thick external aluminium face and 0.5 mm thick internal steel face						
CORE THICKNESS mm	CALCULATED DEFLECTION m					
	1	1,5	2	2,5	2,75	3
40	400	250	210	180	165	150
50	480	315	260	210	185	170
60	580	380	290	230	195	180

ISORAY 6 with 0.5 mm thick steel faces										
CORE THICKNESS mm	CALCULATED DEFLECTION m									
	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5
40	390	256	190	190	170	150	110	85	75	62
50	490	323	240	220	200	170	130	100	83	67
60	590	390	280	240	220	190	150	120	90	73
80	800	520	348	283	264	234	198	173	117	91
100	913	588	383	305	282	255	224	200		

PANEL ISORAY 6 with 0.6 mm thick external aluminium face and 0.5 mm thick internal steel face										
CORE THICKNESS mm	CALCULATED DEFLECTION m									
	1,0	1,5	2,0	2,5	3,0	3,5	4,0	4,5	5,0	5,5
40	390	256	190	182	150	130	80	70	60	50
50	490	323	240	210	170	150	100	85	65	52
60	590	390	270	230	180	160	110	105	70	55
80	787	511	342	271	218	197	145	127	82	65
100	889	573	372	292	233	215	164	140		

Note : the red values indicate the acceptable loads for a panel anchored to the support.
The data's reported in the tables are only indicative. The designer has to check them according to the specific application.
Deflection limit 1/200 ℓ

PANEL THICKNESS mm	K		PANEL WEIGHT (kg/m²) WITH STEEL SHEETS 0,5 mm
	Kcal/m² h°C	Watt/m² K	
40	0,38	0,45	10,3
50	0,32	0,38	10,7
60	0,27	0,32	11,2
80	0,22	0,25	11,9
100	0,18	0,20	12,7

DIMENSION TOLERANCE

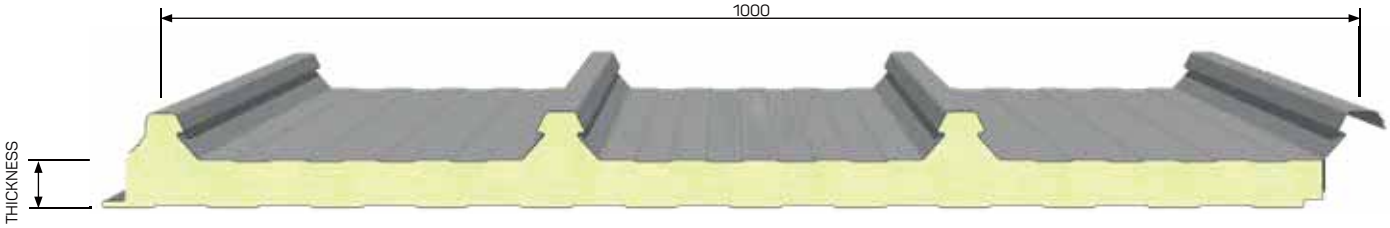
DEVIATION mm	
Lenght of curvature	± 5 mm with L ≤ 3000 / ± 10 mm with L > 3000
Width	± 2
Thickness	± 2
Chord	± 3 %
Radius of curvature	± 2 %
Coupling (Dev. < 3000mm)	± 4 mm
Coupling (Dev. ≥ 3000mm)	± 5 mm

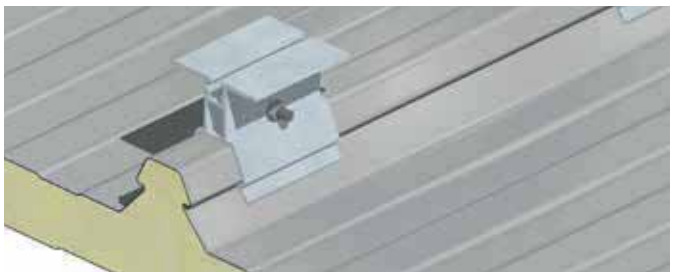
ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isocop Multifunction

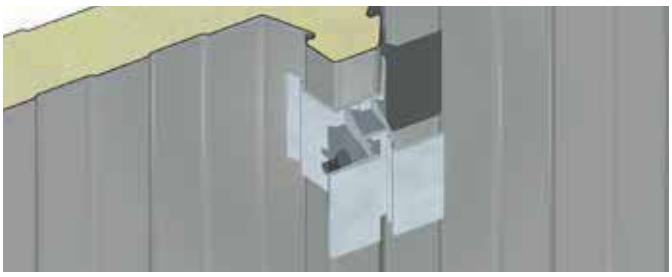
Manufactured in: Italy

It is a self-supporting double skin panel, insulated with polyurethane foam, with a tongue-groove joint, and it is available in different thicknesses. On large longitudinal pitches, panel overlapping can be provided for. The panel is composed by 4 ribs that allow to increase the static resistance. The rib shape allows to complement the system with covering or wall accessories with simple and quick operations.





Expample with roof accessory



Expample with wall accessory

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

FIRE PERFORMANCES
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

Isocop Multifunction

→ see pag. 16

OVERLOAD SPANS

UNIFORMLY DISTRIBUTED LOAD	STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm							STEEL SHEETS 0,6 / 0,5 mm - Support 120 mm						
	PANEL NOMINAL THICKNESS mm							PANEL NOMINAL THICKNESS mm						
	30	40	50	60	80	100	120	30	40	50	60	80	100	120
kg/m²	MAX SPANS cm							MAX SPANS cm						
80	295	330	370	400	470	530	590	310	340	390	420	490	550	610
100	260	305	330	370	430	490	540	260	315	350	380	440	500	550
120	220	275	300	330	395	435	490	220	290	330	355	400	450	500
140	195	250	270	295	350	410	460	195	250	295	320	380	420	460
160	170	220	250	270	320	380	420	170	220	270	290	340	390	430
180	150	200	230	245	285	340	400	155	200	245	265	310	360	400
200	140	180	210	225	260	310	360	135	180	225	250	285	330	380
220	125	165	200	210	240	280	330	125	175	200	230	265	305	350
250	110	145	180	195	215	250	280	115	150	180	210	235	270	310

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm						
		30	40	50	60	80	100	120
0,4 / 0,4	kg/m²	8,1	8,5	8,9	9,3	10,1	10,9	11,7
0,5 / 0,5	kg/m²	9,9	10,3	10,7	11,2	11,9	12,7	13,5
0,6 / 0,6	kg/m²	11,7	12,1	12,5	12,9	13,7	14,5	15,3

DIMENSION TOLERANCE (EN 14509)

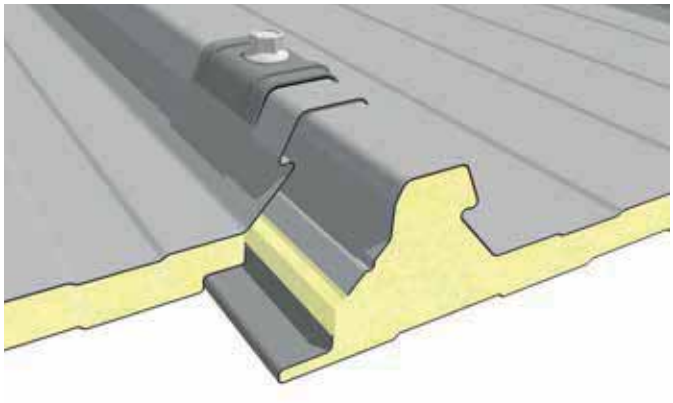
DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Bottom sheet coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION

According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm						
	30	40	50	60	80	100	120
W/m² K	0,71	0,54	0,44	0,37	0,28	0,22	0,19
kcal/m² h °C	0,61	0,47	0,38	0,32	0,24	0,19	0,16

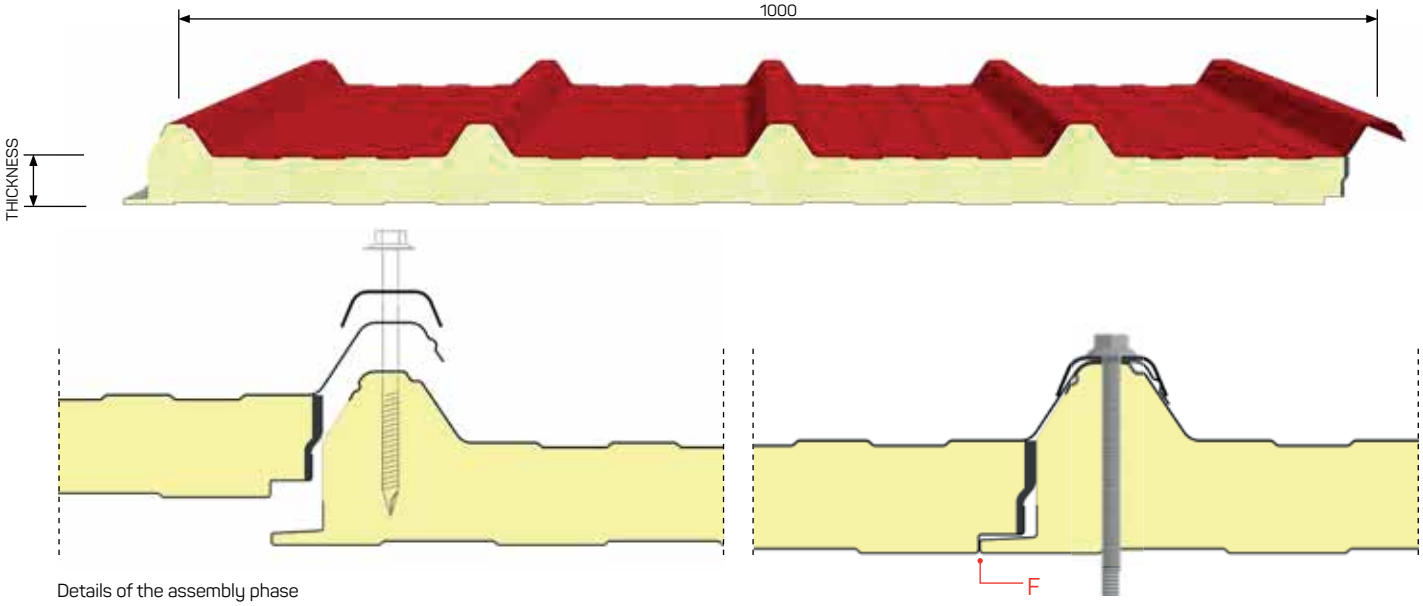


ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isosmart

Manufactured in: Italy

It is a self-supporting double skin roof panel, insulated with polyurethane foam, with a tongue-and-groove joint. The panel is composed by 5 ribs that allow a good static resistance. It is available in different insulating core thicknesses for building's roofs.



Details of the assembly phase

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

FIRE PERFORMANCES
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

Isosmart

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS 0,4 / 0,3 mm - Support 120 mm				
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm			
	30	40	50	60
kg/m²	MAX SPANS cm			
80	200	225	250	300
100	190	210	230	280
120	175	200	220	250
140	165	190	210	230
160	155	180	200	215
180	145	170	185	205
200	130	160	175	190
220	125	150	160	180
250	110	130	150	170

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm			
		30	40	50	60
0,4 / 0,4	kg/m²	8,1	8,5	8,9	9,3
0,5 / 0,5	kg/m²	9,9	10,3	10,7	11,2
0,6 / 0,6	kg/m²	11,7	12,1	12,5	12,9

DIMENSION TOLERANCE (EN 14509)

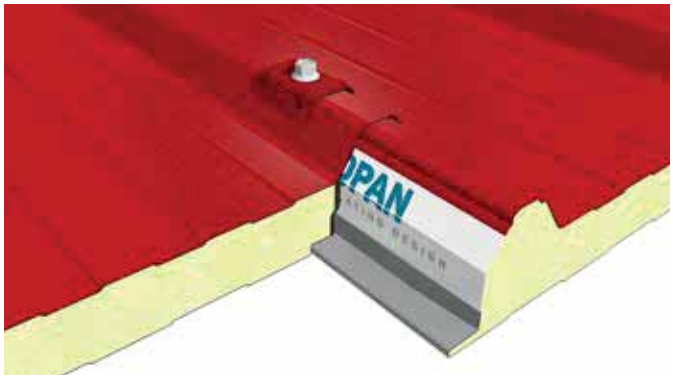
DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Bottom sheet coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

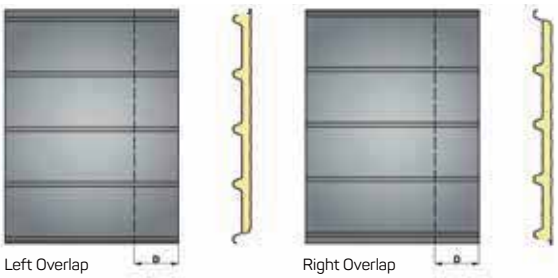
THERMAL INSULATION

According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm			
	30	40	50	60
W/m² K	0,71	0,54	0,44	0,37
kcal/m² h °C	0,61	0,47	0,38	0,32



Coupling detail



D = mm 100-150-200-250
Other measurement after agreement

ISOPAN
BUILDING ENVELOPE SOLUTIONS
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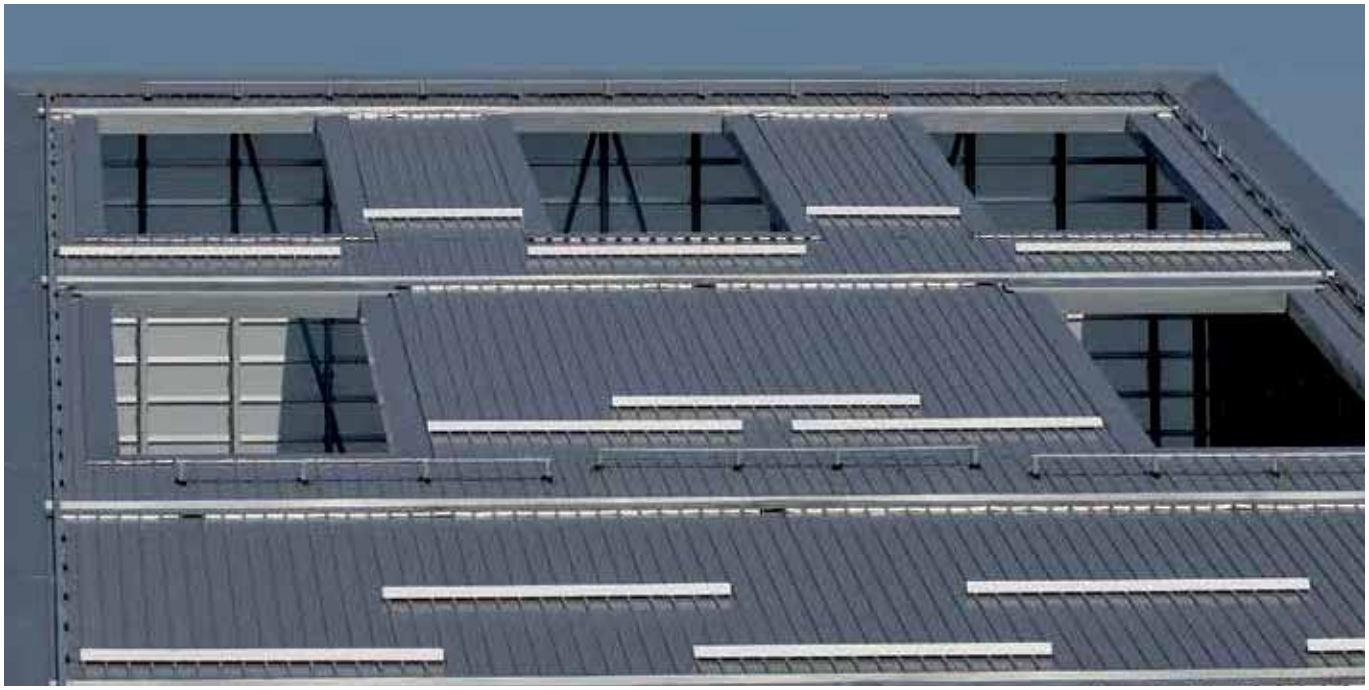
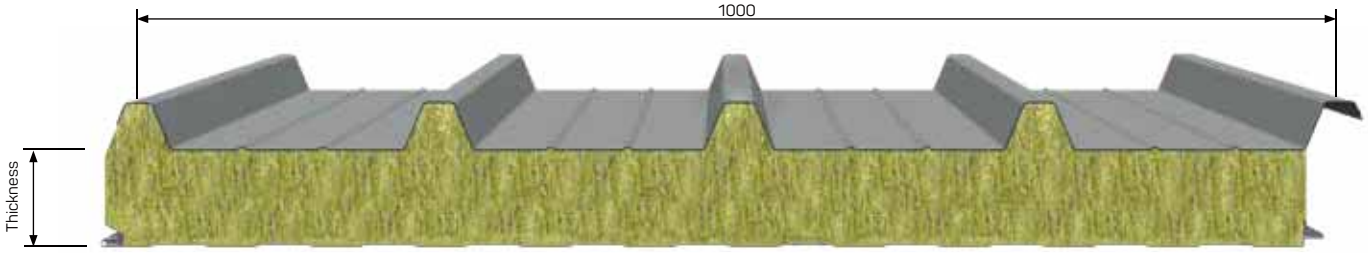
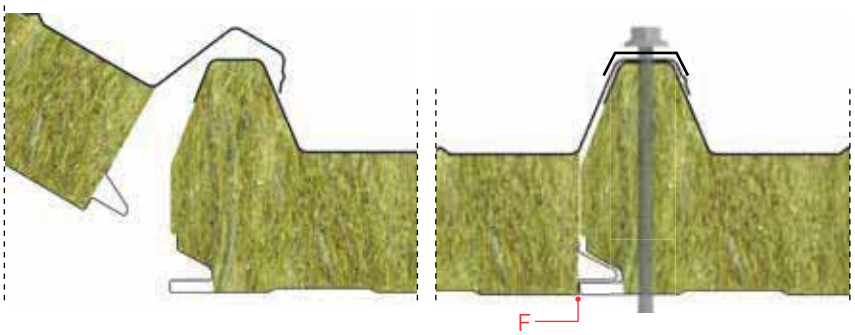
Isofire Roof

Manufactured in: Italy



Isofire Roof is a self-supporting double skin panel, insulated with mineral wool fibre made with an exclusive insulation layer composed of mineral wool strips. The fixing system is a penetrating type with the possibility to use exposed caps.





FM APPROVED

On request,
Product available with Certification
FM APPROVED

For further informations,
please contact Isopan

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

Isofire Roof

→ see pag. 16

OVERLOAD SPANS

UNIFORMLY DISTRIBUTED LOAD	STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm								STEEL SHEETS 0,6 / 0,6 mm - Support 120 mm							
	PANEL NOMINAL THICKNESS mm								PANEL NOMINAL THICKNESS mm							
	50	60	80	100	120	150	170	200	50	60	80	100	120	150	170	200
kg/m2	MAX SPANS cm								MAX SPANS cm							
80	330	360	420	475	525	550	*560*	*570*	350	375	430	495	545	595	*605*	*615*
100	305	330	375	425	480	495	*500*	*510*	315	340	395	445	495	540	*550*	*560*
120	270	300	345	390	435	475	*480*	*490*	280	310	355	405	450	485	*490*	*495*
140	255	270	315	360	405	420	*425*	*435*	260	290	325	370	415	440	*445*	*450*
160	235	255	290	320	365	390	*395*	*405*	245	260	300	340	375	405	*410*	*415*
180	210	235	270	305	340	360	*365*	*370*	230	245	280	315	345	380	*385*	*390*
200	195	210	255	290	320	340	*345*	*350*	210	230	265	300	330	350	*355*	*360*
220	185	200	240	265	295	325	*330*	*335*	195	220	250	280	310	330	*335*	*340*
250	165	185	215	250	275	290	*295*	*300*	170	195	230	260	290	300	*305*	*310*

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered. Value of 170mm and 200mm thickness panel (in italic) are considered with 150mm width support.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm							
		50	60	80	100	120	150	170	200
0,5 / 0,5	kg/m²	14,4	15,4	17,4	19,4	21,4	24,4	26,4	29,4
0,6 / 0,6	kg/m²	16,2	17,2	19,2	21,2	23,2	26,2	28,2	31,2

FIRE AND ACOUSTICS PERFORMANCES
On client's request, Isopan can provide Fire and Acoustic behaviour certificates.
Please consult the synthesis available in the catalogue or on the website.

DIMENSION TOLERANCE (EN 14509)

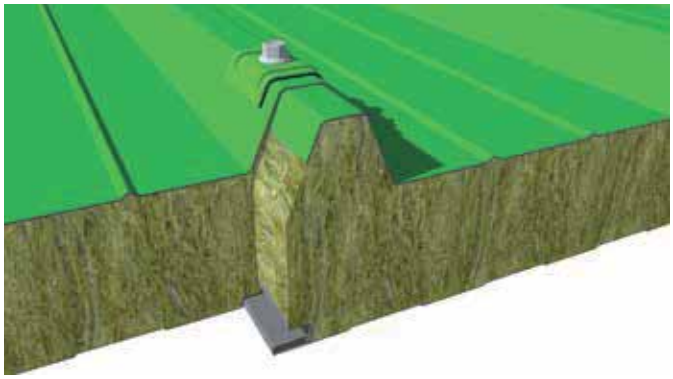
DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Bottom sheet coupling	F = 0 + 3 mm	

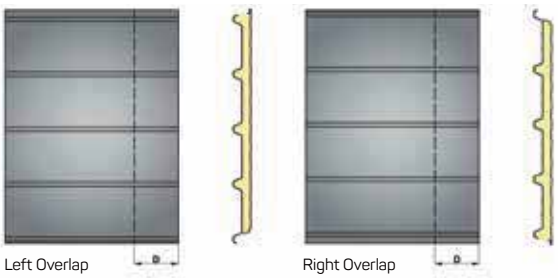
L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION

According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm							
	50	60	80	100	120	150	170	200
W/m² K	0,78	0,66	0,50	0,40	0,34	0,27	0,24	0,20
kcal/m² h °C	0,67	0,57	0,43	0,34	0,29	0,23	0,21	0,17





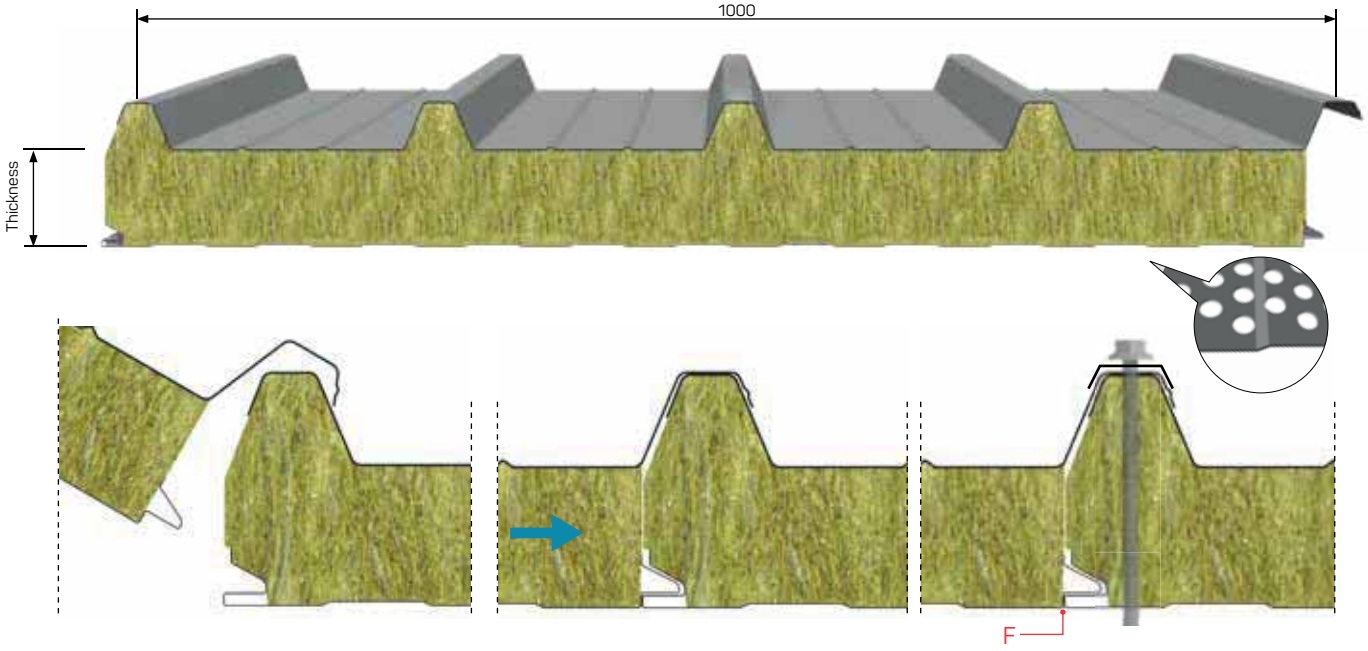
D = mm 100-150-200-250
Other measurement after agreement

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isofire Roof Fono

Manufactured in: Italy

Isofire Roof FONO is a self-supporting double skin panel, insulated with mineral wool fibre made with an exclusive insulation layer composed of mineral wool strips. The fixing system is a penetrating type with the possibility to use exposed caps. The internal sheet is characterised by a micro-drilling that enhances acoustic performances; meaning the sound absorption and insulation.



INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

Isofire Roof Fono

→ see pag. 16

OVERLOAD SPANS

UNIFORMLY DISTRIBUTED LOAD	STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm						STEEL SHEETS 0,6 / 0,6 mm - Support 120 mm					
	PANEL NOMINAL THICKNESS mm						PANEL NOMINAL THICKNESS mm					
	50	60	80	100	120	150	50	60	80	100	120	150
kg/m²	MAX SPANS cm						MAX SPANS cm					
80	285	310	365	410	455	475	300	325	370	430	470	515
100	265	285	325	365	415	430	270	295	340	385	430	465
120	230	260	300	335	375	410	240	265	305	350	390	420
140	220	230	270	310	350	365	225	250	280	320	360	380
160	200	220	250	275	315	335	210	225	260	295	325	350
180	180	200	230	265	295	310	200	210	240	270	300	330
200	165	180	220	250	275	295	180	200	230	260	285	300
220	160	170	205	230	255	280	165	190	215	240	265	285
250	140	160	185	215	235	250	145	165	200	225	250	260

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm					
		50	60	80	100	120	150
0,5 / 0,5	kg/m²	12,9	13,9	15,9	17,9	19,9	22,9
0,6 / 0,6	kg/m²	14,7	15,7	17,7	19,7	21,7	24,7

FIRE AND ACOUSTICS PERFORMANCES
On client's request, Isopan can provide Fire and Acoustic behaviour certificates.
Please consult the synthesis available in the catalogue or on the website.

DIMENSION TOLERANCE (EN 14509)

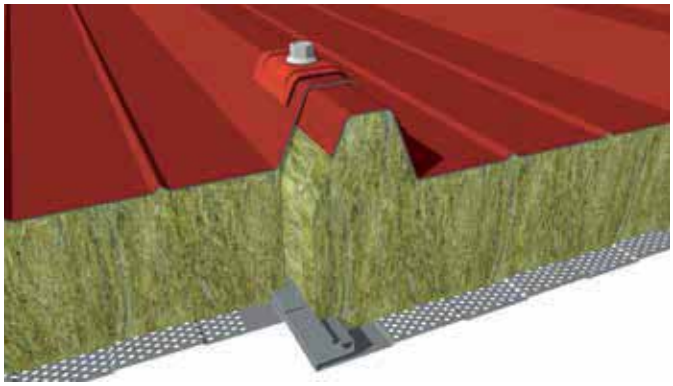
DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Bottom sheet coupling	F = 0 + 3 mm	

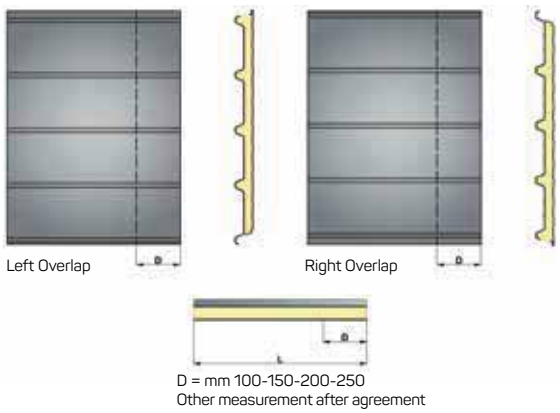
L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION

According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm					
	50	60	80	100	120	150
W/m² K	0,78	0,66	0,50	0,40	0,34	0,27
kcal/m² h °C	0,67	0,57	0,43	0,34	0,29	0,23



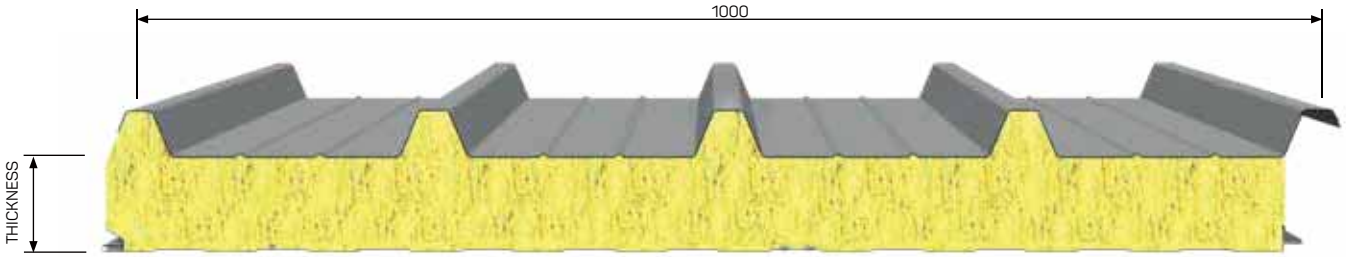


ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

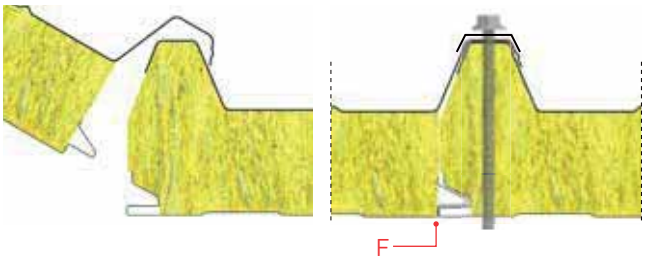
see pag. 16

Isofire Roof FG

Manufactured in: Italy



Isofire Roof FG is a self-supporting double skin panel, insulated with **Glass wool**. The fixing system is a penetrating type with the possibility to use exposed caps.



PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS		PANEL NOMINAL THICKNESS mm							
		50	60	80	100	120	150	170	200
0,5 / 0,5	kg/m²	11,8	12,4	13,5	14,6	15,7	17,3	18,4	20,1
0,6 / 0,6	kg/m²	13,6	14,2	15,3	16,4	17,5	19,1	20,2	21,9

THERMAL INSULATION According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm							
	50	60	80	100	120	150	170	200
W/m² K	0,75	0,63	0,48	0,38	0,32	0,26	0,23	0,19
kcal/m² h °C	0,65	0,54	0,41	0,33	0,28	0,22	0,20	0,16

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Bottom sheet coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

OVERLOAD SPANS

UNIFORMLY DISTRIBUTED LOAD	STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm						STEEL SHEETS 0,6 / 0,6 mm - Support 120 mm					
	PANEL NOMINAL THICKNESS mm						PANEL NOMINAL THICKNESS mm					
	50	60	80	100	120	150	50	60	80	100	120	150
kg/m²	MAX SPANS cm						MAX SPANS cm					
80	290	315	370	420	460	495	310	330	380	440	480	535
100	270	290	330	380	430	470	275	300	350	400	445	510
120	240	270	310	350	390	450	260	275	315	360	405	460
160	220	235	270	300	340	390	225	240	275	315	350	405
200	185	200	240	270	300	350	200	220	250	275	310	360
250	155	175	205	240	265	310	170	185	220	250	275	315

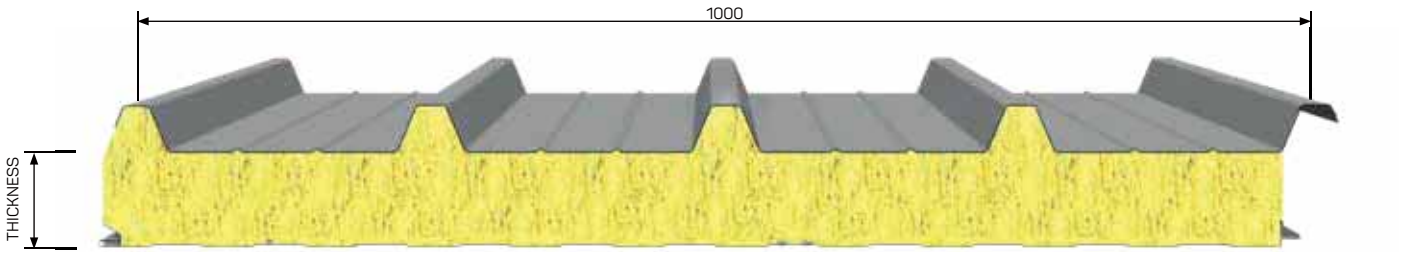
Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

INSTRUCTIONS OF USE: For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

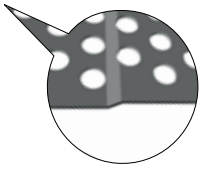
→ see pag. 16

Isofire Roof FG Fono

Manufactured in: Italy



Isofire Roof FONO FG is a self-supporting double skin panel, insulated with **Glass wool**. The fixing system is a penetrating type with the possibility to use exposed caps. The internal sheet is characterised by a micro-drilling that enhances acoustic performances; meaning the sound absorption and insulation.



PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS		PANEL NOMINAL THICKNESS mm					
		50	60	80	100	120	150
0,5 / 0,5	kg/m²	10,3	10,9	12,0	13,1	14,2	15,8
0,6 / 0,6	kg/m²	12,1	12,7	13,8	14,9	16,0	17,6

THERMAL INSULATION According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm					
	50	60	80	100	120	150
W/m² K	0,75	0,63	0,48	0,38	0,32	0,26
kcal/m² h °C	0,65	0,54	0,41	0,33	0,28	0,22

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Bottom sheet coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

FIRE AND ACOUSTICS PERFORMANCES
On client's request, Isopan can provide Fire and Acoustic behaviour certificates.
Please consult the synthesis available in the catalogue or on the website.

OVERLOAD SPANS

UNIFORMLY DISTRIBUTED LOAD	STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm						STEEL SHEETS 0,6 / 0,6 mm - Support 120 mm					
	PANEL NOMINAL THICKNESS mm						PANEL NOMINAL THICKNESS mm					
	50	60	80	100	120	150	50	60	80	100	120	150
kg/m²	MAX SPANS cm						MAX SPANS cm					
80	250	270	320	360	395	420	265	280	320	370	405	455
100	230	250	280	320	365	405	235	255	300	340	380	440
120	205	230	265	300	330	390	225	235	270	315	345	395
160	185	200	230	255	290	330	195	205	235	270	300	345
200	160	175	205	230	255	300	175	185	215	235	265	305
250	135	150	180	205	225	265	145	160	185	215	235	270

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

INSTRUCTIONS OF USE: For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

ISOPAN FLAT ROOF

The product range for flat roofs includes the new panels studied by Isopan for the realisation of flat covers. The choice of both the type of metal facing and of the membrane used for the extrados facing gives the product range a high flexibility, thanks to simple skin panels coated with a bituminous membrane or with a PVC membrane and double skin panels. They can be applied for new constructions or to substitute existing roofs. The buildings constructed with these panels are characterised by the speed of installation, the thermal insulation power, the waterproofing capabilities and the flexibility of use.

ISOPAN
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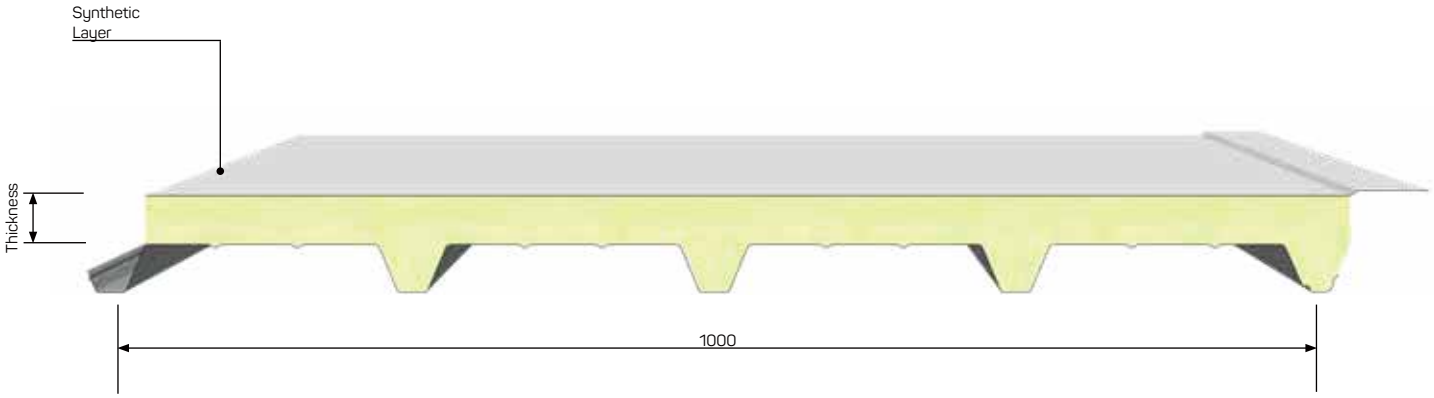
Isodeck Synth

Panel designed for the construction of flat or slightly pitched roofs, characterised by an excellent waterproofing capacity and, at the same time, high values of thermal insulation. It is a simple skin panel with the second surface made of a synthetic PVC/TPO layer.



APPLICATION

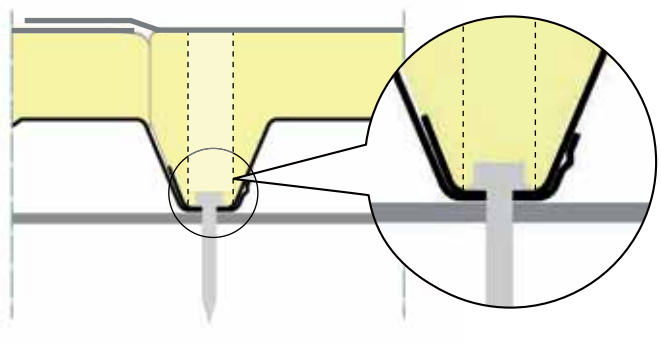
Isodeck Synth is a panel that can be used on any type of loadbearing structure and that offers a great versatility, conferred by the lightness of the panel and the speed of installation. Particularly adapted for flat or slightly pitched roofs and roof floors.

CHARACTERISTICS

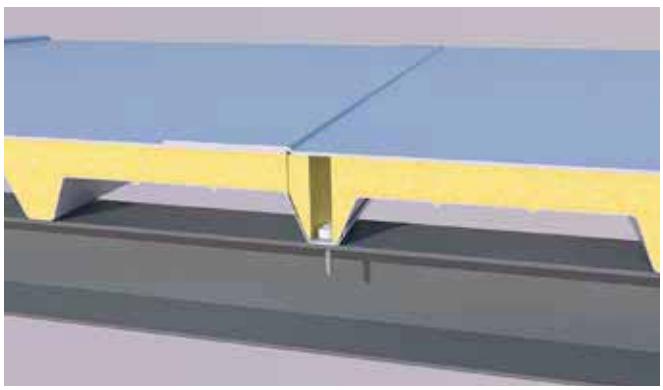
- Internal face: prepainted galvanised steel (EN 10346)
- Insulating core: expanded polyurethane foam
- External face: Synthetic layer

ADVANTAGES

- A simple, versatile, quick and economic solution
- Excellent resistance to UV rays
- High waterproofing capacity



Fixing system detail



Isodeck Synth

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS										
UNIFORMLY DISTRIBUTED LOAD	THICKNESS SHEETS mm					THICKNESS SHEETS mm				
	0,5	0,6	0,7	0,8	1,0	0,5	0,6	0,7	0,8	1,0
kg/m²	MAX SPANS cm					MAX SPANS cm				
60	245	260	275	290	315	275	295	310	325	350
80	220*	235	250	265	285	250*	270	285	295	320
100	200*	220*	235	245	265	220*	245*	260	275	295
120	180*	200*	215*	230	250	200*	225*	240*	260	280
140	165*	185*	200*	215*	235	185*	205*	225*	240*	265
160	155*	170*	185*	200*	225	175*	195*	210*	225*	255
180	145*	160*	175*	190*	215*	165*	180*	200*	210*	240*
200	140*	155*	165*	180*	200*	155*	170*	185*	200*	225*

ALUMINIUM SHEETS								
UNIFORMLY DISTRIBUTED LOAD	THICKNESS SHEETS mm				THICKNESS SHEETS mm			
	0,6	0,7	0,8	1,0	0,6	0,7	0,8	1,0
kg/m²	MAX SPANS cm				MAX SPANS cm			
60	160*	170	180	190	180*	190	200	220
100*	130*	155*	165	180	160*	175*	190	205
120	130*	140*	155	170	145*	160*	185	190
140	120*	130*	140*	160	135*	150*	160*	180
160	110*	120*	130*	150	125*	140*	150*	170

* Values with stress limitations. The calculation considers only the snow load , so it is intended to be indicative.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm					
		30	40	50	60	80	100
0,6	kg/m²	9,0	9,4	9,8	10,2	11,0	11,8
0,7	kg/m²	10,0	10,4	10,8	11,2	12,0	12,8
0,8	kg/m²	10,8	11,4	11,8	12,2	13,0	13,8

DIMENSION TOLERANCE

DEVIATION mm	
Length	± 10
Working length	± 5
Thickness	± 2
Orthogonality and rectangularity	± 3

THERMAL INSULATION

According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm					
	30	40	50	60	80	100
W/m² K	0,76	0,57	0,45	0,38	0,28	0,22
kcal/m²h°C	0,61	0,47	0,38	0,32	0,24	0,20

According to the calculation method EN ISO 6946

K	PANEL NOMINAL THICKNESS mm					
	30	40	50	60	80	100
W/m² K	0,55	0,44	0,36	0,31	0,25	0,20
kcal/m²h°C	0,48	0,38	0,32	0,27	0,22	0,17

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

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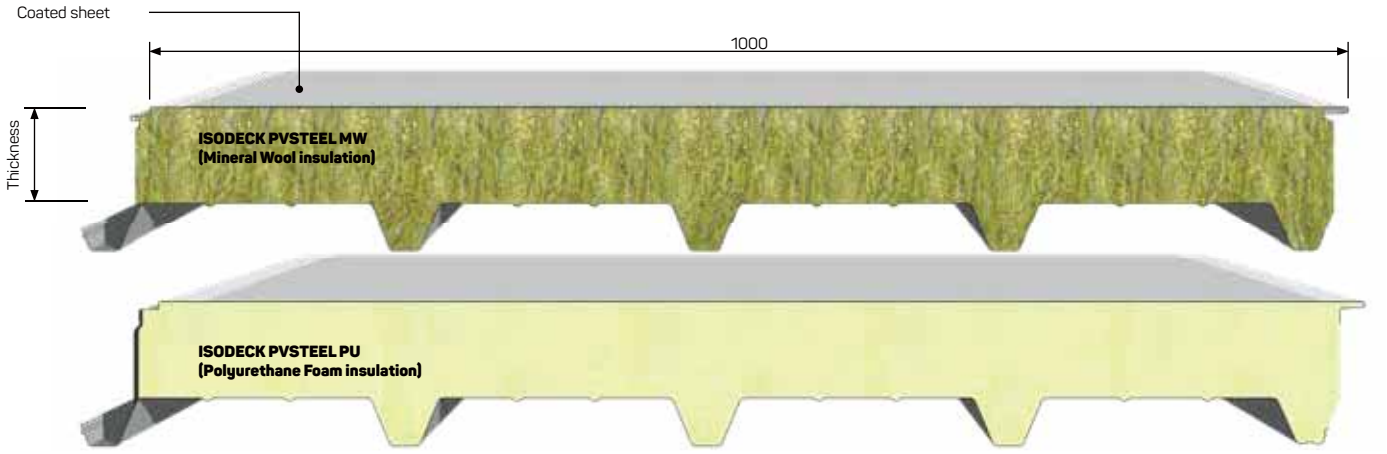
Isodeck PVSteel MW
Isodeck PVSteel PU

Double skin panel with metal facing coated with a very resistant thin PVC/TPO seal.



APPLICATION

Isodeck PVSteel is a roof panel designed for flat or slightly pitched roofs, thanks to its metal PVC/TPO coated facing. Thanks to both metal facings, the panel is characterised by a high mechanical resistance.

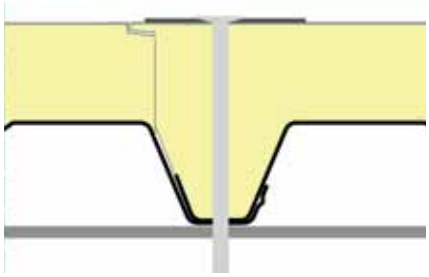
CHARACTERISTICS

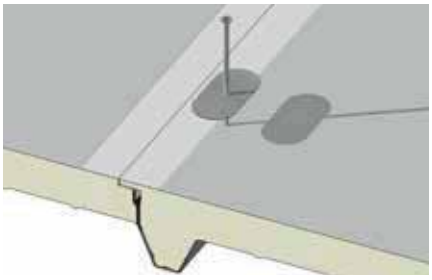
- Internal facing: prepainted galvanised steel (EN 10346)
- Insulating core: expanded polyurethane foam or mineral wool
- External face: Synthetic layer Coated sheet

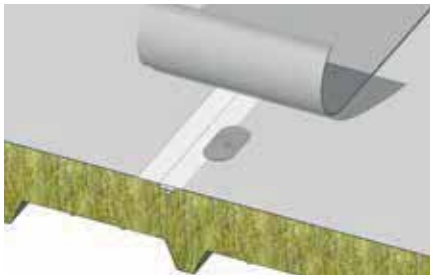
The insulating core can be made of polyurethane foam or mineral wool. Thanks to its double skin, the panel is more resistant to static and dynamic loads on small or large spans compared to a simple skin product. The panel is installed upside down (the ribbed face is the internal face of the building) in order to realise a flat roof in coated sheet. If it is traditionally installed (extrados profiled face) instead, it is possible to create roofs with the coated face exposed.

ADVANTAGES

- High resistance to static and dynamic loads
- Quick installation
- Excellent resistance to UV rays
- High waterproofing capacity







INSTRUCTIONS OF USE
For informations about panels utilization, technical instructions and and related limits, please consult the Technical Manual, General Sales Terms and Annexes.

Isodeck PVSteel

→ see pag. 16

OVERLOAD SPANS

Int. sheet 0,6mm Thick	ISODECK PVSTEEL PU - Support 120 mm								ISODECK PVSTEEL MW - Support 120 mm							
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm								PANEL NOMINAL THICKNESS mm							
	30	40	50	60	80	100	120	150	50	60	80	100	120	150	170	200
kg/m²	MAX SPANS cm								MAX SPANS cm							
80	305	335	385	405	485	495	520	580	335	360	415	480	525	575	*585*	*595*
100	280	310	360	395	440	450	485	525	305	325	380	430	480	520	*530*	*540*
120	250	290	325	360	410	425	450	485	270	300	340	390	435	470	*475*	*480*
140	215	270	305	340	390	400	420	455	250	280	315	355	400	425	*430*	*435*
160	185	245	300	310	360	370	405	435	235	250	290	325	360	390	*395*	*400*
180	165	210	280	300	350	355	380	410	220	235	270	305	330	365	*370*	*375*
200	150	185	235	295	320	340	365	400	200	220	255	290	320	335	*340*	*345*
220	140	160	215	270	305	320	345	375	185	210	240	270	300	320	*320*	*325*
250	115	140	180	225	295	305	325	355	160	185	220	250	280	290	*295*	*300*

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered. Value of 170mm and 200mm thickness panel *(in italic)* are considered with 150mm width support.

PANELS WEIGHT (Steel sheets)

INTERNAL SHEET THICKNESS mm		PU	PANEL NOMINAL THICKNESS mm								MW	PANEL NOMINAL THICKNESS mm							
			30	40	50	60	80	100	120	150		50	60	80	100	120	150	170	200
0,6	kg/m²		14,4	14,8	15,2	15,6	16,4	17,2	18,0	19,2		18,4	19,4	21,4	23,4	25,4	28,4	30,4	33,4
0,8	kg/m²		16,3	16,7	17,1	17,5	18,3	19,1	19,9	21,1		20,4	21,4	23,4	25,4	27,4	30,4	32,4	35,4

THERMAL INSULATION

U	PU	PANEL NOMINAL THICKNESS mm							MW	PANEL NOMINAL THICKNESS mm							
		30	40	50	60	80	100	120		50	60	80	100	120	150	170	200
W/m² K		0,71	0,54	0,44	0,37	0,28	0,22	0,19		0,78	0,66	0,50	0,40	0,34	0,27	0,24	0,20
kcal/m² h °C		0,61	0,47	0,38	0,32	0,24	0,19	0,16		0,67	0,57	0,43	0,34	0,29	0,23	0,21	0,17

DIMENSION TOLERANCE

DEVIATION mm		
Length	L ≤ 3 m	± 5 mm
	L > 3 m	± 10 mm
Thickness	D ≤ 100 mm	± 2 mm
	D > 100 mm	± 2 %

DEVIATION mm	
Working length	± 2 mm
Deviation from perpendicularity	6 mm
Misalignment of the internal metal faces	± 3 mm
Bottom sheet coupling	F = 0 + 3 mm

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Isofarm

Isofarm is the new range of roofs with insulating panels adapted for zootechnical constructions. Economical advantage, resistance to aggressive agents, high aesthetic quality, high load bearing characteristics are only a few of the qualities that promote the multiple solutions available for the professionals who design zootechnical structures and look for products that meet the diverse requirements imposed by the sector. Isofarm is also a valid alternative solution, quick, safe and environmentally friendly to solve the problem of asbestos roofs substitution.

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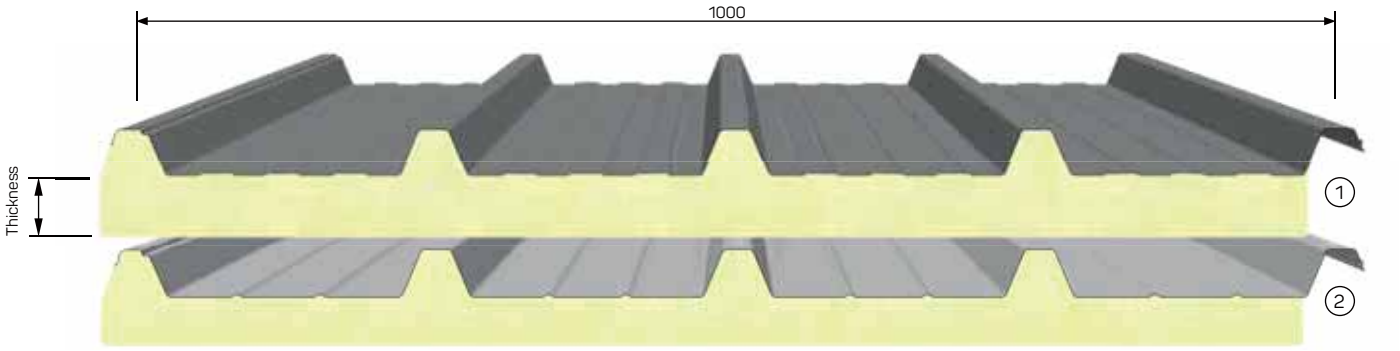
Isovetro



Profile Shape:
1 - Production Plant : Italy, Spain
2 - Production Plant : Germany, Romania

APPLICATION

Isovetro is a self-supporting simple skin metal faced roof panel, with a polyurethane insulating core; its internal face is made of a particular glass-reinforced sheet for exposed use; it is cleanable and is indicated to solve the typical problems of the roofs used in the agricultural and zootechnical sector. The fixing system is a penetrating type with the possibility to use exposed caps.

CHARACTERISTICS

- Internal coating: flat glass-reinforced sheet
- Insulating core: expanded polyurethane foam
- External coating: prepainted galvanised steel (EN 10346)

ADVANTAGES

- Ideal solution for performance requirements and cost saving project
- Hygienic
- Mildew resistance
- Resistant to aggressive agents

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS										
UNIFORMLY DISTRIBUTED LOAD	THICKNESS SHEETS mm					THICKNESS SHEETS mm				
	0,5	0,6	0,7	0,8	1,0	0,5	0,6	0,7	0,8	1,0
kg/m²	MAX SPANS cm					MAX SPANS cm				
80	220*	235	250	265	285	250*	270	285	295	320
100	200*	220*	235	245	265	200*	245*	260	275	295
120	180*	200*	215*	230	250	200*	225*	240*	260	280
140	165*	185*	200*	215*	235	185*	205*	225*	240*	265
160	155*	170*	185*	200*	225	175*	195*	210*	225*	255

ALUMINIUM SHEETS								
UNIFORMLY DISTRIBUTED LOAD	THICKNESS SHEETS mm				THICKNESS SHEETS mm			
	0,6	0,7	0,8	1,0	0,6	0,7	0,8	1,0
kg/m²	MAX SPANS cm				MAX SPANS cm			
80	160*	170	180	190	180*	190	200	220
100	140*	155*	165	180	160*	175*	190	205
120	130*	140*	155	170	145*	160*	185	190
140	120*	130*	140*	160	135*	150*	160*	180
160	110*	120*	130*	150	125*	140*	150*	170

* Values with stress limitations.Deflection limit 1/200 ℓ

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm		
		30	40	50
0,6	kg/m²	7,3	7,7	8,1
0,7	kg/m²	8,3	8,7	9,1
0,8	kg/m²	9,1	9,7	10,1

DIMENSION TOLERANCE

DEVIATION mm	
Length	± 10
Working length	± 5
Thickness	± 2
Orthogonality and rectangularity	± 3

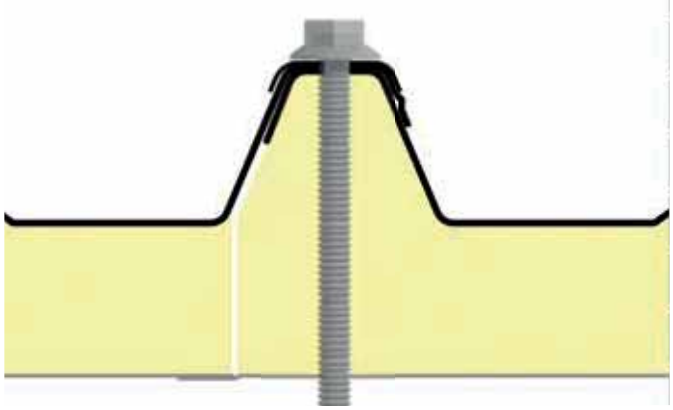
THERMAL INSULATION

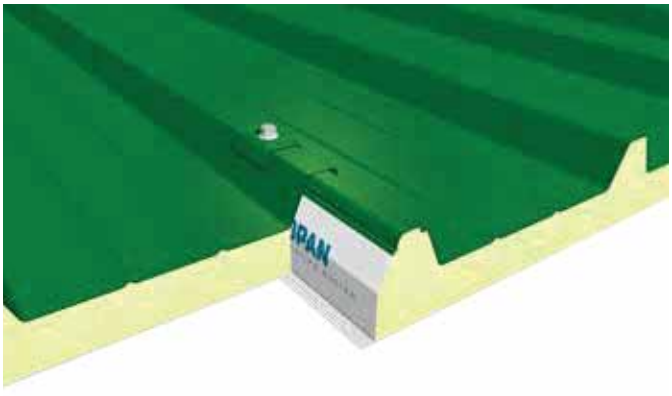
According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm		
	30	40	50
W/m² K	0.71	0.54	0.44
kcal/m² h °C	0.61	0.47	0.38

According to the calculation method EN ISO 6946

K	PANEL NOMINAL THICKNESS mm		
	30	40	50
W/m² K	0.55	0.44	0.36
kcal/m² h °C	0.48	0.38	0.32





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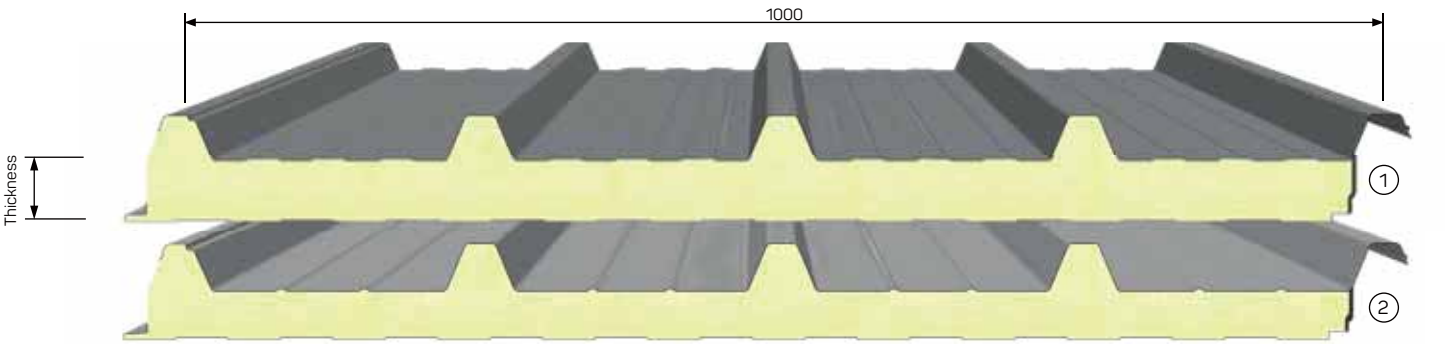
Isocop Farm Coat
Isocop Topclass



Profile Shape:
1 - Production Plant : Italy, Spain
2 - Production Plant : Germany, Romania

	ISOCOP FARM COAT	ISOCOP TOPCLASS
• Internal coating:	Specific prepainted sheet resistant to aggressive agents	galvanised steel with PVC facing (EN 10346)
• Insulating core:	expanded polyurethane foam	expanded polyurethane foam
• External coating:	prepainted galvanised steel (EN 10346)	prepainted galvanised steel (EN 10346)

ADVANTAGES

- Hygienic
- Cleanable
- Resistant to aggressive agents
- Mildew resistant

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

Isocop Farm Coat

→ see pag. 16

OVERLOAD SPANS

UNIFORMLY DISTRIBUTED LOAD	STEEL SHEETS 0,4 / 0,4 mm - Support 120 mm								STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm							
	PANEL NOMINAL THICKNESS mm								PANEL NOMINAL THICKNESS mm							
	30	40	50	60	80	100	120	150	30	40	50	60	80	100	120	150
kg/m²	MAX SPANS cm								MAX SPANS cm							
80	270	290	310	340	390	440	470	500	320	350	390	420	500	570	630	730
100	250	260	280	300	350	390	440	480	295	320	360	390	450	510	580	670
120	230	245	260	280	320	360	400	460	270	300	330	360	420	480	540	620
140	210	230	255	260	290	330	370	420	235	280	315	340	390	450	500	580
160	200	220	230	255	285	310	340	390	210	260	300	320	370	420	480	550
180	185	215	220	230	270	290	320	370	185	235	280	300	355	400	450	520
200	160	200	210	220	260	270	300	340	170	210	250	290	330	380	430	500
220	140	190	200	210	230	260	280	320	150	190	230	270	320	360	410	470
250	115	170	190	200	220	240	260	300	130	170	205	240	300	340	385	445

UNIFORMLY DISTRIBUTED LOAD	ALUMINIUM SHEETS 0,6 / 0,6 mm - Support 120 mm							
	PANEL NOMINAL THICKNESS mm							
	30	40	50	60	80	100	120	150
kg/m²	MAX SPANS cm							
80	255	290	325	370	435	505	565	605
100	225	255	290	315	385	455	510	590
120	205	230	255	285	340	400	460	540
140	190	210	230	255	315	370	420	495
160	170	190	215	230	285	335	385	455
180	155	170	200	215	265	310	360	420
200	145	160	180	200	240	285	335	395
220	130	155	170	190	225	255	310	355
250	110	145	155	165	200	230	275	335

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

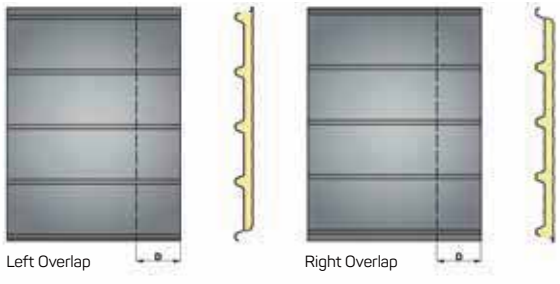
PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm							
		30	40	50	60	80	100	120	150
0,5 / 0,5	kg/m²	9,9	10,3	10,7	11,2	11,9	12,7	13,5	14,7
0,6 / 0,6	kg/m²	11,7	12,1	12,5	12,9	13,7	14,5	15,3	16,5

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm
Working width	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal facing	± 3 mm	
Bottom sheets coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling



D = mm 100-150-200-250
Other measurement after agreement

THERMAL INSULATION

According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm							
	30	40	50	60	80	100	120	150
W/m² K	0,71	0,54	0,44	0,37	0,28	0,22	0,19	0,15
kcal/m² h °C	0,61	0,47	0,38	0,32	0,24	0,19	0,16	0,13

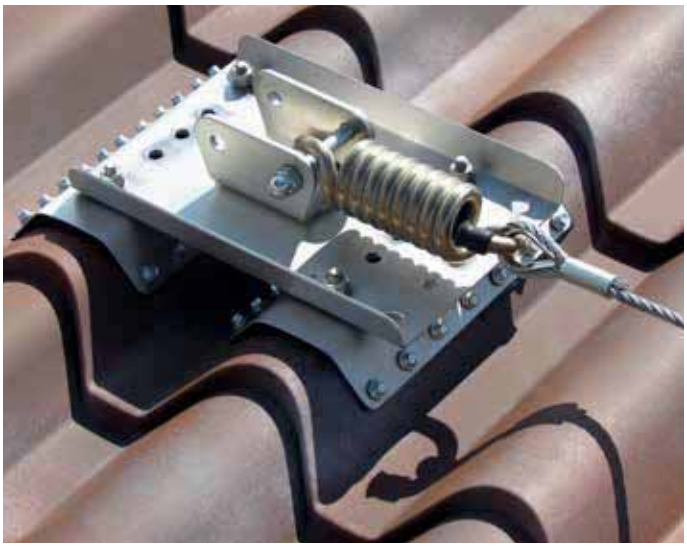
According to the calculation method EN ISO 6946

K	PANEL NOMINAL THICKNESS mm							
	30	40	50	60	80	100	120	150
W/m² K	0,55	0,44	0,36	0,31	0,25	0,20	0,17	0,15
kcal/m² h °C	0,48	0,38	0,32	0,27	0,22	0,17	0,15	0,13

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isopansafe

Isopansafe brand's objective is to solve any problem related to working at heights. In the construction industry, working at heights expose the workers to high risks concerning their health and safety, in particular fall risks and other serious work injuries which represent a high percentage of fatal injuries.
Every property manager, employer and manager could be involved in a criminal or civil procedure if violations or ommissions of the current legislation emerge.In accordance with the most severe national and European legislations, Isopansafe includes a series "linea vita" and accessories, which are adaptable to every building need and type, in order to ensure the workers a high degree of safety during building operations and maintenance. The experiences made on the field and the substantial knowledge of Isopan, Sistemi certificati S.r.l and Ejot allowed the development of innovative technologies and Products concerning both the installed systems' safety and their adaptability and compatibility with every supporting structure



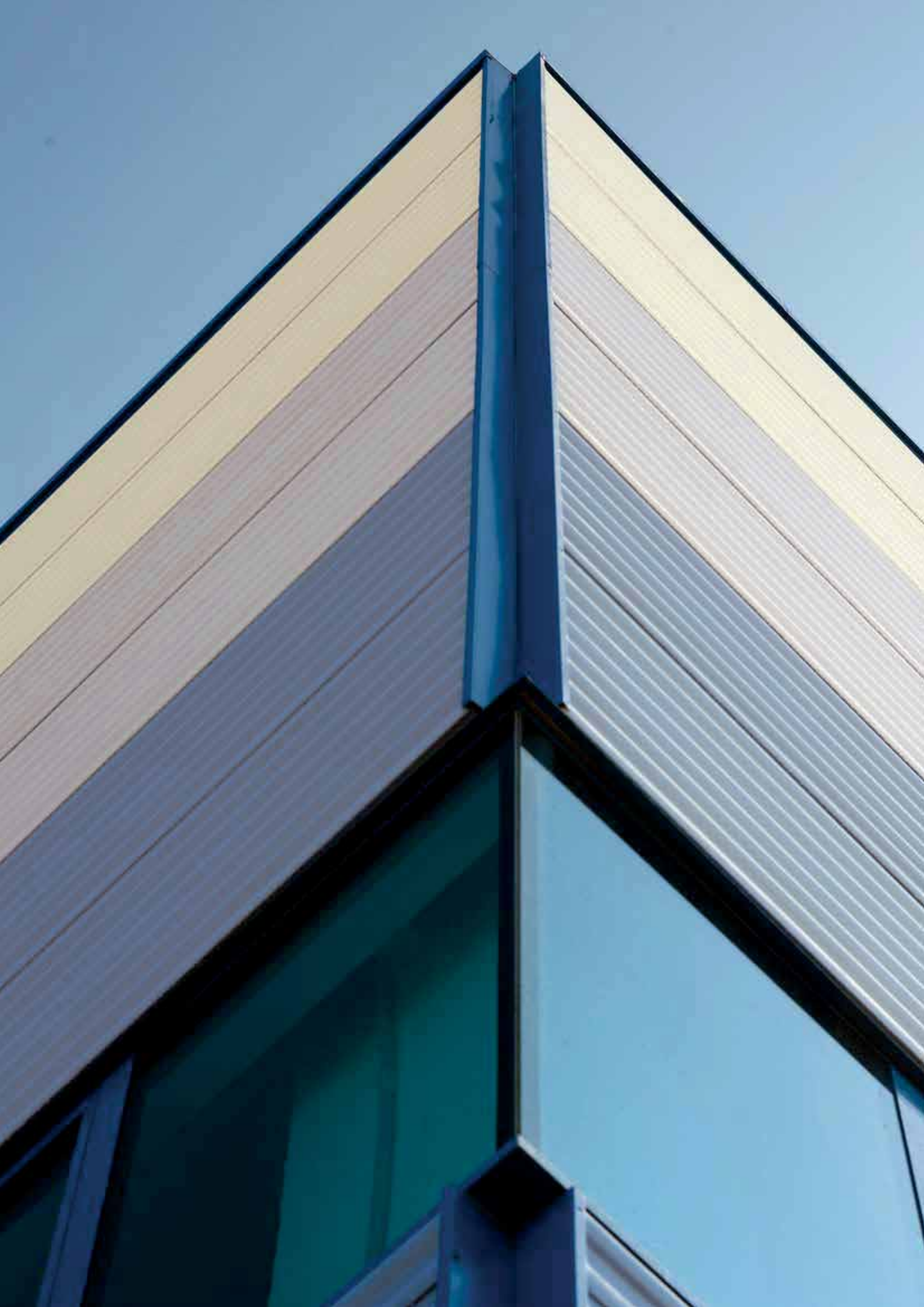
ISOPANSAFE anti-fall systems guarantee worker safety when working at heights on roofs and allow them complete freedom of movement during interventions; the devices are EC type marked and certified according to UNI EN 795 2002 regulation.
ISOPAN has created in particular two Product lines which, depending on the needs, can be used on industrial, commercial and private housing buildings of any size. Both systems are cheap and quick to install. The differences between this two systems consist of Isopansafe Structural being recommended in ridge operations, while ISOPANSAFE BASE is recommended when installing anti-fall systems to work on slopes.
The collaboration between ISOPAN S.p.A. and EJOT (fixing technology specialist) allows the customer to have an EJOT technician at his disposal for inspection on the construction site, who then will be able to recommend the best technical solution for the intervention.

ISOPANSAFE STRUCTURAL RIDGE FIXING SYSTEM

ISOPAN SAFE STRUCTURAL system is a flat-base ridge fixing system used on wooden, metal or concrete beams. This horizontal device can be used by four workers simultaneously and it is made of external poles (100m distance at most) spaced out by internal poles at 15 m of interaxle distace at most. If needed, the latter allow to redirect the path (bent poles). The base plate dimensions are 150mm x 250mm, while the pole is available in different heights depending on the roof set; they are both made of INOX or zinc-coated steel.

ISOPANSAFE BASE SLOPE FIXING SYSTEM

ISOPAN SAFE BASE is a slope fixing system that can be used only with roof made of ISOCOP-5 1000 or ISODOMUS panels; 3 fixing models are available, the superstructure fixing, the substructure fixing and the hybrid. This system can be used by four workers simultaneously and it can be installed in a kit up to 100m with internal span interaxle of 15m at most. ISOPAN SAFE BASE is completely waterproof thanks to the seals inserted on the screws' head and caps and to the seals deployed before the trestles. The plate dimensions are 195mm x 300mm; the dimesions of the trestle are 250mm x 56mm with a 25mm interaxle when used with an ISOCOP-5 1000 panel, and 250mm x 137mm with 200mm interaxle when used with ISODOMUS panel. All components are made with INOX steel.



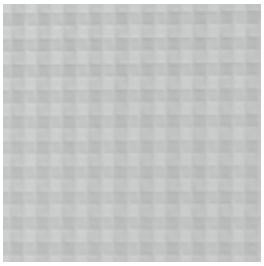
Wall Panels

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

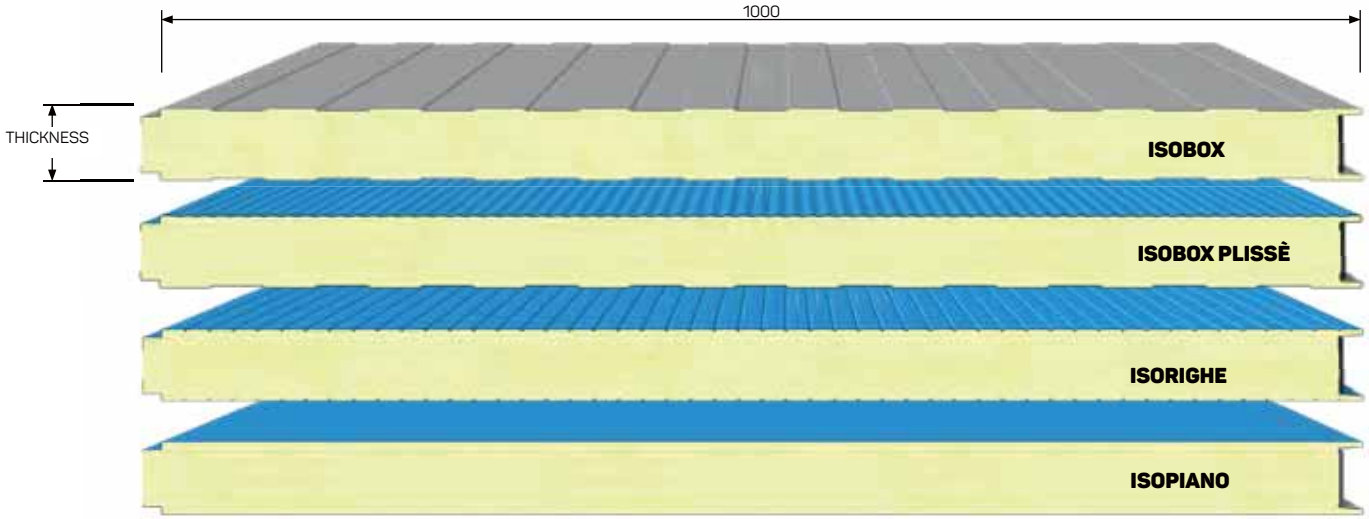
Isobox, Isobox Plissé
Isorighe
Isopiano

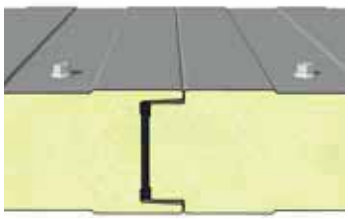
Manufactured in: Italy, Germany, Spain, Romania

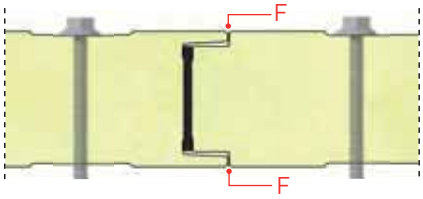
Available with new metal profiles DIAMOND & EMERALD



It is a self-supporting metal faced panel insulated with polyurethane foam with a tongue-and-groove joint. The fixing elements are exposed. It is available with different types of profile.







INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

FM APPROVED

On request,
Product available with Certification
FM APPROVED

For further informations,
please contact Isopan

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm																
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm								PANEL NOMINAL THICKNESS mm							
	25	30	40	50	60	80	100	120	25	30	40	50	60	80	100	120
kg/m²	MAX SPANS cm								MAX SPANS cm							
50	220	260	320	380	440	550	640	730	260	300	380	450	520	650	740	800
60	215	240	300	350	410	500	590	680	240	270	340	410	470	590	660	710
80	180	205	260	310	350	440	520	600	200	230	290	350	410	500	550	600
100	155	180	230	275	320	395	470	540	170	200	260	310	360	440	490	510
120	140	165	210	250	290	360	430	490	140	170	230	280	320	390	430	460
140	125	150	190	230	265	330	395	455	130	150	200	250	295	360	390	420
160	115	135	175	210	245	310	370	425	120	130	185	220	265	330	360	385
180	105	125	165	195	230	290	345	400	110	120	160	200	240	305	340	360
200	100	115	155	185	215	270	325	375	100	110	145	180	215	285	315	335

ALUMINIUM SHEETS 0,6 / 0,6 mm - Support 120 mm																
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm								PANEL NOMINAL THICKNESS mm							
	25	30	40	50	60	80	100	120	25	30	40	50	60	80	100	120
kg/m²	MAX SPANS cm								MAX SPANS cm							
50	170	200	240	290	330	410	480	550	190	230	290	350	400	490	580	570
60	150	180	230	270	310	380	450	510	175	210	270	320	360	450	530	560
80	135	160	200	240	270	335	390	450	150	185	235	280	320	400	470	540
100	120	145	180	215	245	305	360	400	130	160	210	250	285	360	420	480
120	110	135	165	195	220	280	330	380	120	150	190	225	260	330	390	445
140	105	125	155	185	210	260	310	355	110	135	170	210	240	300	360	410
160	100	115	140	170	195	240	285	335	105	125	160	190	220	280	330	380
180	90	110	135	160	185	230	275	310	95	110	150	180	210	265	310	360
200	85	100	125	150	175	220	260	300	85	100	140	170	195	245	285	335

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm								
		25	30	35	40	50	60	80	100	120
0,4 / 0,4	kg/m²	7,3	7,5	7,7	7,9	8,3	8,7	9,5	10,3	11,1
0,5 / 0,5	kg/m²	9,0	9,2	9,4	9,6	10,0	10,4	11,2	12,0	12,8
0,6 / 0,6	kg/m²	10,6	10,9	11,6	11,3	11,7	12,1	12,9	13,7	14,5

FIRE PERFORMANCES
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm 0
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Sheets coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION

According to EN 14509 Annex 10

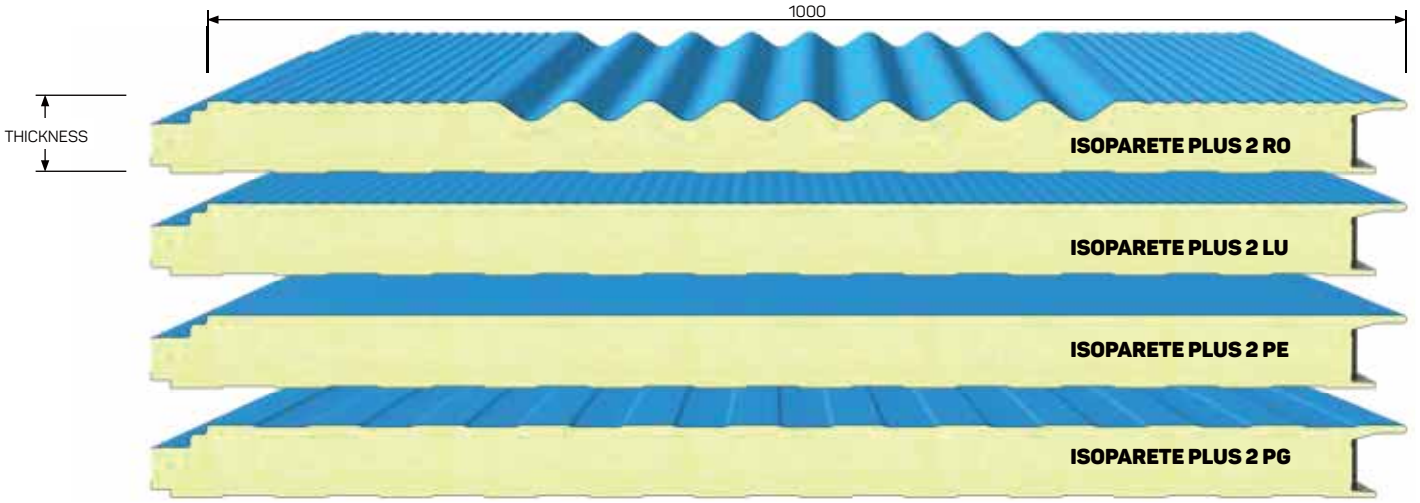
U	PANEL NOMINAL THICKNESS mm								
	25	30	35	40	50	60	80	100	120
W/m² K	0,83	0,70	0,61	0,54	0,44	0,37	0,28	0,22	0,19
kcal/m² h °C	0,71	0,60	0,52	0,46	0,38	0,32	0,24	0,19	0,16

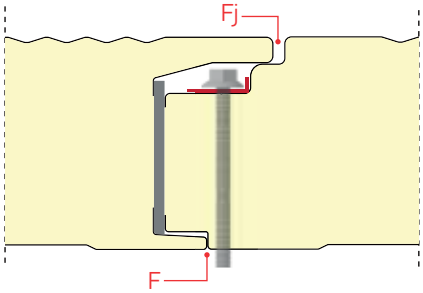
ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isoparete Plus 2

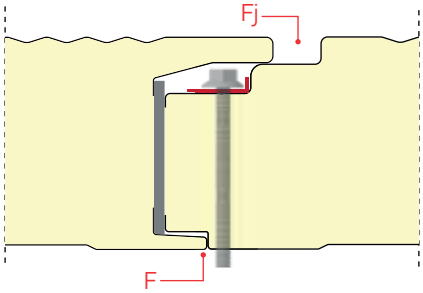
Manufactured in: Italy

It is a self-supporting metal faced panel insulated with polyurethane foam; the labyrinth configuration and the tongue-and-groove joint with a special place for the screw determine the fully concealed fixing element. The fixing elements are concealed. It is available with different types of profile.

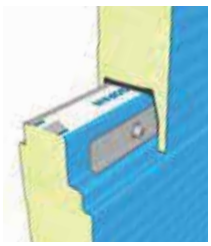




Joint detail (Fj=4mm standard)



Fj=18mm option



Isopan recommends, during the assembly phase, the use of a specific steel plate to distribute the tightening loads of the screw. The number and the place of the fixing elements must guarantee the stresses resistance, included depression loads.

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

Isoparete Plus 2

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm												
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm						PANEL NOMINAL THICKNESS mm					
	40	50	60	80	100	120	40	50	60	80	100	120
kg/m²	MAX SPANS cm						MAX SPANS cm					
50	320	380	440	550	640	730	380	450	520	650	740	800
60	300	350	410	500	590	680	340	410	470	590	660	710
80	260	310	350	440	520	600	290	350	410	500	550	600
100	230	275	320	395	470	540	260	310	360	440	490	510
120	210	250	290	360	430	490	230	280	320	390	430	460
140	190	230	265	330	395	455	200	250	295	360	390	420
160	175	210	245	310	370	425	185	220	265	330	360	385
180	165	195	230	290	345	400	160	200	240	305	340	360
200	155	185	215	270	325	375	145	180	215	285	315	335

ALUMINIUM SHEETS 0,6 / 0,6 mm - Support 120 mm												
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm						PANEL NOMINAL THICKNESS mm					
	40	50	60	80	100	120	40	50	60	80	100	120
kg/m²	MAX SPANS cm						MAX SPANS cm					
50	240	290	330	410	480	550	290	350	400	490	580	620
60	230	270	310	380	450	510	270	320	360	450	530	560
80	200	240	270	335	390	450	235	280	320	400	470	540
100	180	215	245	305	360	400	210	250	285	360	420	480
120	165	195	220	280	330	380	190	225	260	330	390	445
140	155	185	210	260	310	355	170	210	240	300	360	410
160	140	170	195	240	285	335	160	190	220	280	330	380
180	135	160	185	230	275	310	150	180	210	265	310	360
200	125	150	175	220	260	300	140	170	195	245	285	335

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm					
		40	50	60	80	100	120
0,5 / 0,5	kg/m²	10,3	10,7	11,1	11,9	12,7	13,5
0,6 / 0,6	kg/m²	12,1	12,5	12,9	13,7	14,5	15,3

FIRE PERFORMANCES
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm 0
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Sheets coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION

According to EN 14509 Annex 10

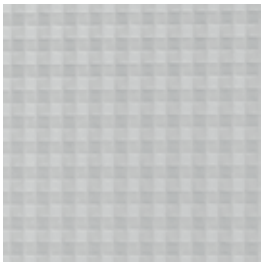
U	PANEL NOMINAL THICKNESS mm					
	40	50	60	80	100	120
W/m² K	0,64	0,49	0,41	0,29	0,23	0,19
kcal/m² h °C	0,55	0,42	0,35	0,25	0,20	0,16

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

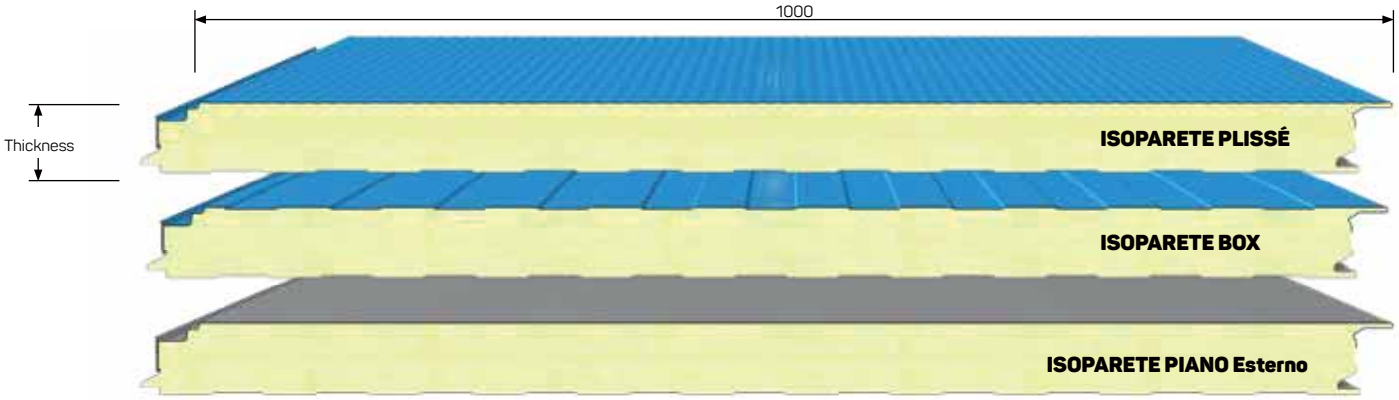
Isoparete Plissé
Isoparete Box
Isoparete Piano External

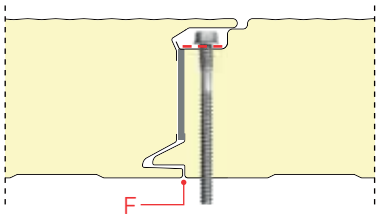
Manufactured in: Spain, Romania

Available with new metal profiles DIAMOND & EMERALD

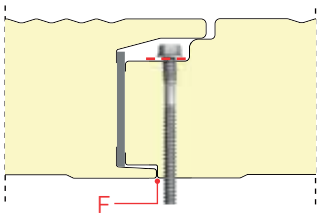


It is a self-supporting metal faced panel insulated with polyurethane foam; the labyrinth configuration and the tongue-and-groove joint with a special place for the screw determine the fully concealed fixing element. The fixing elements are concealed. It is available with different types of profile.





Joint detail



Joint Detail (Isopan Iberica version)

Isopan recommends, during the assembly phase, the use of a specific steel plate to distribute the tightening loads of the screw. The number and the place of the fixing elements must guarantee the stresses resistance, included depression loads.

FM APPROVED

On request,
Product available with Certification
FM APPROVED

For further informations,
please contact Isopan

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

Isoparete Plissé - Box - Piano

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm														
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm							PANEL NOMINAL THICKNESS mm						
	40	50	60	80	100	120	140	40	50	60	80	100	120	140
kg/m²	MAX SPANS cm							MAX SPANS cm						
50	320	380	440	550	640	730	800	380	450	520	650	740	800	880
60	300	350	410	500	590	680	745	340	410	470	590	660	710	780
80	260	310	350	440	520	600	660	290	350	410	500	550	600	660
100	230	275	320	395	470	540	590	260	310	360	440	490	510	560
120	210	250	290	360	430	490	535	230	280	320	390	430	460	505
140	190	230	265	330	395	455	500	200	250	295	360	390	420	460
160	175	210	245	310	370	425	465	185	220	265	330	360	385	420
180	165	195	230	290	345	400	440	160	200	240	305	340	360	395
200	155	185	215	270	325	375	410	145	180	215	285	315	335	365

ALUMINIUM SHEETS 0,6 / 0,6 mm - Support 120 mm														
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm							PANEL NOMINAL THICKNESS mm						
	40	50	60	80	100	120	140	40	50	60	80	100	120	140
kg/m²	MAX SPANS cm							MAX SPANS cm						
50	240	290	330	410	480	550	605	290	350	400	490	580	620	680
60	230	270	310	380	450	510	560	270	320	360	450	530	560	635
80	200	240	270	335	390	450	495	235	280	320	400	470	540	590
100	180	215	245	305	360	400	440	210	250	285	360	420	480	525
120	165	195	220	280	330	380	415	190	225	260	330	390	445	485
140	155	185	210	260	310	355	390	170	210	240	300	360	410	450
160	140	170	195	240	285	335	365	160	190	220	280	330	380	415
180	135	160	185	230	275	310	340	150	180	210	265	310	360	395
200	125	150	175	220	260	300	330	140	170	195	245	285	335	365

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm						
		40	50	60	80	100	120	140
0,5 / 0,5	kg/m²	9,8	10,2	10,6	11,4	12,2	13,0	13,8
0,6 / 0,6	kg/m²	11,5	11,9	12,3	13,1	13,9	14,7	15,5

FIRE PERFORMANCES
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm 0
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Sheets coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION

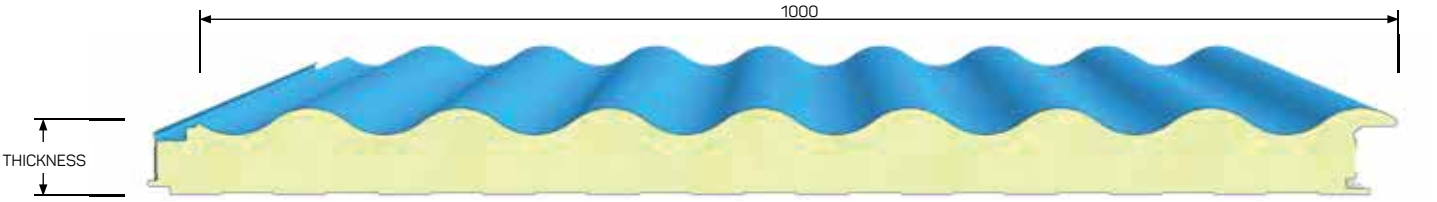
According to EN 14509 Annex 10

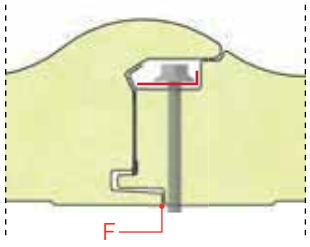
U	PANEL NOMINAL THICKNESS mm						
	40	50	60	80	100	120	140
W/m² K	0,64	0,49	0,41	0,29	0,23	0,19	0,16
kcal/m² h °C	0,55	0,42	0,35	0,25	0,20	0,16	0,14

Isoclass

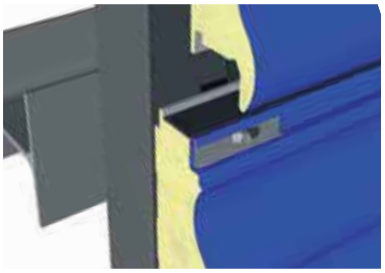
Manufactured in: Italy

Isoclass is a self-supporting metal faced panel insulated with polyurethane foam; the labyrinth configuration and the tongue-and-groove joint with a special place for the screw determine the fully concealed fixing element.





Joint detail



Horizontal installation
(from bottom to the top)

Vertical installation

Isopan recommends, during the assembly phase, the use of a specific steel plate to distribute the tightening loads of the screw. The number and the place of the fixing elements must guarantee the stresses resistance, included depression loads.

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

Isoclass

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm								
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm				PANEL NOMINAL THICKNESS mm			
	72	92	102	122	72	92	102	122
kg/m²	MAX SPANS cm				MAX SPANS cm			
50	455	570	610	650	455	570	605	645
60	420	515	555	600	410	515	540	570
80	360	455	490	525	355	435	455	475
100	350	430	465	505	330	400	425	445
120	310	390	425	455	290	355	365	385
140	280	350	385	420	265	320	335	345
160	260	330	360	395	235	290	305	315
180	260	325	355	385	225	285	300	315
200	240	305	330	360	195	265	275	295

STEEL SHEETS 0,6 / 0,6 mm - Support 120 mm								
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm				PANEL NOMINAL THICKNESS mm			
	72	92	102	122	72	92	102	122
kg/m²	MAX SPANS cm				MAX SPANS cm			
50	475	600	640	680	475	600	635	680
60	440	540	580	620	430	540	565	595
80	380	475	510	545	370	455	475	495
100	365	450	480	520	340	420	440	460
120	320	400	435	470	300	365	380	395
140	290	360	395	425	270	330	340	355
160	265	335	365	395	240	295	310	320
180	265	330	360	390	225	290	305	320
200	240	305	330	360	195	265	275	295

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm (steel)		PANEL NOMINAL THICKNESS mm			
		72	92	102	122
0,5 / 0,5	kg/m²	10,9	11,7	12,1	12,9
0,6 / 0,6	kg/m²	12,7	13,5	13,9	14,7

FIRE PERFORMANCES
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm 0
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Sheets coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION

According to EN 14509 Annex 10

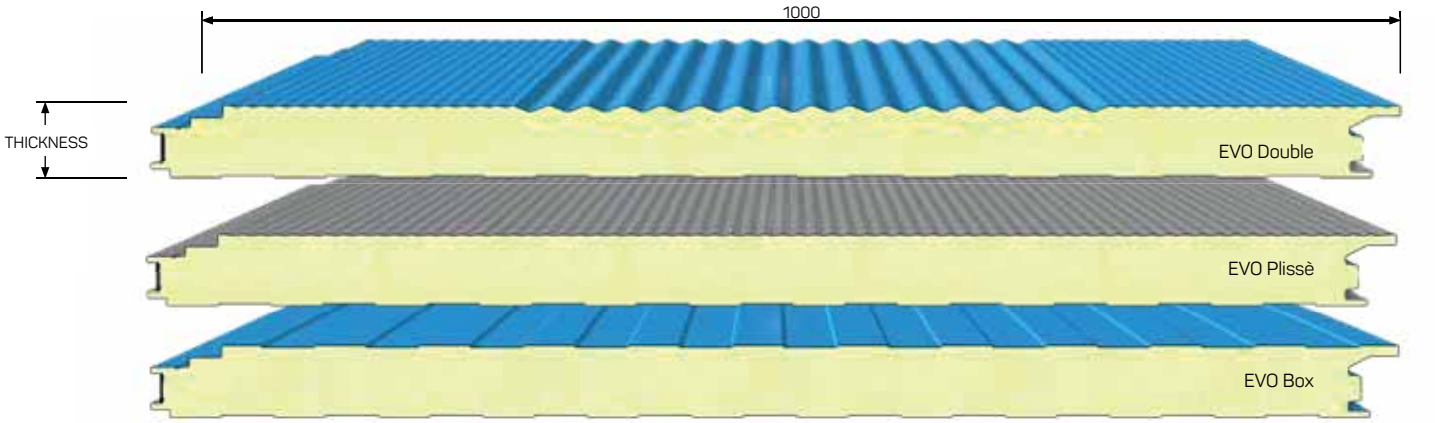
U	PANEL NOMINAL THICKNESS mm			
	72	92	102	122
W/m² K	0,34	0,26	0,23	0,21
kcal/m² h °C	0,30	0,23	0,20	0,18

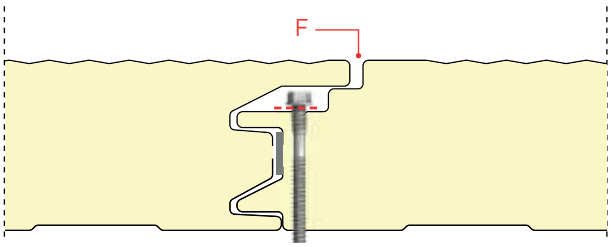
ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isoparete Evo

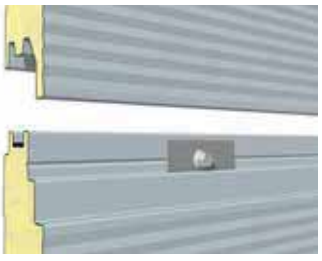
Manufactured in: Germany, Italy

It is a self-supporting metal faced panel insulated with polyurethane foam; the labyrinth configuration and the tongue-and-groove joint with a special place for the screw determine the fully concealed fixing element. The fixing elements are concealed. It is available with different types of profile.





Joint detail



Horizontal installation
(from bottom to the top)

Isopan recommends, during the assembly phase, the use of a specific steel plate to distribute the tightening loads of the screw. The number and the place of the fixing elements must guarantee the stresses resistance, included depression loads.

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

Isoparete EVO

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm										
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm					PANEL NOMINAL THICKNESS mm				
	60	80	100	120	150	60	80	100	120	150
kg/m²	MAX SPANS cm					MAX SPANS cm				
50	440	550	640	730	820	520	650	740	800	900
60	410	500	590	680	765	470	590	660	710	795
80	350	440	520	600	675	410	500	550	600	675
100	320	395	470	540	605	360	440	490	510	570
120	290	360	430	490	550	320	390	430	460	515
140	265	330	395	455	510	295	360	390	420	470
160	245	310	370	425	475	265	330	360	385	430
180	230	290	345	400	450	240	305	340	360	405
200	215	270	325	375	420	215	285	315	335	375

ALUMINIUM SHEETS 0,6 / 0,6 mm - Support 120 mm										
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm					PANEL NOMINAL THICKNESS mm				
	60	80	100	120	150	60	80	100	120	150
kg/m²	MAX SPANS cm					MAX SPANS cm				
50	330	410	480	550	615	400	490	580	620	695
60	310	380	450	510	570	360	450	530	560	650
80	270	335	390	450	505	320	400	470	540	605
100	245	305	360	400	450	285	360	420	480	540
120	220	280	330	380	425	260	330	390	445	500
140	210	260	310	355	395	240	300	360	410	460
160	195	240	285	335	375	220	280	330	380	425
180	185	230	275	310	345	210	265	310	360	405
200	175	220	260	300	335	195	245	285	335	375

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm				
		60	80	100	120	150
0,5 / 0,5	kg/m²	10,8	11,6	12,4	13,2	14,4
0,6 / 0,6	kg/m²	12,6	13,4	14,2	15,0	16,2

FIRE PERFORMANCES
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm 0
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Sheets coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION

According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm				
	60	80	100	120	150
W/m² K	0,41	0,29	0,23	0,19	0,15
kcal/m² h °C	0,35	0,25	0,20	0,16	0,13

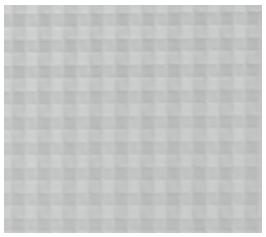
ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isofrozen
Isofrigo G.I.

Manufactured in: Italy, Germany, Spain, Romania

Manufactured in: Italy

Available with new metal profiles DIAMOND & EMERALD



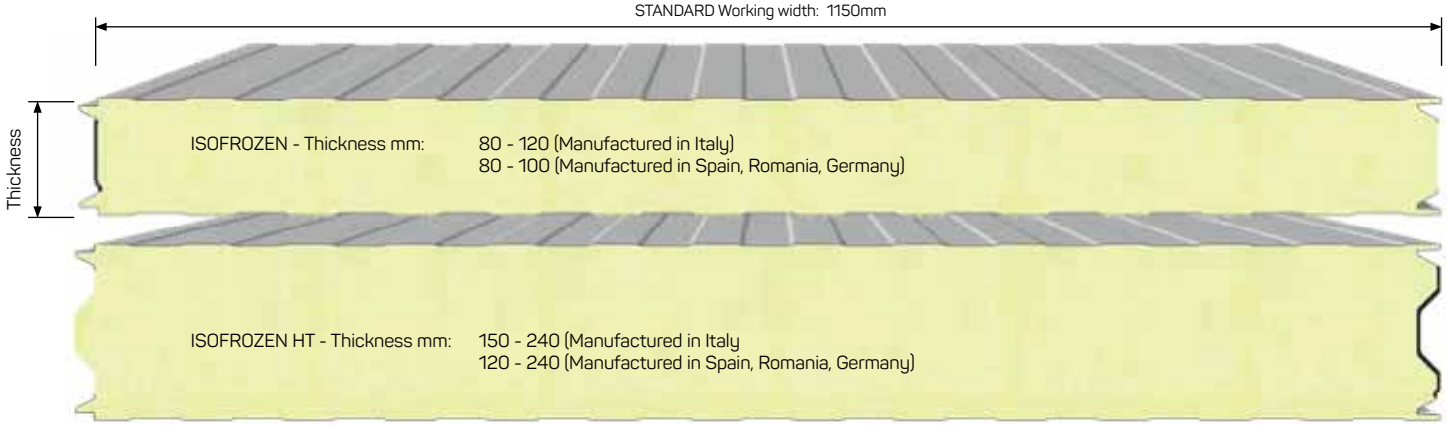
FM APPROVED

On request,
Product available with Certification
FM APPROVED

For further informations,
please contact Isopan

Self-supporting metal faced panels insulated with polyurethane with a tongue-and-groove joint. The very high performances of thermal insulation and the excellent quality of the jointing system make it particularly appropriate for constructions that require a controlled temperature.

ISOFROZEN - ISOFROZEN HT



ISOFRIGO G.I.

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS 0,6 / 0,6 mm - Support 120 mm												
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm						PANEL NOMINAL THICKNESS mm					
	80	100	120	150	180	≥ 200	80	100	120	150	180	≥ 200
kg/m²	MAX SPANS cm						MAX SPANS cm					
50	530	630	700	850	890	920	630	740	840	900	930	960
60	490	580	660	750	780	900	570	650	770	870	900	920
80	430	500	580	680	720	840	480	580	670	790	830	850
100	380	450	510	610	700	760	420	510	640	680	710	730
120	340	410	470	560	640	690	380	460	590	590	620	630
140	290	340	430	510	590	640	340	410	530	530	550	560
160	270	320	400	480	550	600	310	380	470	480	490	500
180	270	320	370	440	510	560	290	350	430	435	440	445
200	250	300	350	420	480	520	270	320	400	400	405	410

STEEL SHEETS 0,6 / 0,6 mm - Support 120 mm												
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm						PANEL NOMINAL THICKNESS mm					
	80	100	120	150	180	≥ 200	80	100	120	150	180	≥ 200
kg/m²	MAX SPANS cm						MAX SPANS cm					
50	560	650	760	850	960	980	660	760	850	920	940	970
60	520	610	700	820	930	950	590	660	790	880	900	925
80	440	530	610	720	820	890	510	600	660	810	850	860
100	390	470	540	640	730	800	440	530	610	710	720	740
120	360	420	490	580	660	730	390	470	540	620	650	660
140	320	390	450	530	620	660	350	430	500	550	560	560
160	300	360	410	500	570	620	320	390	450	490	500	500
180	270	330	380	460	530	580	290	350	420	440	450	450
200	250	310	360	430	500	550	270	330	390	400	400	400

Calculation for static sizing according to the Annex E of the EN 14509 standard. Deflection limit 1/200 ℓ. Values in load tables don't consider thermal load.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm						
		80	100	120	150	180	200	240
0,5 / 0,5	kg/m²	11,4	12,2	13,0	14,2	15,6	16,2	18,2
0,6 / 0,6	kg/m²	13,1	13,9	14,7	15,9	17,1	17,9	19,7

FIRE CHARACTERISTICS
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual, General Sales Terms and Annexes.

DIMENSION TOLERANCE (EN 14509)

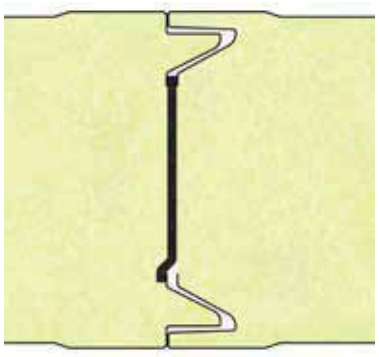
DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm 0
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Sheets coupling	F = 0 + 3 mm	

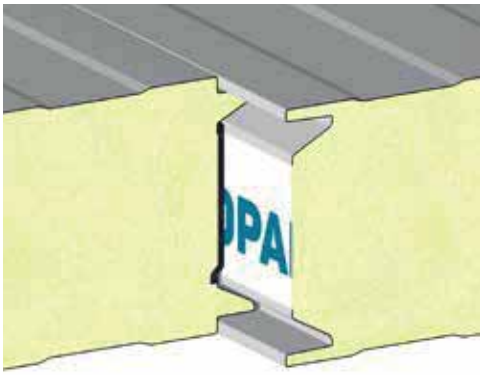
L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION (In accordance with EN 14509 Annex 10)

U	PANEL NOMINAL THICKNESS mm						
	80	100	120	150	180	200	240
W/m² K	0,27	0,22	0,18	0,15	0,12	0,11	0,09
kcal/m² h °C	0,23	0,19	0,16	0,13	0,11	0,09	0,08

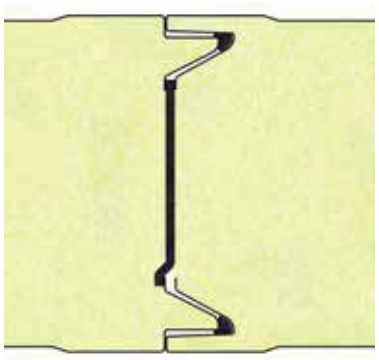
Cold storage solutions

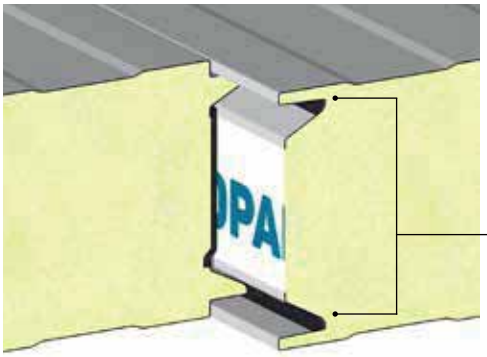




DRY JOINT

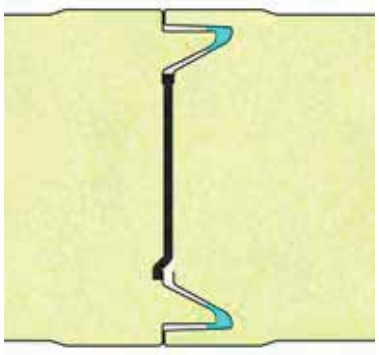
Standard solution. The dry joint is designed for use at positive temperature, with low thermal gradient.

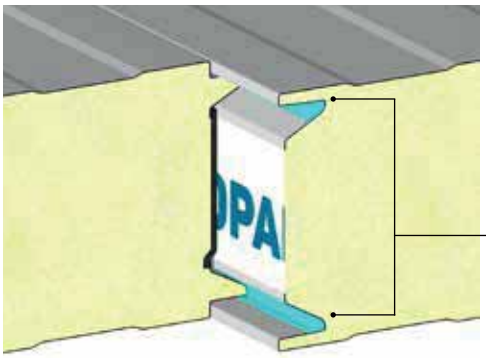




EXPANDING TAPE

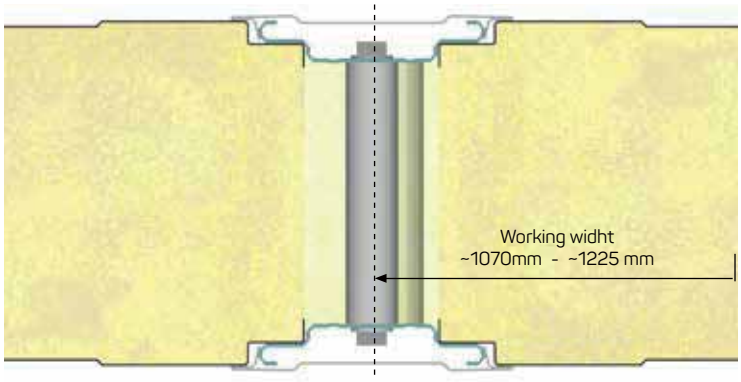
The joint with bituminous expanding tape offers a good airtightness. Thanks to the two thermo-expanding tapes, the capacity to prevent air flow between the inner and outer wall is increased.





TIXOTROPIC SEALANT

The airtightness is excellent, thanks to the lack of cracks guaranteed by the sealant, whose thixotropic characteristic offers an excellent airtightness without impacting on the assembly easiness.



FOAMED JOINT (ISOFRIGO G.I.)

Thanks to the lack of cracks and the use of PVC gaskets under the plates, an optimal airtightness is obtained and consequently all thermal bridges caused by the joints are eliminated.

Cold storages: application

The cold rooms and rooms for conservation and storage of foods can be so called positive and negative. Generally the first ones with temperatures till -1°C and the second ones till -25°C.

Rooms for the conservation of foods where a major temperature change does not require an adequate airtightness.

Rooms where foods are processed, where a madium temperature change does require an adequate airtightness.

Rooms where finished products are stored. These rooms must be well insulated and a greater airtightness is required, thanks to an adequate joint.

Rooms where frozen products are stored and rooms that impose constraining requirements in terms of minimisation of thermal bridges and air permeability.

NOTE
These indications are just a suggestion for use. The designer has to choose the joint, the panel thickness and the other parameters of the Isopan commercial offer, depending on the performances required by the cold room.

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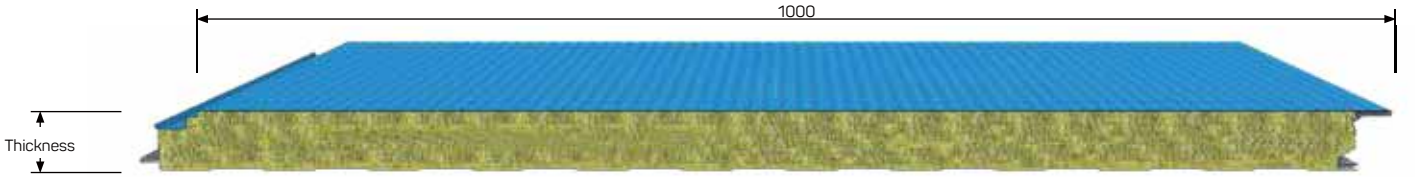
ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isofire Wall Plissè
Isoparete Fire Plissè

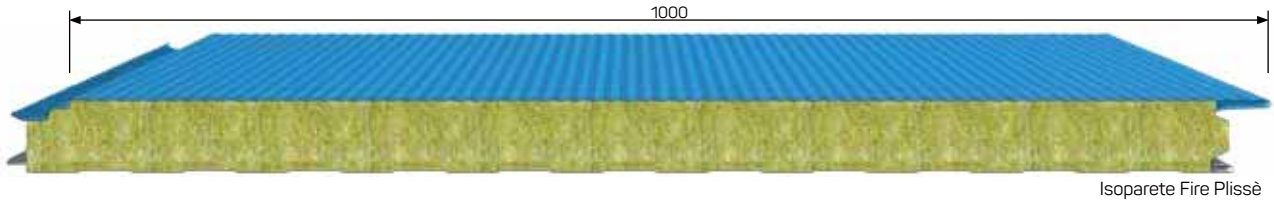
Manufactured in: Italy

Manufactured in: Romania

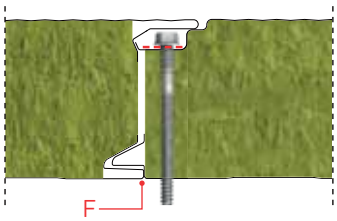
It is a self-supporting metal faced panel insulated with mineral wool; the labyrinth configuration and the tongue-and-groove joint with a special place for the screw determine the fully concealed fixing element. The fixing elements are concealed.



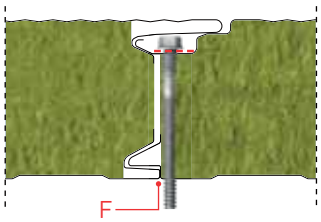
Isofire Wall Plissè



Isoparete Fire Plissè



Isofire Wall Plissè



Isoparete Fire Plissè

Isopan recommends, during the assembly phase, the use of a specific steel plate to distribute the tightening loads of the screw. The number and the place of the fixing elements must guarantee the stresses resistance, included depression loads.

FM APPROVED

On request,
ISOFIRE WALL PLISSÈ available with Certification **FM APPROVED**

For further informations, please contact Isopan

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

Isofire Wall Plissè - Isoparete Fire Plissè

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm

UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm								PANEL NOMINAL THICKNESS mm							
	50	60	80	100	120	150	170	200	50	60	80	100	120	150	170	200
kg/m²	MAX SPANS cm								MAX SPANS cm							
50	440	480	540	610	670	755	805	890	390	420	460	500	540	580	630	670
60	390	430	495	570	625	700	750	825	345	380	415	450	490	520	550	585
80	310	355	425	500	550	615	650	715	270	310	345	370	400	425	450	485
100	250	295	365	440	490	550	580	630	210	250	285	310	335	355	375	405
120	210	250	315	385	435	495	525	565	180	205	240	265	285	305	325	350
140	180	210	275	340	390	440	475	510	155	175	210	230	250	265	280	300
160	160	185	245	300	350	400	435	465	130	155	185	205	220	230	245	265
180	145	165	220	270	320	360	395	425	120	135	165	180	195	205	220	240
200	130	150	205	250	295	330	360	390	110	120	150	165	180	190	205	220

STEEL SHEETS 0,6 / 0,6 mm - Support 120 mm

UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm								PANEL NOMINAL THICKNESS mm							
	50	60	80	100	120	150	170	200	50	60	80	100	120	150	170	200
kg/m²	MAX SPANS cm								MAX SPANS cm							
50	490	520	600	675	720	800	860	935	430	460	500	540	580	610	650	680
60	425	470	545	635	685	755	810	870	375	415	455	490	530	560	590	615
80	335	380	465	550	605	670	720	760	290	330	375	405	440	465	495	515
100	265	310	385	460	525	585	630	665	220	260	300	330	360	380	405	425
120	235	270	330	410	470	525	560	595	190	220	250	280	305	325	345	365
140	200	230	290	360	415	470	505	535	160	190	220	240	265	280	300	320
160	175	210	260	315	370	415	445	480	140	165	195	215	230	245	265	280
180	160	190	230	275	335	375	405	430	130	150	175	195	210	225	240	255
200	140	165	210	255	305	335	365	400	115	135	160	180	195	210	225	240

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm							
		50	60	80	100	120	150	170	200
0,5 / 0,5	kg/m²	13,2	14,2	16,2	18,2	20,2	23,2	25,2	28,2
0,6 / 0,6	kg/m²	14,9	15,9	17,9	19,9	21,9	24,9	26,9	29,9

FIRE AND ACOUSTICS PERFORMANCES
On client's request, Isopan can provide Fire and Acoustic behaviour certificates.
Please consult the synthesis available in the catalogue or on the website.

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm 0
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Sheets coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION

According to EN 14509 Annex 10

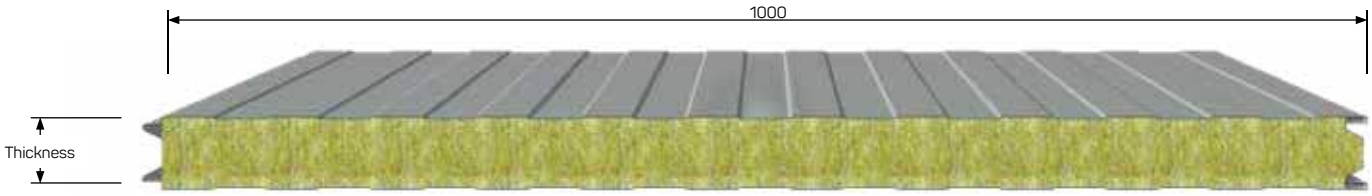
U	PANEL NOMINAL THICKNESS mm							
	50	60	80	100	120	150	170	200
W/m² K	0,86	0,72	0,52	0,41	0,34	0,28	0,24	0,20
kcal/m² h °C	0,73	0,62	0,44	0,36	0,29	0,24	0,21	0,17

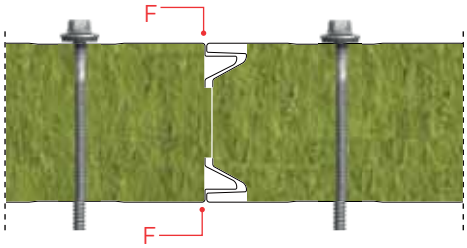
ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isofire Wall

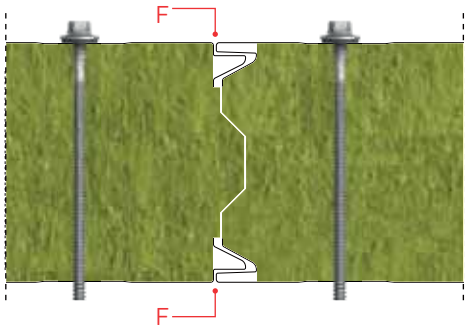
Manufactured in: Italy

It is a self-supporting metal faced panel insulated with mineral wool. The fixing elements are exposed. The fixing elements are exposed.





Joint detail



Joint Detail (thickness ≥ 120mm)

FM
APPROVED

On request,
Product available with Certification
FM APPROVED

For further informations,
please contact Isopan

INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS 0,5 / 0,5 mm - Support 120 mm																			
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm									PANEL NOMINAL THICKNESS mm									
	50	60	80	100	120	150	170	200	240	50	60	80	100	120	150	170	200	240
kg/m²	MAX SPANS cm									MAX SPANS cm									
50	440	480	540	610	670	755	805	890	960	390	420	460	500	540	580	630	670	700
60	390	430	495	570	625	700	750	825	895	345	380	415	450	490	520	550	585	620
80	310	355	425	500	550	615	650	715	770	270	310	345	370	400	425	450	485	520
100	250	295	365	440	490	550	580	630	680	210	250	285	310	335	355	375	405	430
120	210	250	315	385	435	495	525	565	610	180	205	240	265	285	305	325	350	370
140	180	210	275	340	390	440	475	510	550	155	175	210	230	250	265	280	300	320
160	160	185	245	300	350	400	435	465	500	130	155	185	205	220	230	245	265	290
180	145	165	220	270	320	360	395	425	450	120	135	165	180	195	205	220	240	260
200	130	150	205	250	295	330	360	390	415	110	120	150	165	180	190	205	220	240

STEEL SHEETS 0,6 / 0,6 mm - Support 120 mm																			
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm									PANEL NOMINAL THICKNESS mm									
	50	60	80	100	120	150	170	200	240	50	60	80	100	120	150	170	200	240
kg/m²	MAX SPANS cm									MAX SPANS cm									
50	490	520	600	675	720	800	860	935	980	430	460	500	540	580	610	650	680	710
60	425	470	545	635	685	755	810	870	920	375	415	455	490	530	560	590	615	640
80	335	380	465	550	605	670	720	760	820	290	330	375	405	440	465	495	515	545
100	265	310	385	460	525	585	630	665	730	220	260	300	330	360	380	405	425	455
120	235	270	330	410	470	525	560	595	645	190	220	250	280	305	325	345	365	390
140	200	230	290	360	415	470	505	535	570	160	190	220	240	265	280	300	320	340
160	175	210	260	315	370	415	445	480	520	140	165	195	215	230	245	265	280	300
180	160	190	230	275	335	375	405	430	470	130	150	175	195	210	225	240	255	275
200	140	165	210	255	305	335	365	400	430	115	135	160	180	195	210	225	240	260

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm								
		50	60	80	100	120	150	170	200	240
0,5 / 0,5	kg/m²	13,2	14,2	16,2	18,2	20,2	23,2	25,2	28,2	32,2
0,6 / 0,6	kg/m²	14,9	15,9	17,9	19,9	21,9	24,9	26,9	28,9	32,9

FIRE AND ACOUSTICS PERFORMANCES
On client's request, Isopan can provide Fire and Acoustic behaviour certificates.
Please consult the synthesis available in the catalogue or on the website.

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm 0
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Sheets coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION

According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm								
	50	60	80	100	120	150	170	200	240
W/m² K	0,75	0,63	0,49	0,39	0,33	0,27	0,24	0,20	0,17
kcal/m² h °C	0,65	0,54	0,42	0,34	0,28	0,23	0,21	0,17	0,15

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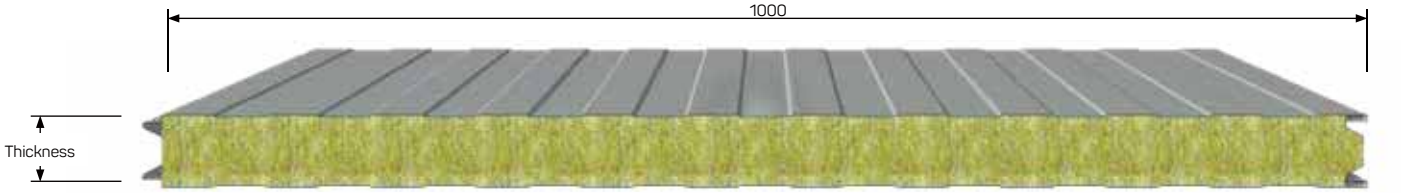
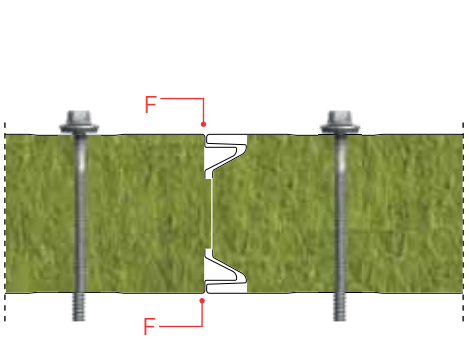
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Isofire Wall - Fono

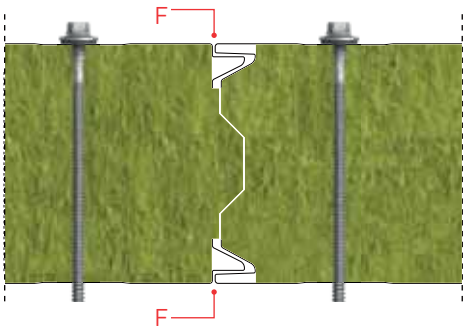
Manufactured in: Italy

It is a self-supporting metal faced panel insulated with mineral wool. The fixing elements are exposed. The internal sheet is characterised by a micro-drilling that enhances acoustic performances; meaning the sound absorption and insulation.

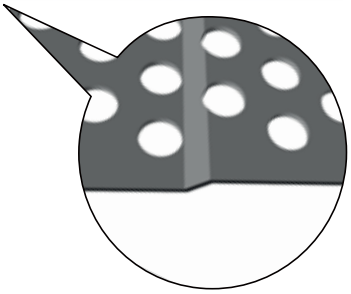




Joint detail



Joint Detail (thickness ≥ 120mm)



INSTRUCTIONS OF USE
For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

FIRE PERFORMANCES
Regarding the specifications related to the fire characteristics, please consult the synthesis available in the catalogue or on the website.

Isofire Wall Fono

→ see pag. 16

OVERLOAD SPANS

STEEL SHEETS 0,5 / 0,6 mm - Support 120 mm - (Microdrilled internal sheet 0.6mm)												
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm						PANEL NOMINAL THICKNESS mm					
	50	60	80	100	120	150	50	60	80	100	120	150
kg/m²	MAX SPANS cm						MAX SPANS cm					
50	370	400	450	510	560	635	325	350	385	420	455	485
60	325	360	415	475	525	585	290	320	345	375	410	435
80	260	295	355	420	460	515	225	260	290	310	335	355
100	210	245	305	370	410	460	175	210	240	260	280	295
120	175	210	265	320	365	415	150	170	200	220	240	255
140	150	175	230	285	325	370	130	145	175	190	210	220
160	130	155	205	250	290	335	105	130	155	170	185	190
180	120	135	185	225	265	300	100	110	135	150	160	170
200	105	125	170	210	245	275	90	100	125	135	150	160

STEEL SHEETS 0,6 / 0,6 mm - Support 120 mm - (Microdrilled internal sheet 0.6mm)												
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm						PANEL NOMINAL THICKNESS mm					
	50	60	80	100	120	150	50	60	80	100	120	150
kg/m²	MAX SPANS cm						MAX SPANS cm					
50	410	435	505	565	605	670	360	385	420	455	485	510
60	355	395	455	535	575	635	315	345	380	410	445	470
80	280	320	390	460	505	560	240	275	315	340	370	390
100	220	260	320	385	440	490	185	215	250	275	300	320
120	195	225	275	345	395	440	160	185	210	235	255	270
140	165	190	240	300	345	395	130	160	185	200	220	235
160	145	175	215	265	310	345	115	135	160	180	190	205
180	130	160	190	230	280	315	105	125	145	160	175	185
200	115	135	175	210	255	280	95	110	130	150	160	175

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNESS Ext. SHEETS mm (Int. 0,6 mm micro-drill)		PANEL NOMINAL THICKNESS mm					
		50	60	80	100	120	150
0,5	kg/m²	12,6	13,6	15,6	17,6	19,6	22,6
0,6	kg/m²	13,5	14,5	16,5	18,5	20,5	23,5

FIRE AND ACOUSTICS PERFORMANCES
On client's request, Isopan can provide Fire and Acoustic behaviour certificates.
Please consult the synthesis available in the catalogue or on the website.

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm 0
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Sheets coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

THERMAL INSULATION

According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm					
	50	60	80	100	120	150
W/m² K	0,75	0,63	0,49	0,39	0,33	0,27
kcal/m² h °C	0,65	0,54	0,42	0,34	0,28	0,23

ISOPAN
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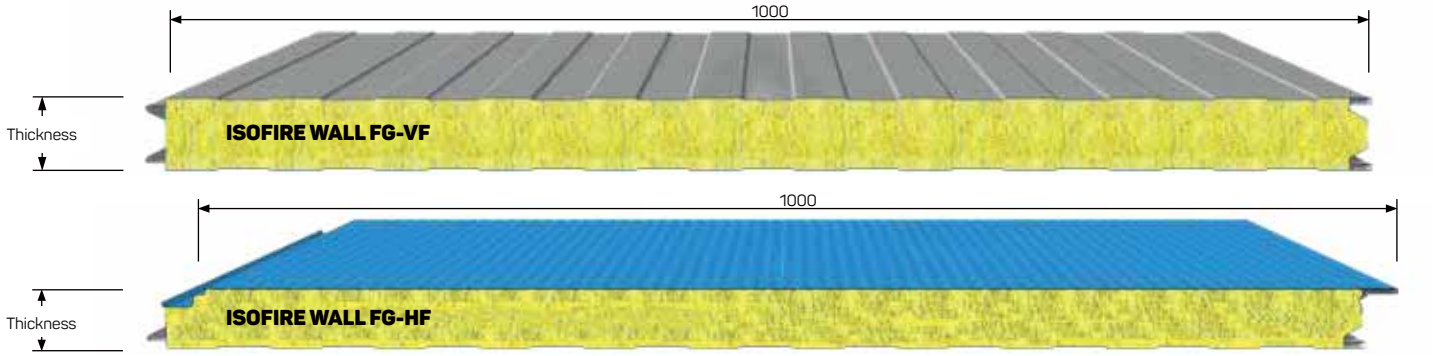
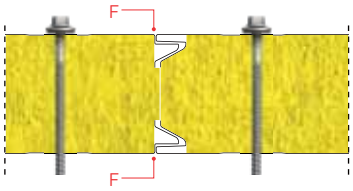
see pag. 16

Isofire Wall FG-VF
Isofire Wall FG-HF

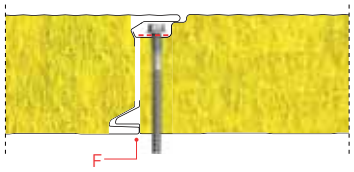
Manufactured in: Italy



Sandwich panels with double metal support and insulated with **Glass wool**. The fixing elements are exposed (Isofire Wall FG-VF) or hidden (Isofire Wall FG-HF).



Wall FG-VF: Joint detail



Wall FG-HF: Joint detail

THERMAL INSULATION According to EN 14509 Annex 10

ISOFIRE WALL FG-VF

U	PANEL NOMINAL THICKNESS mm							
	50	60	80	100	120	150	170	200
W/m² K	0,79	0,65	0,48	0,38	0,32	0,26	0,23	0,19
kcal/m² h °C	0,68	0,56	0,41	0,33	0,28	0,22	0,20	0,16

ISOFIRE WALL FG-HF

U	PANEL NOMINAL THICKNESS mm							
	50	60	80	100	120	150	170	200
W/m² K	0,97	0,75	0,51	0,40	0,33	0,26	0,23	0,20
kcal/m² h °C	0,83	0,65	0,44	0,34	0,28	0,22	0,20	0,17

OVERLOAD SPANS

STEEL SHEETS THICKNESS0,6 / 0,6 mm - Support 120 mm						
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm					
	50	60	80	100	120	150
kg/m²	MAX SPANS cm					
60	335	395	460	510	555	605
80	280	325	395	435	470	510
100	240	280	350	385	410	445
140	185	225	290	315	340	365
180	160	180	240	270	295	315
200	145	170	225	260	270	295

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

PANELS WEIGHT (Steel sheets)

THICKNES SHEETS mm		PANEL NOMINAL THICKNESS mm							
		50	60	80	100	120	150	170	200
0,5 / 0,5	kg/m²	10,9	11,4	12,5	13,6	14,7	16,4	17,5	19,2
0,6 / 0,6	kg/m²	12,6	13,1	14,2	15,3	16,4	18,1	19,2	20,9

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm 0
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Sheets coupling	F = 0 + 3 mm	

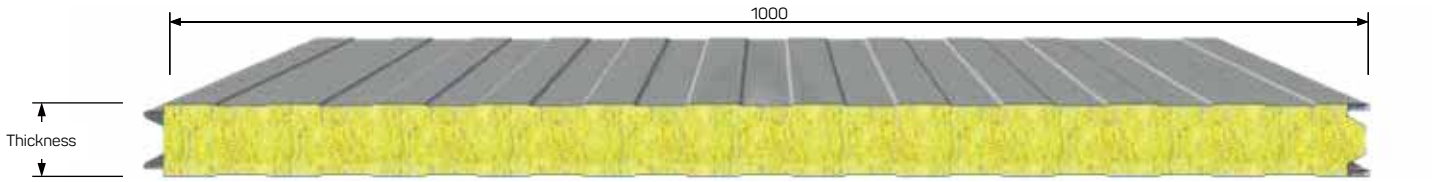
L = working length, D = panels thickness, F = sheets coupling

INSTRUCTIONS OF USE: For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

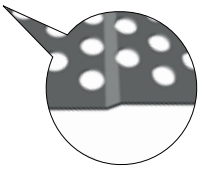
→ see pag. 16

Isofire Wall FG-VF Fono

Manufactured in: Italy



Sandwich panels with double metal support and insulated with **Glass wool**. The fixing elements are exposed. The internal sheet is characterised by a micro-drilling that enhances acoustic performances; meaning the sound absorption and insulation.



PANELS WEIGHT (Steel sheets)

THICKNESS SHEETS mm		PANEL NOMINAL THICKNESS mm					
		50	60	80	100	120	150
0,5 / 0,5	kg/m²	9,4	9,9	11,0	12,1	13,2	14,9
0,6 / 0,6	kg/m²	11,1	11,6	12,7	13,8	14,9	16,6

THERMAL INSULATION According to EN 14509 Annex 10

U	PANEL NOMINAL THICKNESS mm					
	50	60	80	100	120	150
W/m² K	0,79	0,65	0,48	0,38	0,32	0,26
kcal/m² h °C	0,68	0,56	0,41	0,33	0,28	0,22

DIMENSION TOLERANCE (EN 14509)

DEVIATION mm		
Length	L ≤ 3 m L > 3 m	± 5 mm ± 10 mm 0
Working length	± 2 mm	
Thickness	D ≤ 100 mm D > 100 mm	± 2 mm ± 2 %
Deviation from perpendicularity	6 mm	
Misalignment of the internal metal faces	± 3 mm	
Sheets coupling	F = 0 + 3 mm	

L = working length, D = panels thickness, F = sheets coupling

FIRE AND ACOUSTICS PERFORMANCES
On client's request, Isopan can provide Fire and Acoustic behaviour certificates.
Please consult the synthesis available in the catalogue or on the website.

OVERLOAD SPANS

STEEL SHEETS THICKNESS0,6 / 0,6 mm - Support 120 mm												
UNIFORMLY DISTRIBUTED LOAD	PANEL NOMINAL THICKNESS mm						PANEL NOMINAL THICKNESS mm					
	50	60	80	100	120	150	50	60	80	100	120	150
kg/m²	MAX SPANS cm						MAX SPANS cm					
60	250	285	360	410	450	500	340	425	490	530	595	510
80	215	245	310	355	390	440	290	365	420	460	520	430
100	185	215	270	285	340	385	255	325	340	405	455	375
140	150	180	245	270	295	330	210	290	315	350	395	310
180	135	145	190	230	260	290	175	225	270	310	345	270
200	125	140	180	215	250	275	170	210	255	295	330	250

Calculation for static sizing according to the Annex E of the UNI EN 14509 standard. Deflection limit 1/200 ℓ. Thermal load is not considered.

INSTRUCTIONS OF USE: For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

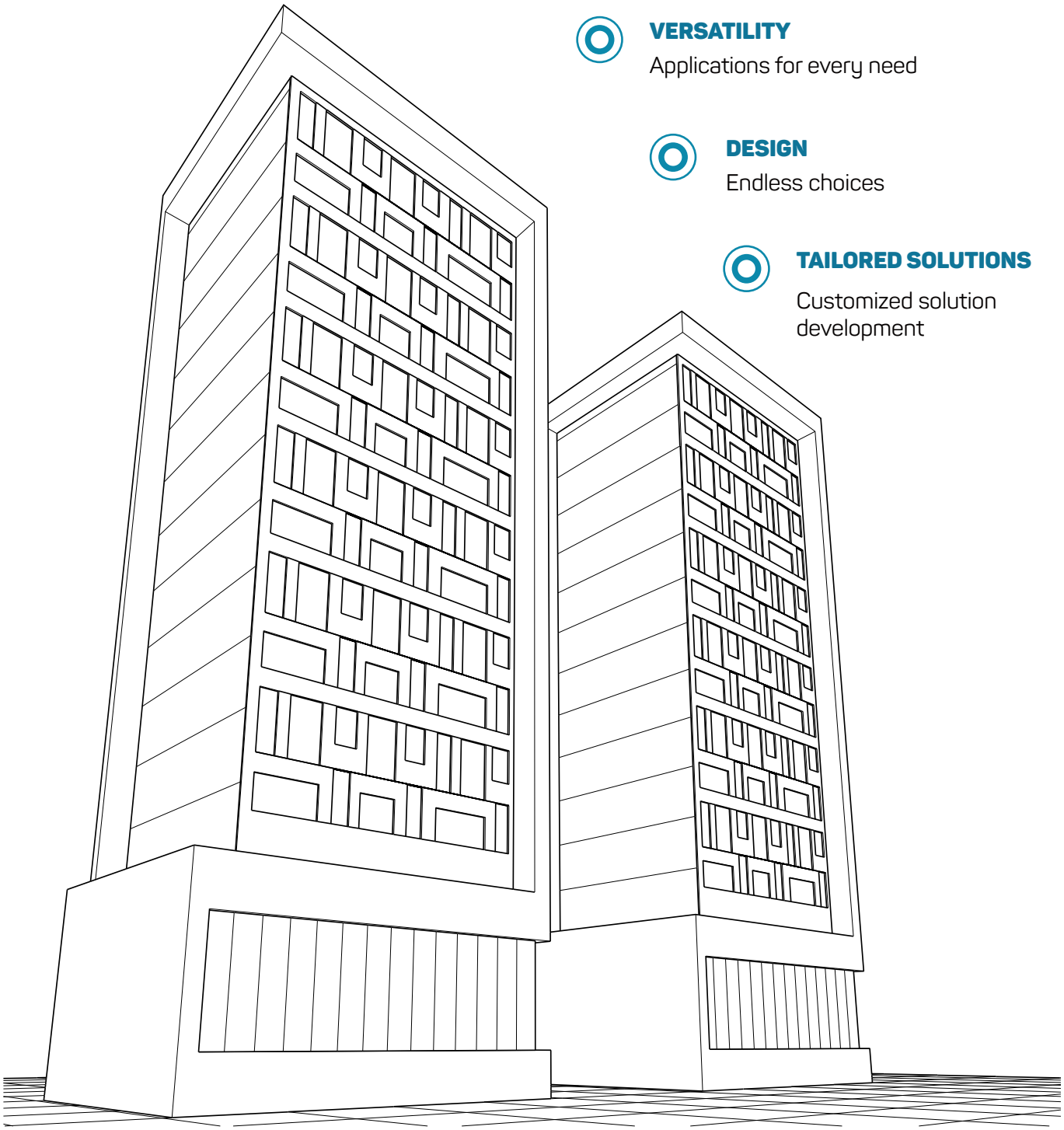
ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

Building technical systems

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

ADDMIRA Façade Solutions

ADDMIRA systems allow the creation of facades with technical and aesthetic features. The use of prefabricated elements, the orientation towards off-site assembly and continuous research make ADDMIRA the answer to architecture and design needs.



VERSATILITY
Applications for every need

DESIGN
Endless choices

TAILORED SOLUTIONS
Customized solution development

DISCOVER ADDMIRA SOLUTIONS

ADD Vision

Insulated panels for facades

ADD Cross

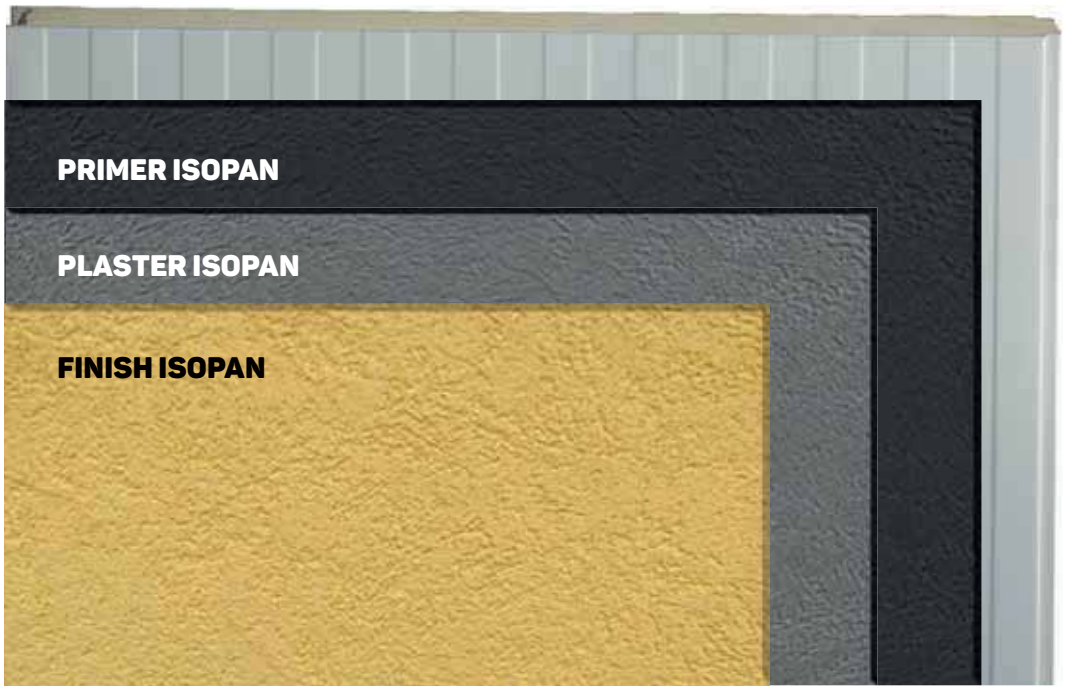
New Facade Solutions

ADD Wind

Ventilated Facades

Isocappotto

Thanks to this Product, Isopan can offer its customers a fast laying system with an insulating power alike to a sandwich-structured composite. Its aesthetic and performance are similar to traditional EIFS walls. ISOCAPPOTTO system is similar to an EIFS wall, but it differs from a classic traditional wall system because it has a double metal cladding insulating panel covered in different materials. This way you can conceal the sandwich-structured composite and have a wall which looks like a classic plastered wall. ISOCAPPOTTO system can be applied to any kind of building, to new industrial or manufacturing buildings (office buildings, factories, warehouses) and to housing estates like condominii and cottages as well. This system is also a valuable solution when refurbishing or modernizing existing buildings.



ISOPAN PRIMER - It is a primer obtained by blending synthetic resin, special asphalt and quartz filler. The mix obtained, once dried, is highly elastic, it adheres to the support and it is waterproof

ISOPAN PLASTER - It is a pre-mixed plaster made of lime, concrete, selected aggregates and additives that make this plaster highly breathable and easy to work with. Applying the Product in a consistent and uniform manner is mandatory in order to obtain a high quality finish.

ISOPAN FINISH - It is a decorative ready-to-use cladding made of synthetic resin in water emulsion, coloured oxides, fine and selected quartz aggregates and additives that make the product easier to work with. Using light and alkali resistant pigments ensures the dye's stability even when exposed to bad weather or sunlight radiations. The cladding is highly elastic and tight-fitting to the supports.

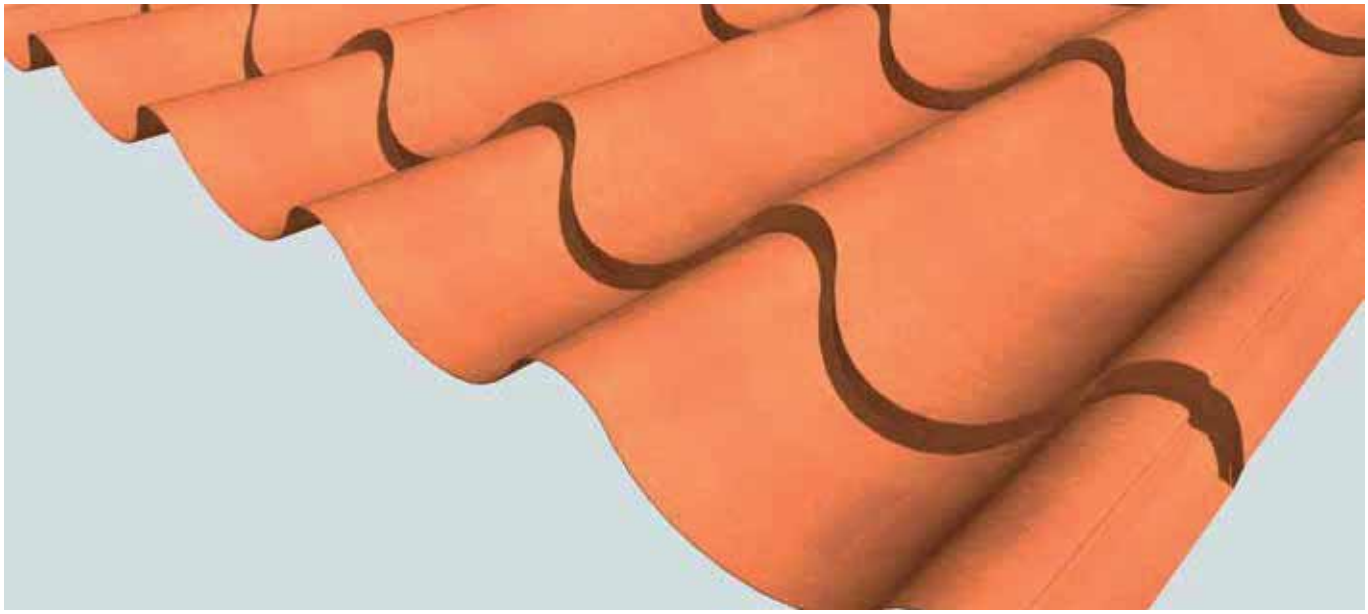
Corrugated Sheets

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

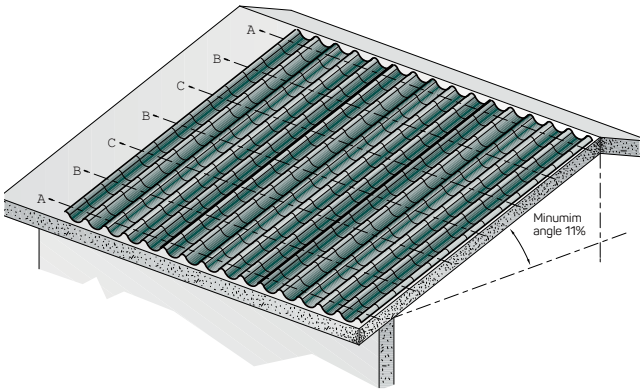
LG 50

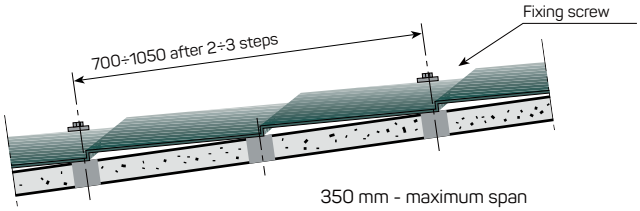
Manufactured in: Italy

It is a profiled sheet with a tile shape, that represents the best aesthetic evolution of a roof sheet made for public construction. The design, with a standard tile shape, allows for the creation of functional roofs that are aesthetically pleasing, light, extremely easy to install and waterproof.



Standard length mm								
1200	2250	2950	4000	4700	5050	5750	6100	6450



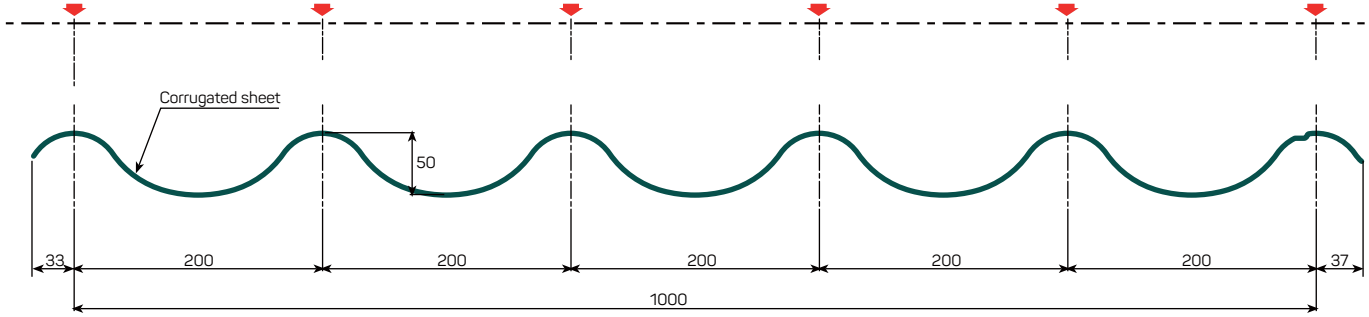


DEVIATION mm	
Length	± 10 mm
Working width	± 5 mm

Fixing screws position C

Fixing screws position B

Fixing screws position A

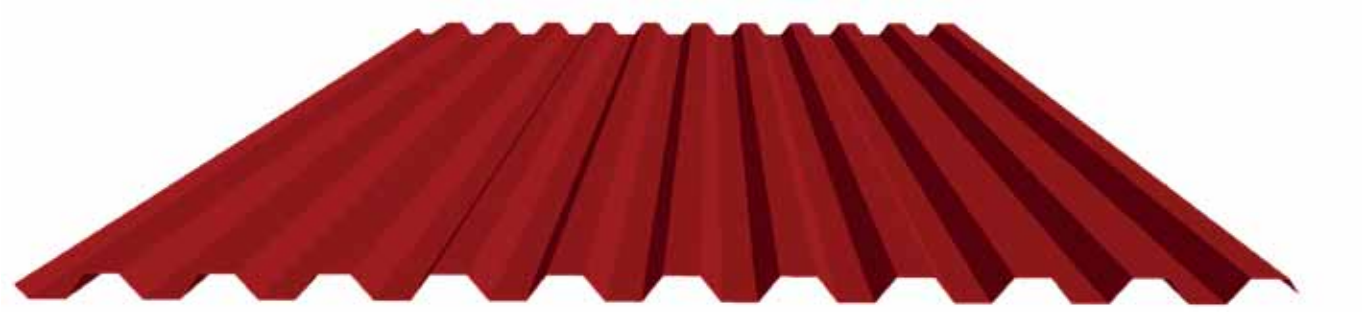


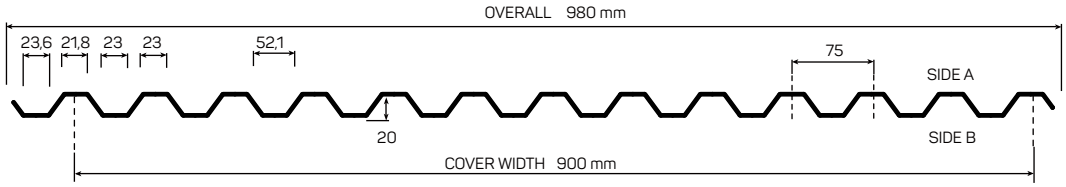
The sheet can be provided with anticondensation material whose major characteristics are defined in the "technical data" section (only on request).

ISOPAN
BUILDING ENVELOPE SOLUTIONS
by Manni Group

LG 20

Produced in: Italy

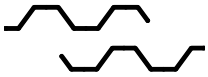




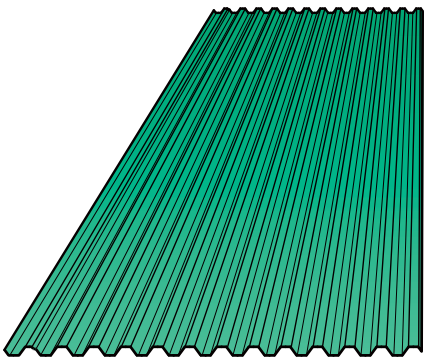
DIMENSION TOLERANCE

Length	+10 mm up to 3000 mm +20 mm over 3000 mm -5 mm for all length
Cover width	± 5 mm
Deviation from cutting line squareness	S ≤ 0,5% Cover width

SVILUPPO 1250 mm



Overlap example



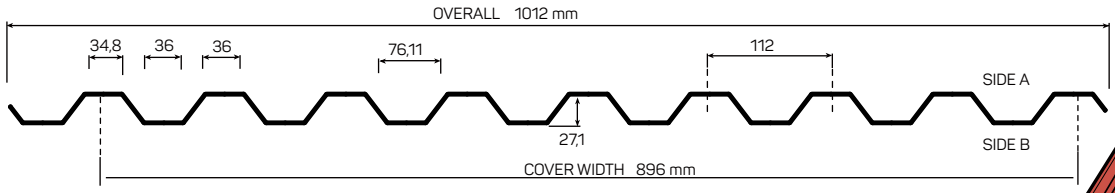
CARICO MASSIMO UNIFORMEMENTE DISTRIBUITO IN kg/m² LG 20

Thickness mm	ACCIAIO - INTERASSE m							ALLUMINIO - INTERASSE m					
	1,00	1,25	1,50	1,75	2,00	2,25	2,50	1,00	1,25	1,50	1,75	2,00	2,25
0,5	430	220	128	80	54	38	28	138	70	41	26	17	12
0,6	530	270	155	100	65	45	34	168	86	50	31	21	15
0,7	630	320	185	115	78	55	40	200	102	58	37	25	17
0,8	700	370	215	135	90	62	45	230	118	68	43	29	20

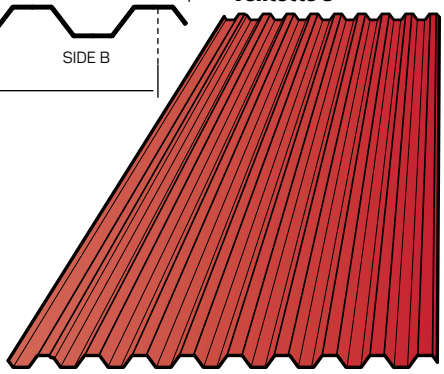
LG 28

Produced in: Italy

VENTOTTO 9 - STANDARD

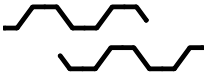


Ventotto 9



DIMENSION TOLERANCE

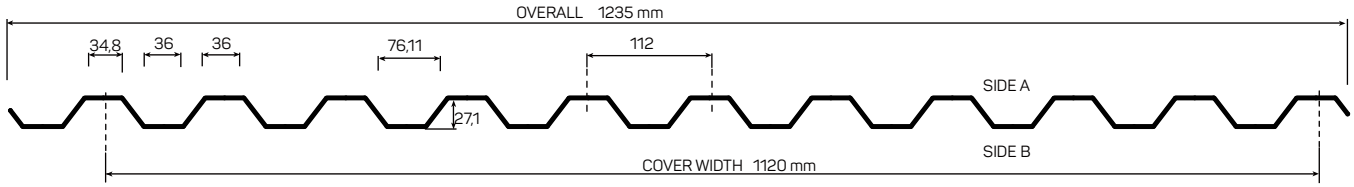
Length	+10 mm up to 3000 mm +20 mm over 3000 mm -5 mm for all length
Cover width	± 5 mm
Deviation from cutting line squareness	S ≤ 0,5% della Cover width



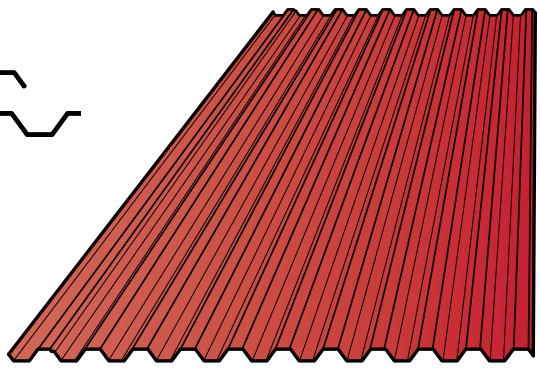
Overlap example

SVILUPPO 1250 mm

VENTOTTO 11 - NOT STANDARD



Ventotto 11



Section Characteristics

		Thickness mm			
		0,5	0,6	0,7	0,8
Weight (steel) (kg/m2 gross)		4,77	5,73	6,68	7,64
Weight (aluminium) (kg/m2 gross)		1,65	1,98	2,32	2,65
J	(cm^4/m)	5,96	7,29	8,62	9,94
W	(cm^3/m)	4,10	4,99	5,88	6,76

Overlap example

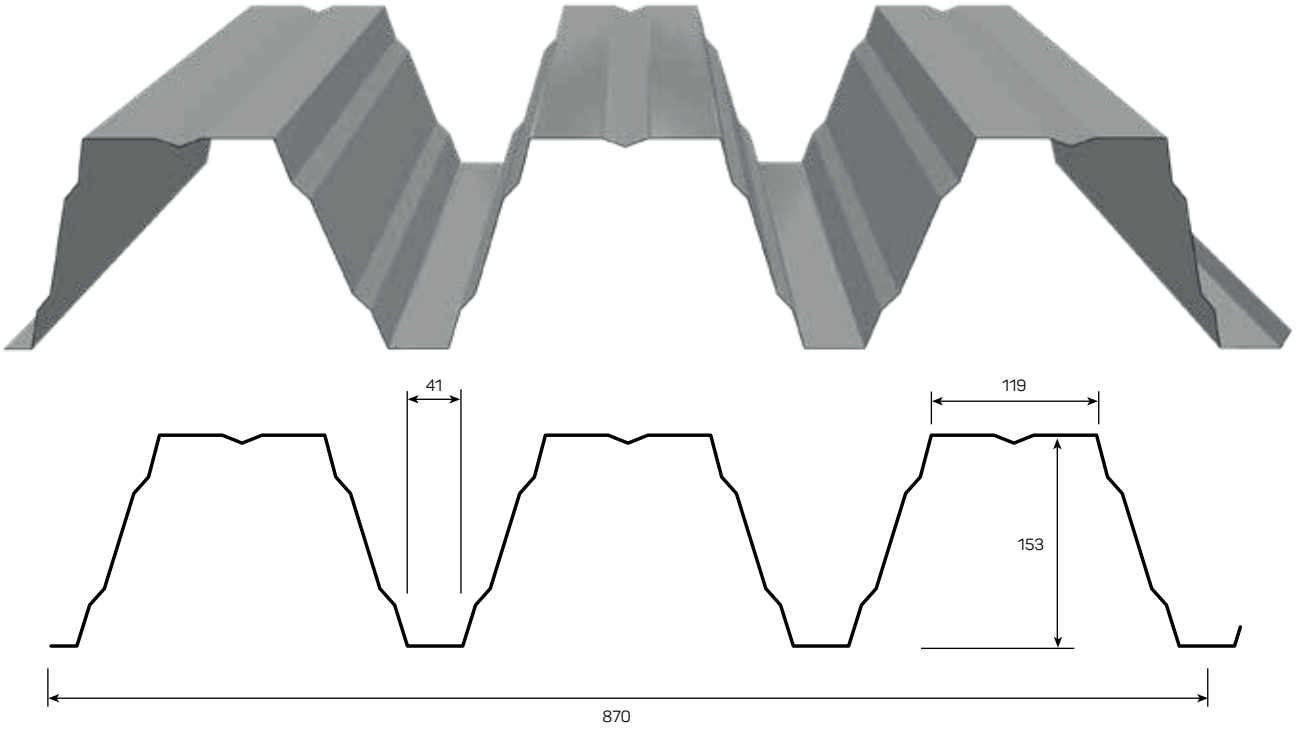
SVILUPPO 1500 mm

UNIFORMLY DISTRIBUTED MAXIMUM LOADkg/m² LG 28

THICKNESS mm	STEEL - SPAN m							ALUMINIUM - SPAN					
	1,00	1,25	1,50	1,75	2,00	2,25	2,50	1,00	1,25	1,50	1,75	2,00	2,25
0,5	690	350	205	128	85	60	44	220	112	65	41	28	19
0,6	820	430	250	155	105	74	53	268	138	80	50	34	24
0,7	1000	510	290	185	125	88	63	315	160	94	60	40	28
0,8	1110	580	340	215	145	100	75	365	185	108	68	46	32

LG 153

Manufactured in: Romania



Section Characteristics

	THICKNESS mm			
	0,75	**0,88**	**1,00**	**1,25**
Weight (steel) (kg/m2 gross)	10,51	11.91	13.53	16.92
Limit yield point - f_u MPA	320	320	320	320
Tensile strength - f_y MPA	390	390	390	390

INSTRUCTIONS OF USE: For the use of the panels and the related limits, please consult the Technical Manual available on www.isopan.com, General Sales Terms and Annexes defined by ISOPAN.

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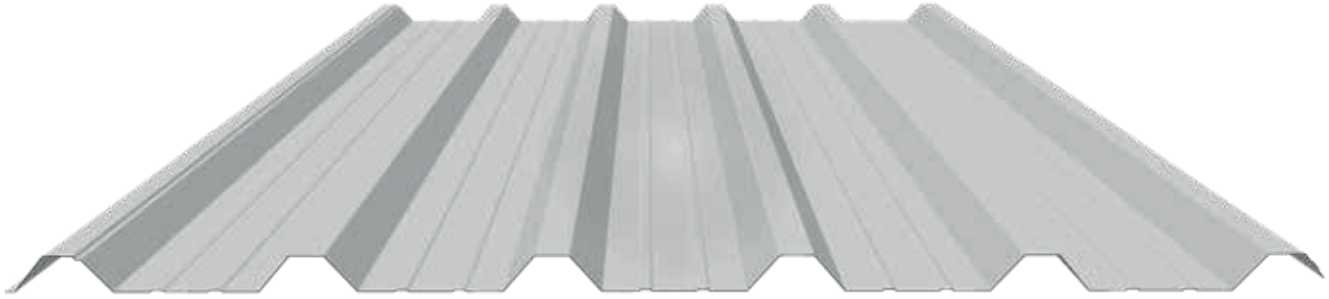
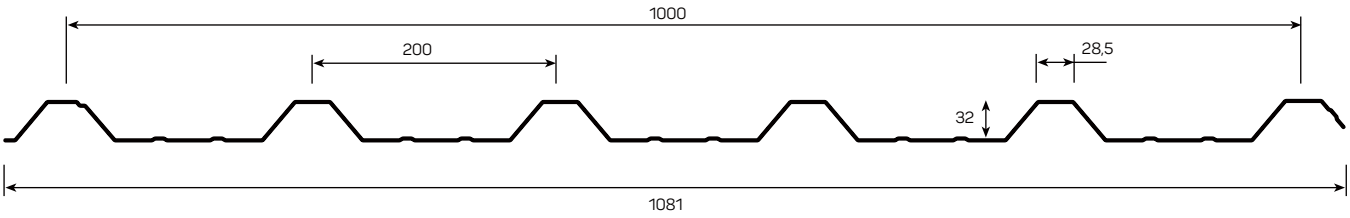
by Manni Group

LG 32

Manufactured in: Spain





Section Characteristics

	THICKNESS mm				
	0,5	0,6	0,7	0,8	1,0
WEIGHT (kg/m²)	4,70	5,66	6,60	7,55	9,45

DIMENSION TOLERANCE

Length	+10 mm up to 3000 mm +20 mm over 3000 mm -5 mm for all length
Cover width	± 5 mm
Deviation from cutting line squareness	S ≤ 0,5% della Cover width

UNIFORMLY DISTRIBUTED MAXIMUM LOADkg/m² LG 32

THICKNESS mm		SPAN m								
		1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00
	0,5	300	200	140	120	80	60			
	0,6	380	240	180	140	105	60			
	0,7	440	280	200	150	115	80			
	0,8	520	320	220	160	120	90	60		
	1,0	600	420	260	200	140	100	80	60	
	0,5	400	260	200	140	120	80	60		
	0,6	500	320	220	180	135	100	90	60	
	0,7	580	380	260	200	150	120	95	65	
	0,8	660	440	300	220	160	130	100	80	60
	1,0	800	540	400	260	200	140	120	95	80

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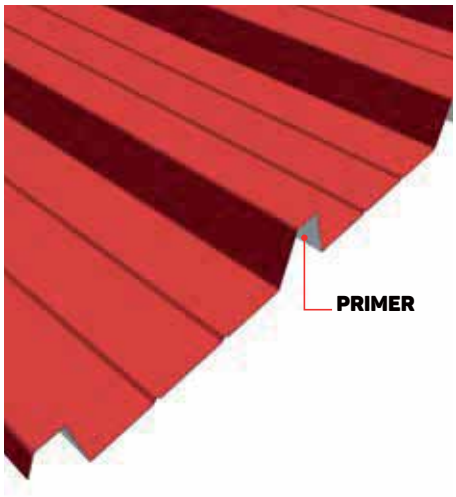
LG 40 - LG 40R

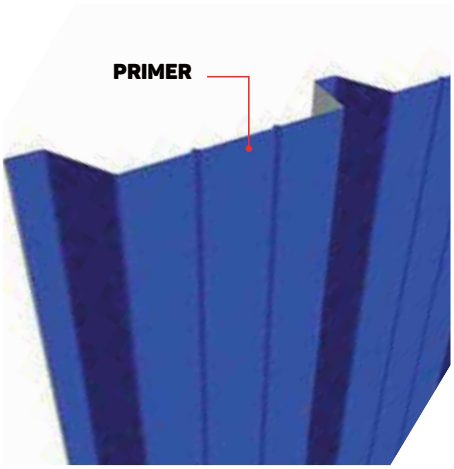
Manufactured in: Italy, Romania

The LG40 system is particularly easy to handle and install, with straight and curved sheets; if it is made of aluminium, it can be curved on site, depending on the thickness.

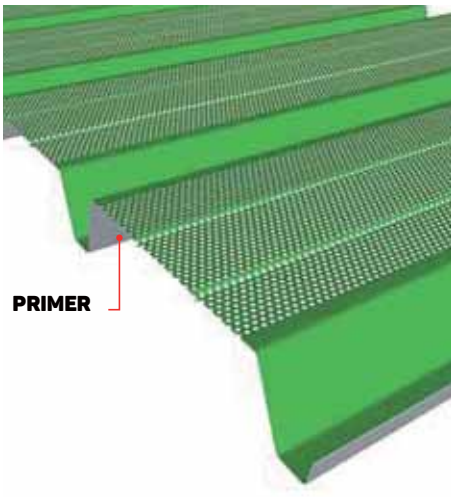
LG 40



LG 40R
N.B. LG 40R can be used for facade installatios

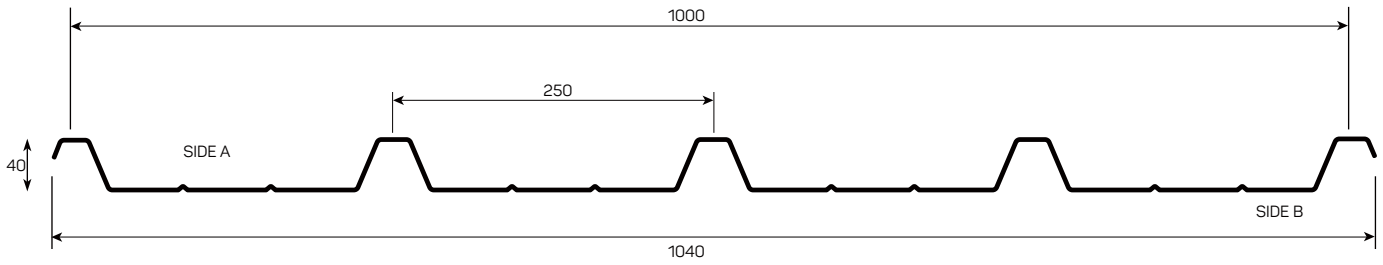


LG 40 forata

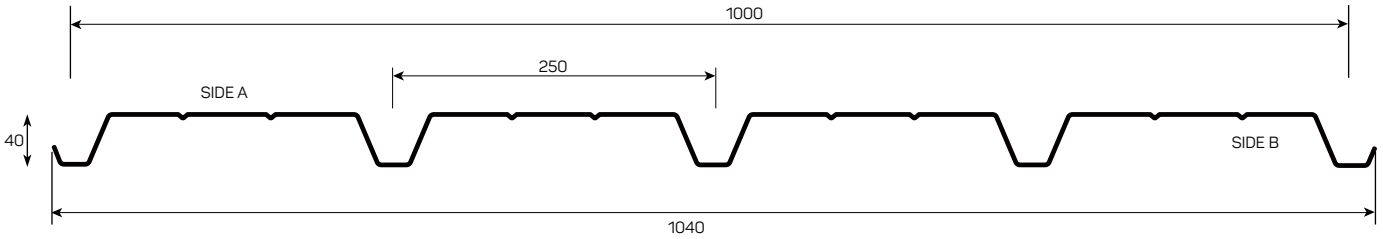


LG 40 - LG 40R

LG 40



LG 40 R



Section Characteristics

		THICKNESS mm				
		0,5	0,6	0,7	0,8	1,0
WEIGHT	(kg/m²)	4,9	5,89	6,87	7,85	9,81
J	(cm⁴/m)	12,3	16,05	18,72	21,40	26,75
W	(cm³/m)	3,92	5,30	6,18	7,07	8,83

DIMENSION TOLERANCE

Length	+10 mm up to 3000 mm +20 mm over 3000 mm -5 mm for all length
Cover width	± 5 mm
Deviation from cutting line squareness	S ≤ 0,5% della Cover width

UNIFORMLY DISTRIBUTED MAXIMUM LOADkg/m²

THICKNESS mm	LG 40 SPAN m													LG 40R SPAN m											
	1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00	3,25	3,5	3,75	4	1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00	3,25	3,5	3,75	4
	**0,5** 439	281	185	143	109	86	63 70	47 58	36 48					360	230	152	104 117	84 109	59 74	37 57	27 47						
	0,6 614	393	273	200	153	115 121	84 98	63 81	48 68	38 58				504	322	224	145 164	97 126	68 99	49 80	37 66						
	0,7 716	458	318	234	179	135 141	98 114	73 94	57 79	67 44	35 58			603	386	268	178 196	119 150	84 119	61 96	46 79	35 66					
	0,8 820	524	364	267	205	154 162	112 131	84 108	65 91	51 77	41 67	33 58		701	449	311	214 229	143 175	100 138	73 112	55 92	42 78	33 65	27 56			
	1,0 1024	655	455	334	256	193 202	140 163	105 135	81 113	64 97	51 83	41 72	34 64	903	578	401	289 295	194 225	136 178	99 144	74 119	57 100	45 85	36 73	29 64	24 56
	**0,5** 570	365	252	180	141	111	90	67 73	51 62	40 53				467	300	207	147	115	83 91	61 73	41 60	30 51					
	0,6 768	491	341	251	192	152	123	101	81 85	64 72	51 62			630	403	280	205	157	113 124	83 100	62 83	48 70					
	0,7 896	573	398	292	224	177	143	118	95 99	74 84	59 73	48 63		754	482	335	246	188	140 148	102 120	76 99	59 83	46 71	37 61			
	0,8 1025	656	455	334	256	202	164	135	108 113	85 97	68 83	55 72	45 64	877	561	389	286	219	168 173	122 140	92 116	71 97	55 83	44 71	36 62		
	1,0 1280	819	569	418	320	253	204	169	135 142	106 121	85 104	69 91	57 80	1129	722	502	368	282	223	165 180	124 149	95 125	75 106	60 92	49 80	40 70	

Red values don't consider deflection limits

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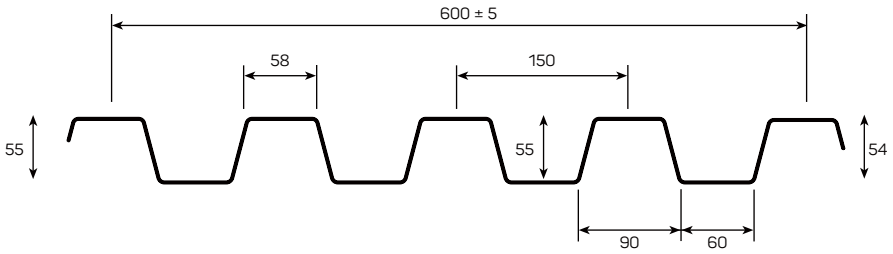
LG 55/600 - 750

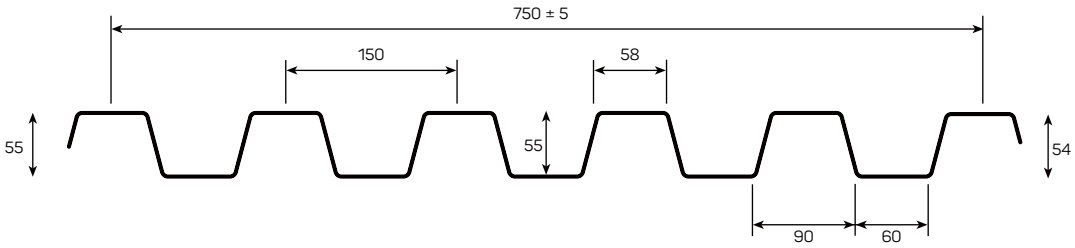
Manufactured in: Italy

LG 55/600 - 750

LG 55/600



LG 55/750



Section Characteristics

		THICKNESS mm				
		0,6	0,7	0,8	1,0	1,25
Peso	(kg/m²)	7,8	9,1	10,5	13,1	16,3
J	(cm⁴/m)	38,8	47,2	55,8	73,7	96,3
W	(cm³/m)	11,3	13,9	16,8	23	31,3

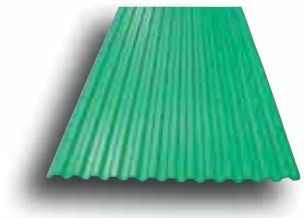
DIMENSION TOLERANCE

Length	+10 mm up to 3000 mm +20 mm over 3000 mm -5 mm for all length
Cover width	± 5 mm
Deviation from cutting line squareness	S ≤ 0,5% della Cover width

UNIFORMLY DISTRIBUTED MAXIMUM LOADkg/m²

UNIFORMLY DISTRIBUTED MAXIMUM LOADkg/m² LG 55/600-750																	
THICKNESS mm		SPAN m															
		1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00	3,25	3,50	3,75	4,00	4,25	4,50	4,75	5,00
	0,6	1433	914	633	463	352	266 277	192 223	183 142	108 152	83 128	65 110	51 94	41 82	33 72	26 63	21 56	17 50
	0,7	1776	1133	784	573	436	324 343	233 276	173 226	131 188	101 159	79 136	62 117	49 102	40 89	32 78	25 69	20 61
	0,8	2142	1367	946	693	528	385 415	278 334	206 275	157 229	121 194	95 166	75 143	60 124	49 109	39 96	32 85	26 76
	1,0	2929	1871	1295	948	730 723	509 569	368 459	273 377	208 315	161 266	126 228	101 197	81 172	65 151	53 133	43 116	36 106
	1,25	3990	2548	1765	1293	955 986	666 776	482 626	358 515	272 430	211 364	166 312	132 270	106 235	86 207	70 183	57 163	47 145
	0,6	1794	1145	793	580	442	348	280	230	185 192	144 163	114 139	91 120	73 105	60 92	49 81	41 72	34 64
	0,7	2224	1420	984	721	550	433	349	287	227 240	177 203	140 174	112 151	91 132	75 116	62 102	51 91	43 81
	0,8	2680	1711	1185	868	662	521	420	346 351	268 289	208 245	165 210	132 181	107 158	88 139	72 123	60 109	50 98
	1,0	3685	2341	1622	1189	907	714	576	464 474	354 397	276 336	219 288	176 249	143 218	117 192	97 170	80 151	67 135
	1,25	4991	3189	2210	1620	1237	974	786	607 647	464 541	362 459	287 394	230 341	187 298	153 262	127 232	106 207	88 185

Red values don't consider deflection limits



STRAIGHT PROFILED SHEETS
It is possible to profile the sheets of the Venti and Ventotto systems.

Characteristics:
- minimum working thickness: 0,5 mm;
- maximum working thickness: 0,8 mm;
- maximum working length: 14.000 mm;
- minimum working length: 1.000 mm.

CURVED SHEETS
It is possible to bend the sheets of the Venti and Ventotto systems with a die.

Characteristics:
- sheet minimum length 1.000 mm;
- minimum radius of curvature 700 mm;
- sheet maximum length 6.000 mm.

For sheets with different dimensions than the indicated ones, we recommend to contact Isopan's technical office in order to valuate the feasibility.

BENT SHEETS WITH DIES
It is possible to bend the sheets with the Venti and Ventotto profiles with customized dies.

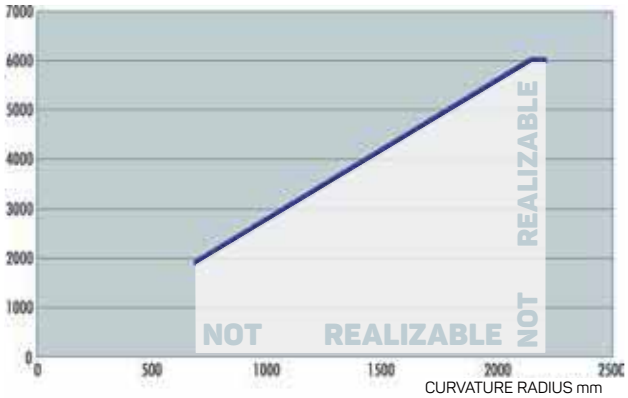
Characteristics:
- sheet minimum length 1.000 mm;
- sheet maximum length: 6.000 mm.

For sheets with different dimensions than the indicated ones or very complex sheets (with more than one curve or with different angles), we recommend to contact Isopan's technical office in order to valuate the feasibility.

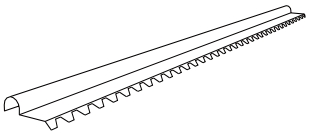
FOR RIDGE USE

SYMMETRIC ROOF/WALL JOINT

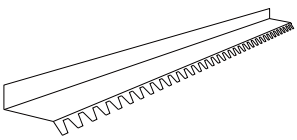
ASYMMETRIC ROOF/WALL JOINT



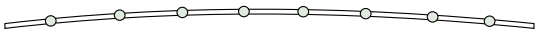
DIE-CUT HINGED RIDGE



DIE-CUT FLASHING



CURVED SHEET



SPECIAL CURVED SHEET PARTIALLY BENT WITH DIE

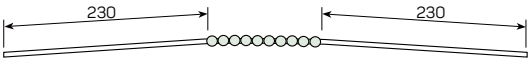
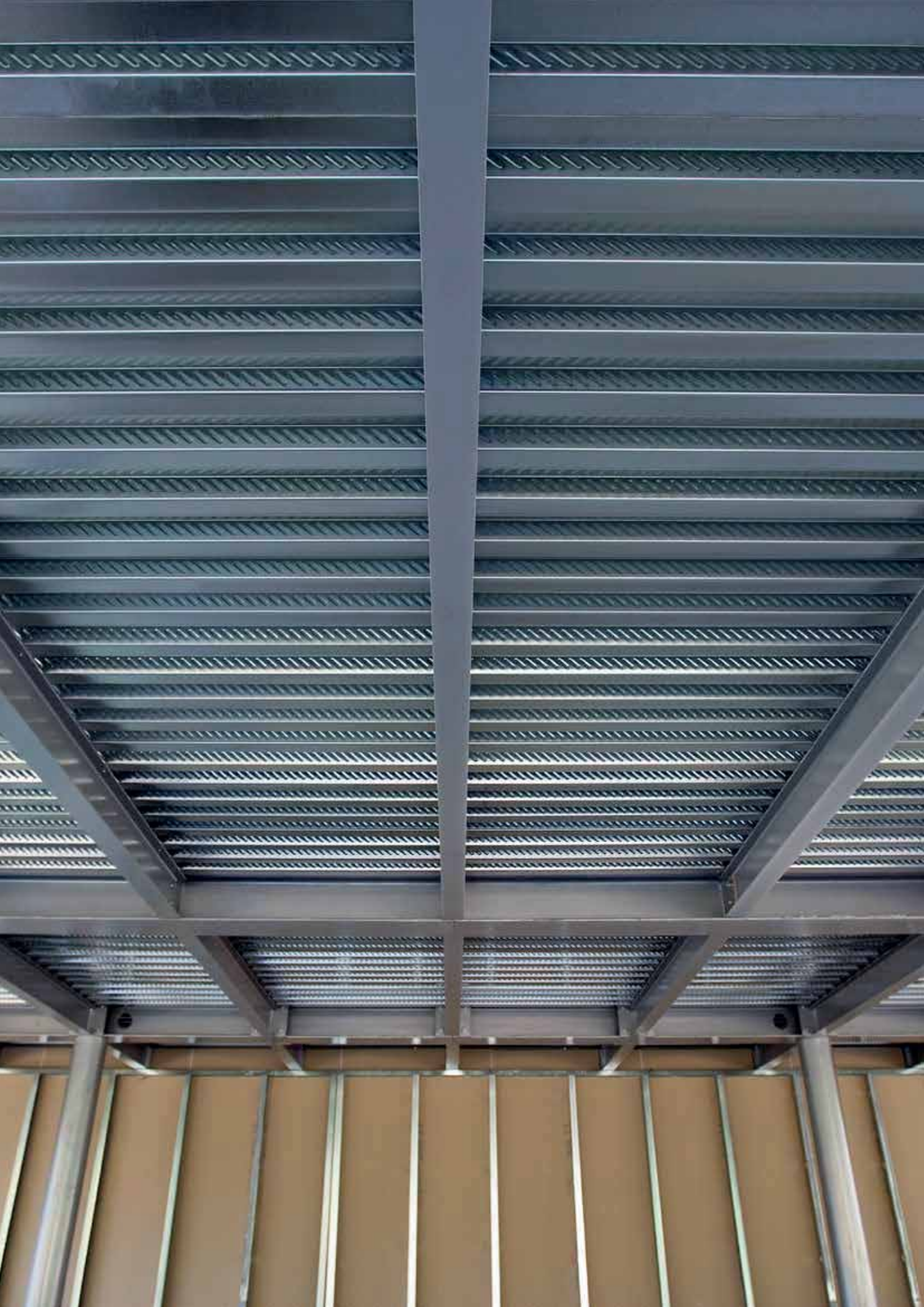


TABLE OF THE TECHNICAL CHARACTERISTICS OF THE ANITCONDENSATION FELT APPLICABLE DURING THE PRODUCTION PHASE

Colour	bianco grigio		
Thickness - felt	DIN EN ISO 9073 - 2	mm	1
Water absorption		g/m²	> 900
Reaction to fire	DIN 4102/1		B 1
Sound absorption	DIN EN 20354	125 Hz 500 Hz 1000 Hz 2000 Hz 4000 Hz	Reduction 2% Reduction 4% Reduction 4% Reduction 1,2% Reduction 4,2%
Heat conductivity	DIN 52612	W/mK	0,045



PESO DEI PANNELLI

SPESSORE LAMIERE [mm]	PESO	SPESSORE NOMINALE PANNELLO [mm]					
		40	50	60	80	100	120
0,4	kg/m²	8,5	8,7	9,0	9,5	10,0	10,5
0,4-0,5	kg/m²	9,5	9,9	10,3	10,7	11,5	12,3
0,5	kg/m²	10,3	10,7	11,1	11,5	12,3	13,1

TOLLERANZE DIMENSIONALI (in accordo con EN 14509)

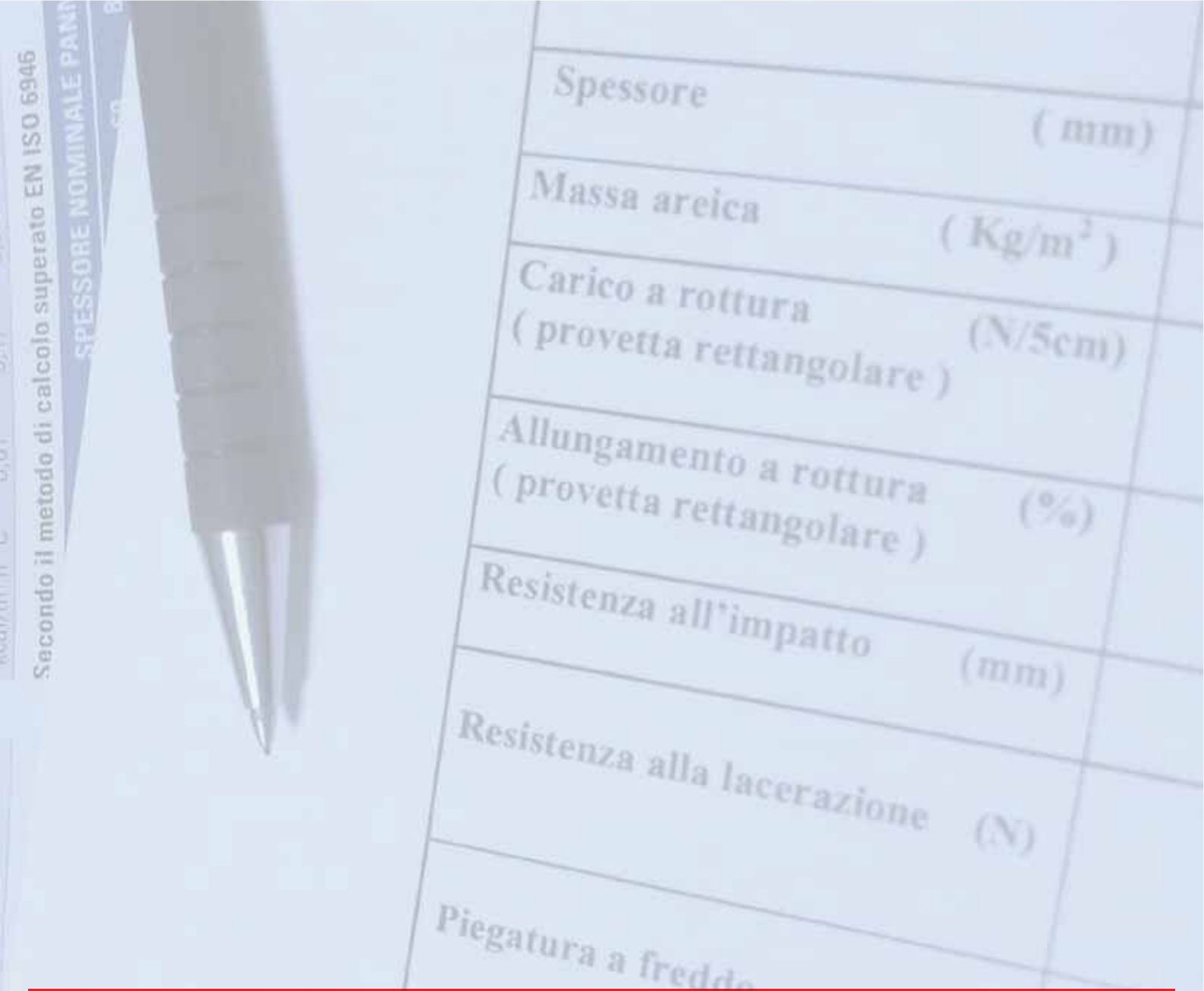
Lunghezza	L≤3 m: ± 6 mm L>3 m: ± 10 mm
Larghezza utile	± 2 mm
Spessore	Ds≤100 mm: ± 2 mm Ds>100 mm: ± 3 mm
Deviazione dalla perpendicolarità	6 mm
Disallineamento dei paramenti metallici interni	
Accoppiamento lamiere interiori	

Dove L è la lunghezza, D è lo spes… …accoppia…

ISOLAMENTO TERMIC…

Secondo la nuov… …A.10

U	SPESSORE NOMINALE PANNEL…			
	40	50	60	80
W/m² K	0,54	0,44	0,37	0,28
kcal/m² h °C	0,47	0,38	0,32	0,24



Certifications

ATTENTION

Performance declared in the following tables, associated with the available insulating materials, may vary depending on the Production Plant, in accordance with current National and Local standards.
Please check by contacting Isopan.

If not specifically requested, no performance will be provided.

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Performance declared in the following tables, associated with the available insulating materials, may vary depending on the Production Plant, in accordance with current National and Local standards. Please check by contacting Isopan. If not specifically requested, no performance will be provided.

Fire Performance - Roof Panels

INDICATIONS

- Not produced
- Without certification
- ✓ Certified performance
- ✓ Performance available (Certification extension)
- ✓ Performance available Technical declaration)
- M.W. Mineral Wool
- PU PIR Poliurethane

	INSULATION	PANEL	PANEL NOMINAL THICKNESS- mm															
FIRE REACTION			30	35	40	50	60	70	72	80	92	100	102	120	140	150	170	180	200
A2 s1 d0	M.W.	Isofire Roof				✓	✓			✓		✓		✓		✓	✓		✓
		Isofire Roof Fono				✓	✓			✓		✓		✓		✓	✓		✓
B s1 d0	M.W.	Isodeck PVSteel MW				✓	✓			✓		✓		✓		✓	✓		✓
	PIR [1]	Isodeck PVSteel PU	✓		✓	✓	✓			✓		✓		✓		✓			
		Isocop	✓		✓	✓	✓			✓		✓		✓		✓			
		Isotego	✓		✓	✓	✓			✓		✓		✓					
		Isotap	✓		✓	✓	✓			✓		✓							
B s2 d0	PIR	Isocop	✓		✓	✓	✓			✓		✓		✓		✓			
		Isotego	✓		✓	✓	✓			✓		✓		✓					
		Isodeck PVsteel PU	✓		✓	✓	✓			✓		✓		✓		✓			
		Isodomus Superior	✓		✓	✓	✓			✓		✓		✓					
		Isocop Multifunzione	✓		✓	✓	✓			✓		✓		✓		✓			
		Isotap	✓		✓	✓	✓			✓		✓							
		Isovela					✓	✓		✓									
B s3 d0	PU	Isocop	✓		✓	✓	✓												
C s3 d0	PU	Isocop								✓		✓		✓		✓			
		Isotego								✓		✓		✓					
		Isotap	✓		✓	✓	✓			✓		✓		✓					
		Isodeck PVSteel PU	✓		✓	✓	✓			✓		✓		✓		✓			

Fire reaction Class achieved according to EN 13501-1 and EN 14509/2013.

(1) SPECIAL FORMULA - For further information, please contact Isopan.

FIRE RESISTANCE			30	35	40	50	60	70	72	80	92	100	102	120	140	150	170	180	200
REI 240	M.W.	Isofire Roof																	✓
REI 180	M.W.	Isofire Roof [1]										✓		✓		✓	✓		
REI 120	M.W.	Isofire Roof										✓		✓		✓	✓		
	M.W.	Isofire Roof-Fono												✓		✓	✓		✓
	M.W.	Isodeck PVSteel MW [1]												✓		✓	✓		✓
REI 60	M.W.	Isofire Roof								✓									
		Isofire Roof-Fono								✓		✓		✓		✓	✓		✓
REI 30	M.W.	Isofire Roof				✓	✓												
	PIR	Isodomus Superior [1]										✓		✓					
	PIR	Isocop [1]								✓		✓		✓		✓			
REI 15	PIR	Isodeck PVSteel [1]										✓		✓		✓			
	PIR	Isocop [1]					✓			✓									
	PU	Isocop [1]								✓		✓		✓		✓			

Fire Resistance Class achieved according to 13501-2 and EN 14509/2013

(1) Performance achievable according to Assembly Instruction

BROOF			30	35	40	50	60	70	72	80	92	100	102	120	140	150	170	180	200
Broof (t2)	PU	Isodeck PVSteel (PU ; MW)										✓		✓		✓			
		Isotap	✓		✓	✓	✓			✓		✓							
		Isovetro	✓		✓	✓	✓			✓									
Broof (t3)	PU	Isocop	✓		✓	✓	✓			✓		✓		✓		✓			
		Isodomus Classic; Superior	✓		✓	✓	✓			✓									
		Isogrecata	✓		✓	✓	✓			✓		✓		✓					
		Isocop Multifunzione			✓	✓	✓			✓		✓		✓					
		Isoray			✓	✓	✓			✓		✓		✓					
Broof (t4)	PU	Isocop	✓		✓	✓	✓			✓		✓		✓					

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Performance declared in the following tables, associated with the available insulating materials, may vary depending on the Production Plant, in accordance with current National and Local standards. Please check by contacting Isopan. If not specifically requested, no performance will be provided.

Fire Performance - Wall Panels

INDICATIONS

- Not produced
- Without certification
- ✓ Certified performance
- ✓ Performance available (Certification extension)
- ✓ Performance available Technical declaration)
- M.W. Mineral Wool
- PU PIR Poliurethane

	INSULATION	PANEL	PANEL NOMINAL THICKNESS- mm																	
FIRE REACTION			30	35	40	50	60	70	72	80	92	100	102	120	122	140	150	170	180	200	240
A2 s1 d0	M.W.	Isofire Wall				✓	✓			✓		✓		✓			✓	✓		✓	✓
		Isofire Wall Fono				✓	✓			✓		✓		✓			✓	✓		✓	✓
		Isofire Wall Plissé				✓	✓			✓		✓		✓			✓	✓		✓	
B s1 d0	PIR [1]	Isofrozen, Isofrozen HT								✓		✓		✓			✓		✓	✓	✓
		Isobox, Isopiano	✓	✓	✓	✓	✓			✓		✓		✓							
		Isoparete Plus 2			✓	✓	✓			✓		✓		✓							
		Isoparete (Plissè, Box, Piano)					✓			✓		✓		✓		✓					
		Isoparete Evo					✓			✓		✓		✓			✓				
		Isoclass							✓		✓		✓		✓						
B s2 d0	PIR	Isobox, Isopiano, Isorighe	✓	✓	✓	✓	✓			✓		✓		✓							
		Isoparete (Plissè, Piano, Box)					✓			✓		✓		✓		✓					
		Isoparete Evo					✓			✓		✓		✓			✓				
		Isoparete Plus 2			✓	✓	✓			✓		✓		✓							
		Isoclass							✓		✓		✓		✓						
		Isofrozen, Isofrozen HT								✓		✓		✓			✓		✓	✓	✓
	PU	Isofrigo G.I. (Giunto Iniettato)										✓		✓			✓		✓	✓	
		Isoparete (Plissè, Piano, Box)					✓			✓		✓		✓		✓					
		Isoclass							✓		✓		✓		✓						
B s3 d0	PU	Isobox, Isopiano, Isorighe	✓	✓	✓	✓	✓			✓		✓		✓							

Fire reaction Class achieved according to EN 13501-1 and EN 14509/2013.

(1) SPECIAL FORMULA - For further information, please contact Isopan.

FIRE RESISTANCE			30	35	40	50	60	70	72	80	92	100	102	120	122	140	150	170	180	200	240
EI 240	M.W.	Isofire Wall [1]																✓		✓	✓
EI 180	M.W.	Isofire Wall															✓	✓		✓	✓
EI 120	M.W.	Isofire Wall Plissè																		✓	
	M.W.	Isofire Wall										✓		✓			✓	✓		✓	✓
EI 90	M.W.	Isofire Wall Plissè															✓	✓			
EI 60	M.W.	Isofire Wall Plissè												✓							
	M.W.	Isofire Wall								✓		✓									
	PIR	Isofrozen, Isofrozen HT [1]																		✓	✓
EI 45	M.W.	Isofire Wall Plissè										✓									
EI 30	M.W.	Isofire Wall [1]				✓															
		Isofire Wall					✓			✓											
		Isofire Wall Plissé					✓			✓											
	PIR	Isoparete EVO										✓		✓			✓				
		Isoparete Plus-2										✓		✓							
		Isoparete (Plissè, Piano, Box)										✓		✓		✓	✓				
		Isobox, Isopiano, Isorighe [1]										✓		✓							
		Isofrozen, Isofrozen HT [1]										✓		✓			✓		✓		
EI 20	PIR	Isobox, Isopiano, Isorighe [1]					✓			✓		✓		✓							
		Isofrozen, Isofrozen HT [1]								✓											
		Isoparete (Plissè, Piano, Box) [1]										✓		✓		✓					
EI 15	M.W.	Isofire Wall				✓	✓														
EW 240	M.W.	Isofire Wall [1]															✓	✓		✓	
EW 60	PU	Isobox, Isopiano, Isorighe [1]								✓		✓		✓							
SPECIAL INSTALLATION																					
EI 240	M.W.	Isofire Roof (Uso Parete)															✓	✓		✓	
EI 60	M.W.	Isofire Roof (Uso Parete)								✓		✓		✓			✓	✓		✓	
EI 15	M.W.	Isofire Wall (Controsoffitto)								✓		✓		✓			✓	✓		✓	✓
	PIR	Isobox, Piano, Righe [1] (Controsoffitto)					✓			✓		✓		✓							

Fire Resistance Class achieved according to 13501-2 and EN 14509/2013

(1) Performance achievable according to Assembly Instruction

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Performance declared in the following tables, associated with the available insulating materials, may vary depending on the Production Plant, in accordance with current National and Local standards. Please check by contacting Isopan. If not specifically requested, no performance will be provided.

Acoustic Performance

INDICATIONS

- Not produced
- Without certification
- ✓ Certified performance
- ✓ Performance available (Certification extension)
- ✓ Performance available Technical declaration)
- M.W. Mineral Wool
- PU PIR Poliurethane

ROOF PANELS

SOUND INSULATION	INSULATING MATERIAL	PANEL	PANEL NOMINAL THICKNESS- mm																
			30	35	40	50	60	70	72	80	92	100	102	120	140	150	170	180	200
RW = 36 dB	M.W.	Isofire Roof FONO																	✓
RW = 35 dB	M.W.	Isofire Roof FONO								✓									
RW = 34 dB	M.W.	Isofire Roof FONO										✓		✓		✓	✓		✓
RW = 31 dB	M.W.	Isofire Roof FONO				✓	✓												
RW = 34 dB	M.W.	Isodeck PVSTEEL FONO										✓		✓		✓	✓		✓
RW = 34 dB	M.W.	Isofire Roof																	✓
RW = 30 dB	M.W.	Isofire Roof				✓													
RW = 29 dB	PIR	Isocop										✓		✓		✓			
RW = 24 dB	PU	Isodomus Superior			✓	✓	✓			✓									

SOUND ABSORPTION			30	35	40	50	60	70	72	80	92	100	102	120	140	150	170	180	200
αW = 1	M.W.	Isofire Roof FONO				✓	✓			✓		✓		✓		✓	✓		✓
	M.W.	Isodeck PVSTEEL FONO										✓		✓		✓	✓		✓

WALL PANELS

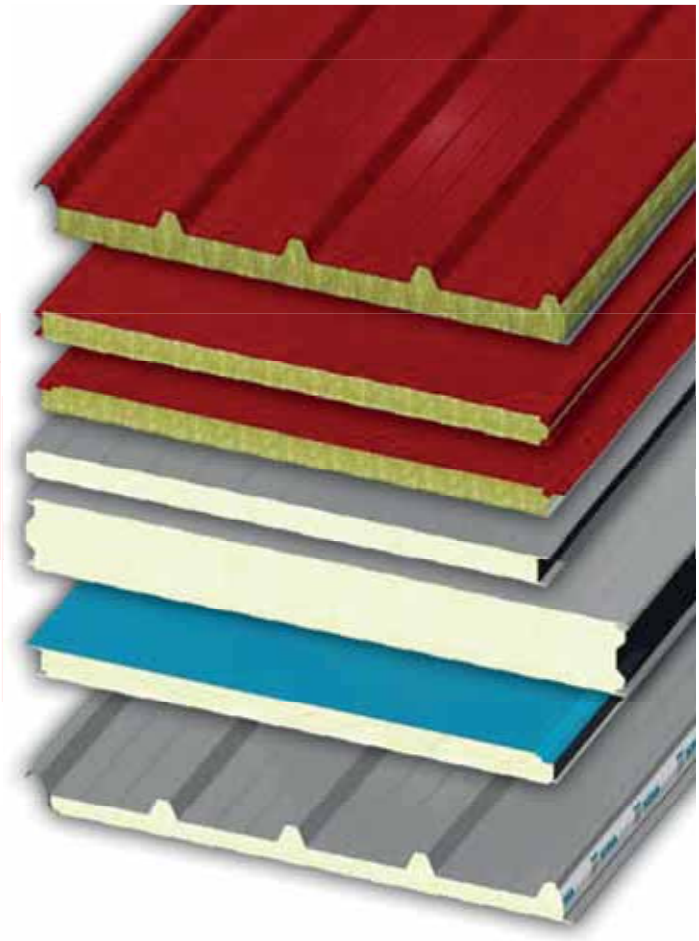
SOUND INSULATION			30	35	40	50	60	70	72	80	92	100	102	120	140	150	170	180	200	240
RW = 35 dB	M.W.	Isofire Wall FONO								✓		✓		✓		✓	✓		✓	
RW = 34 dB	M.W.	Isofire Wall FONO				✓	✓													
RW = 34 dB	M.W.	Isofire Wall														✓	✓		✓	✓
RW = 30 dB	M.W.	Isofire Wall								✓		✓		✓		✓	✓		✓	✓
RW = 29 dB	PIR	Isoparete Plissé										✓		✓	✓					

SOUND ABSORPTION			30	35	40	50	60	70	72	80	92	100	102	120	140	150	170	180	200
αW = 1	M.W.	Isofire Wall FONO				✓	✓			✓		✓		✓		✓	✓		✓

"FM APPROVED" Products

A NEW GOAL FOR MORE SAFETY AND MORE VALUE

FM Approved Certifications represents an important step for Isopan and Isocindu Productions Plants.
With FM Approved, Isopan certify the effectiveness and functionality of Sandwich Panels in highly severe environmental conditions, such as natural disasters and fire, through International and avvepted testing procedures.



Mineral Wool insulating sandwich panels:

- Isofire Roof FM
- Isofire Wall FM
- Isofire Wall Plissè FM

Polyisocyanurate (PIR) insulating sandwich panels

- Isobox FM
- Isofrozen FM
- Isoparete FM
- Isocop FM

FM STANDARDS ACHIEVED

N° 4471
Approval Standard for Class 1 Panel Roofs

N° 4880
Approval Standard for Class 1 Fire Rating of Building Panels or Interior Finish Materials

N° 4881
Approval Standard for Class 1 Exterior Wall System

For further Informations, please contact Isopan

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Colour range

Indications

Not available Standard | Available for external sheet support | Available for internal sheet support | Available for both metal supports

Colours available - ITALY Colours match the original colours within the limitations of printing	ISODOMUS (GAMMA)	ISOVELA (GAMMA)	ISOCOP	ISOGRECATA ISODECK	ISOSMART	ISOFIRE ROOF (GAMMA)	ISOBOX (GAMMA)	ISOPARETE	ISOPARETE PLUS	ISOCLASS	ISOFRIGO & ISOFROZEN	ISOFIRE WALL (GAMMA)
White simil-9010	●	●●	●●	●	●●	●●	●●	●●	●●	●●	●●	●●
White simil-9002		●	●	●		●			●●	●●	●●	
White Grey	●●	●●	●●	●	●●	●●	●●	●●	●●	●●	●●	●●
Light Ivory simil-1015							●●	●●	●●		●●	●●
Silver Alluminium simil-9006	●	●	●	●	●	●	●●	●	●	●	●	●
Grey Alluminium simil-9007	●	●	●	●	●	●	●●	●	●	●	●	●
Grey ancient	●	●	●	●	●	●			●	●		
Anthracite grey simil-7016	●	●	●	●	●	●	●	●●	●	●	●●	
Flame red simil-3000								●●	●●	●●	●●	●●
Oxide red simil-3009	●●	●	●●	●		●●						
Testa di Moro	●●	●	●●	●	●●	●●						
Gentian blue simil-5010		●	●	●	●	●●	●●	●●	●●	●●	●●	●●
Grey blue simil-5008		●	●	●		●						
Olive green simil-6003												
Moss green simil-6005		●	●	●	●	●	●●	●	●	●		●
Colza yellow simil-1021												
Rosso Coppo	●	●	●		●	●						
Reale Antico	●											
Antichizzato	●											
Alvero Ellenico	●											
Finto Legno Chiaro	●	●	●		●	●	●● (1)					
Finto Legno Scuro	●	●	●		●	●	●● (1)					

(1) Color not available for panels with flat support (ex: Isopiano)

IMPORTANT: The colours listed above represent the range available for Isopan Italy. For information about the current stock availability, support thicknesses that can be produced, non-standard colours, guarantees and types of supports, contact Isopan Spa. The colours may differ depending on the production lot, therefore the uniformity of shades can be guaranteed only on a single production lot.
The number code indicates the more similar RAL-code.

Services

1. Architectonical consulting on design
2. Static consulting on design
3. Consulting on the facing choice
4. Static tests on real scale
5. Technical consulting on product specificities
6. Technical consulting on product certifications
7. Technical consulting on product assembly and fixing
8. Technical consulting on certifications and REI product use
9. Calculation and sizing systems for thermal insulation with calculation report
10. Calculation and static sizing of sandwich panels in compliance with the UNI EN 14509 standard
11. Bending test (resistance to uniformly distributed load) on the product with test report
12. Bending test (resistance to concentrated load) on the product with test report
13. Bending test (resistance to permanent load) on the product with test report
14. Conditioning test in climatic room (temperature-time cycles) on the product with test report
15. Technical assistance on construction site with verification report

The services mentioned above are to be considered as an aid for designing; and in no case they can be considered as project executive elements.
Isopan S.p.A is absolutely not responsible if these services are used or integrated in a project without prior authorization.

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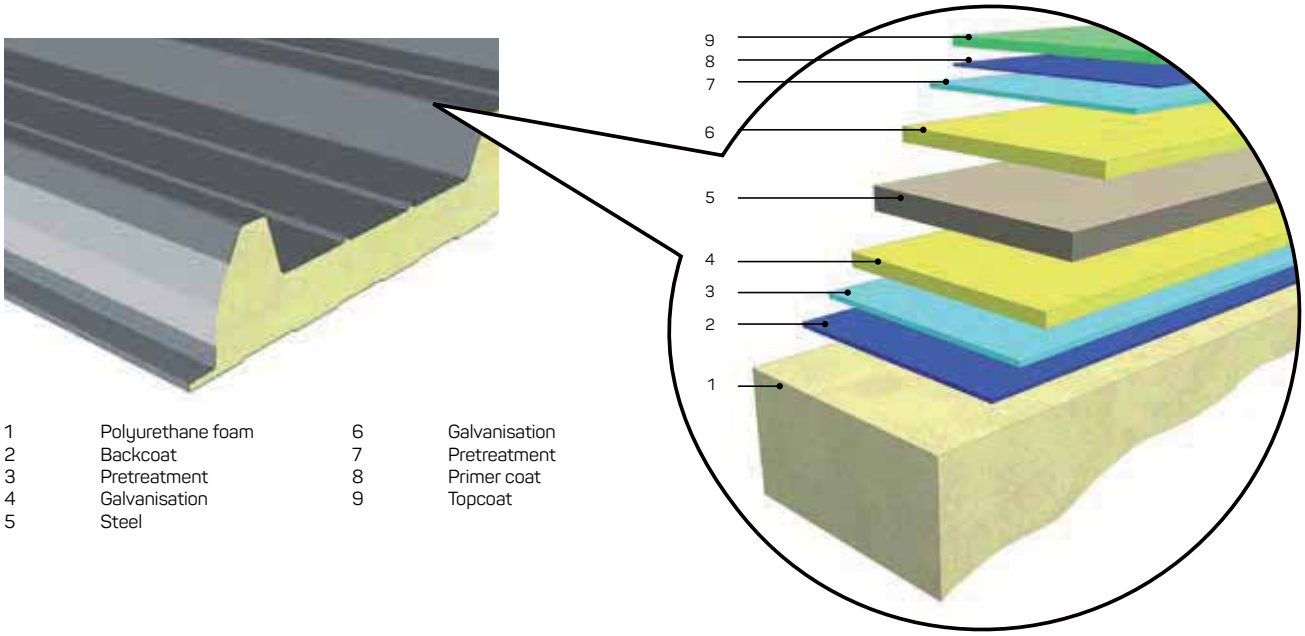
Guide to choose the perpainted facing

A steel prepainted product is generally composed of a steel substrate with a galvanised coating, of a surface treatment, a coat of paint called primer and a topcoat called finishing.



1	Polyurethane foam	6	Galvanisation
2	Backcoat	7	Pretreatment
3	Pretreatment	8	Primer coat
4	Galvanisation	9	Topcoat
5	Steel		

THE COATED FACES AND THE CHOICE OF USE

The final user and/or the designer must be helped to choose the fundamental characteristics of the panel and of its metal faces as defined in the "chose the prepainted facing" section of the catalogue.
The choice of the organic coating and its colour must be made considering the final-use of the product with a careful initial design.


CORROSION


CHEMICAL AGGRESSIONS


CONDENSATION


UV RAYS


ABRASION

BOTH METAL FACES

The designer must take into account that both panel faces are in contact with two very different environments. The external face will be in contact with the atmospheric pollution, the wind, the sun and the UV rays of the solar spectrum that, in addition to raising the temperature of the external metal face, have a chemical and physical action on the organic coatings. The internal surface will have a significantly lower temperature thanks to the thermal insulation of the panel, and will not be affected by the action of UV rays and by the direct action of the weather, but will have to do with the internal environment in terms of pollutants due to the production lines, condensation, contact with chemicals used in washing or coming from the vapours, and an

environment also completely different from the outside. The user must then consider these aspects before deciding the panel type and, above all, the metal face to use.
The choice of metal must be done according to some considerations, like the durability related to the environment where the constructions will be installed, the aesthetics and the economic aspect.
A wide range of metal faces can be offered by Isopan :
1) hot dip galvanized steels with different ranges of zinc, aluminium-zinc steels, prepainted steels.
2) Natural or prepainted aluminium, copper, stainless steel

THE PANEL PREPAINTED SHEETS

The prepainted sheets can be supplied on hot dip galvanized substrate or on aluminium.
General considerations: The prepainted steel sheets are part of the panel structural characteristics, thanks to the quality of the steel used, but significantly contribute to the panel durability, protecting the insulating core and giving a unique aesthetic value to the panel and the building, like the colour, the aesthetic and the long-lasting performances. The environmental changes together with the increase of industrial production and the urban pollution, made necessary a higher resistance to corrosion than for natural metals; for this reason, different solutions are available for each requirement and project.
The Isopan products are made with metal substrates faced with materials as described in the diagram.
The organic coating quality must be chosen following the diagram below, depending on the environment where the panels will be installed.

For further information, the designers and our clients are invited to consult our manual for the choice of prepainted metal faces.

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