

THE FUTURE OF BUILDING

IVKOVIĆ Investment Group



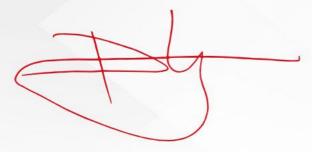




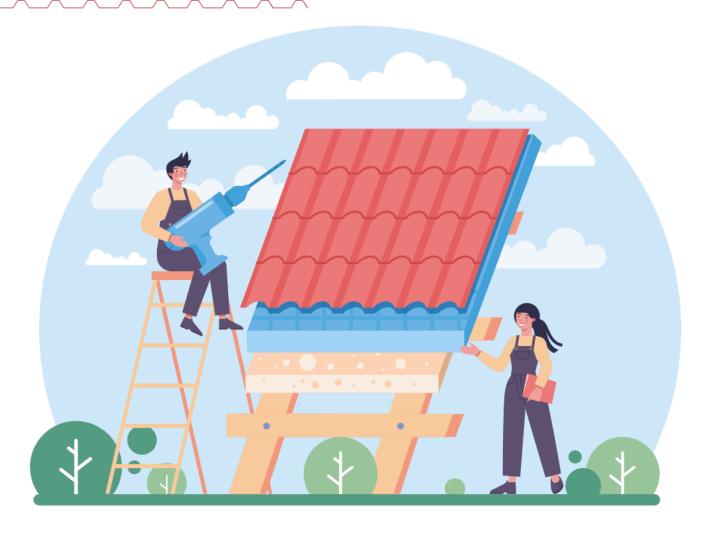
INTRODUCTION

Jugometal d.o.o. (Ivković Investment Group) was founded on January 5, 1990. That same year they began their cooperation with Smederevo Steel Plant - Železara Smederevo d.o.o. (HBIS GROUP Serbia Iron & Steel). Thanks to the years of continuous investment in the development of the company, people and market, today we represent the leading service center and the largest distributor in the field of laminated and galvanized color coated sheets on the Serbian market, with a long-lasting partnership with the world's largest factory, "Maanshan Iron & Steel". The company has successfully positioned itself not only in the Western Balkans, but also in other countries of the Southeast European region.

Today's market requires continuous growth and development. Investing in innovations is imperative for a sound and sustainable company development. As a logical part of the company's development strategy, we decided to take a new step and start investing in thermal insulation materials in the construction industry, which represents the company's new development strategy. In 2020, we have invested in the production of sandwich panels and the creation of a completely new brand, "TESLA PANELS", which is rapidly leading the future of modern construction.



ABOUT US



PLANT LOCATION & CHARACTERISTICS

"TESLA PANELS" plant is located 30 km from Belgrade in the modern industrial settlement of Šimanovci, next to the E75 Belgrade-Zagreb highway. It is equipped with the state-of-the-art technology of a renowned Italian machine manufacturer in this industry, with a capacity of over 3,000,000 m²/year (PIR and PUR) panels, and in the second phase of development (in 2024) a production line for STONE (MINERAL) WOOL sandwich panels will be installed, with a capacity of 1,000,000 m²/year, as well as a PIR panels production line, with a capacity of 200,000 m²/year.

"The application of sandwich panels is most common in logistics centers, shopping parks, shopping malls, modern residential and commercial buildings".

GOALS

Thanks to our extensive experience spanning more than 30 years, we are committed to preserving values, following and applying modern trends in business and adapting the process to the new customers' and employees' needs. To understand and listen to the needs of our customers and employees has always been the long-term and only sustainable goal of our company.

With this investment in the most modern sandwich panel plant in Southeast Europe, and with further continuous investments in thermal insulation materials, we want to position the "TESLA PANELS" brand as a leader in Southeast Europe in this industry by 2027.





STRATEGY AND INNOVATIONS

Constant innovations in products and processes, high quality standards, wide diversification of products and great customer care have made us a reliable partner for many local and international companies.

Product testing in accredited laboratories ensures high material quality standards, at the same time promoting the latest trends in chemical industry for the production and increasing application of sandwich panels for our consumers.

The production of "TESLA PANELS" is in perfect harmony with the environment. The panels consist of laminated sheets on both sides, an insulating core made from polyurethane or mineral wool, which are produced on the state-of-the-art lines in this industry thus allowing us to guarantee a low environmental impact.

In addition to the existing production, "TESLA PANELS" also plans to install a solar power plant to provide enough electricity for production that will have a favorable environmental impact.

APPLICATION

Thermal insulation panels are very light and characterized by excellent sound and heat insulation properties, high load capacity and a long service life which makes them extremely practical for the construction of modern buildings.

The application of sandwich panels is most common in: logistics centers, shopping parks, modern factories, shopping malls, cold storage rooms, business facilities, medical centers and many other similar facilities. Due to their good thermal insulation properties and the quality of the construction itself, not only are they a material that can be installed quickly, but they also regarded as money-saving by investors.

"The Company has successfully positioned itself in Croatia, Bosnia and Herzegovina, North Macedonia, Montenegro and Albania".





QUALITY

Our plant will produce panels with length ranging from 2m to 15m and thickness from 30mm to 200mm, depending on customer requirements.

Cutting-edge materials and raw materials from renowned global and European suppliers are used in the production, which guarantees high quality and product characteristics.

The main features of the panel are:

- · Thermal insulation
- · Fire resistance (PIR panels) and mineral wool panels
- · Sound isolation
- · Fast construction

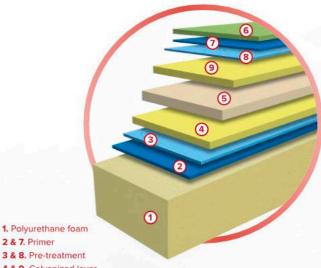
RULES FOR SANDWICH PANELS

- · Identify the product you want, whether it is for wall or roof use.
- · Identify aesthetic and architectural needs according to the project, choosing a customized product from the assortment of "TESLA PANELS".
- · Identify the structural needs according to the project, choosing the customized product and related fasteners after analyzing the load resistance.
- · Identify the fire resistance requirements for the type of panel you are interested in.
- · Identify the wall thermal/sound insulation requirements in terms of energy efficiency and savings.
- · Identify the best surface according to the degradation resistance of the exposed surfaces to maintain the structure durability.
- · Check that the delivery terms and quality standards of the panels are compatible with the project and site requirements.
- · Assign the installation phase to experienced and qualified personnel or a company to ensure that the installation is carried out properly and in accordance with the installation instructions.
- · Ensure that the standards for handling and storage of the panels specified by "TESLA PANELS" have been met.
- · Identify the correct and adapted maintenance and inspection plan to ensure proper durability of the structure according to the rules of "TESLA PANELS".



DESCRIPTION OF PANEL SHEETS

Galvanized laminated sheets consist of steel, a base with a galvanized coating, a surface layer, a paint called a primer and a final coating called a finish.



- 4 & 9. Galvanized layer
- 6. Galvanized primer for pre-treatment top layer

TYPES OF LAMINATION AND METHOD OF USE

The end user or architect may choose the basic characteristics of the panel according to our catalogue, as well as the type of color and quality of the base according to their requirements and the type of panel. The choice of organic coating and its color must be adequate for the final use of the product.

TESLA PANELS can offer a wide range of metal surfaces:

- Hot-dip galvanized sheets of various galvanizing ranges
- · Natural or painted aluminum
- · Stainless steel

Galvanized laminated sheets are part of the constructive features of the panel and, thanks to the steel quality, significantly contribute to panel durability, protecting the insulating core and ensuring a unique aesthetic value to the panel and the facility on which it is mounted.

Environmental changes, together with the increase in industrial production and urban pollution, have made it necessary that a greater resistance to corrosion be insured compared to natural materials, and for this reason different solutions are available for every requirement and project.

"Tesla Panels" products are made of galvanized laminated sheets as described in the diagram. The quality of the organic coating of galvanized sheets must be selected depending on the environment in which the panel will be installed.

For more information, contact our professional associates.

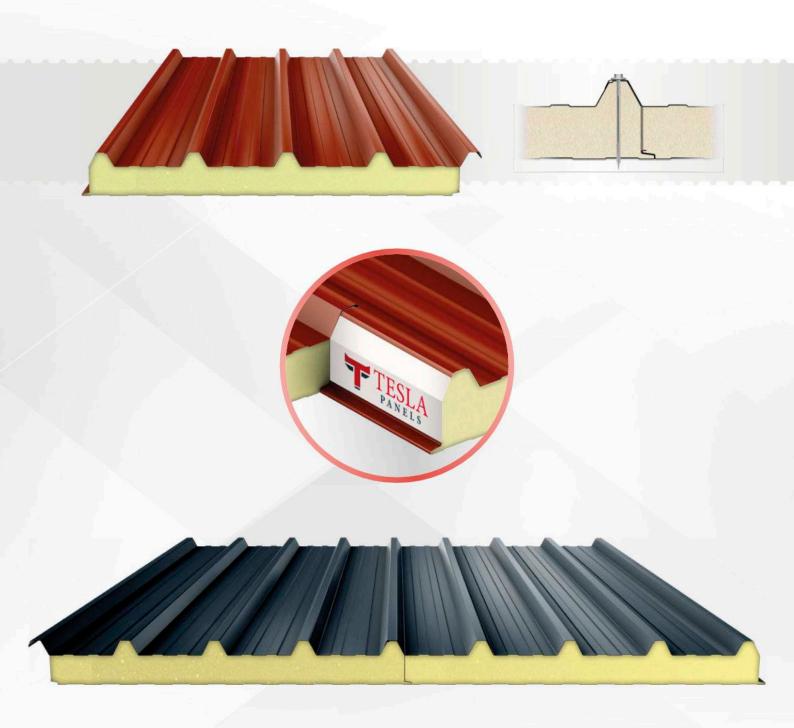






TYPES OF PANELS

TESLA TK5 - roof thermal insulation sandwich panel



TESLA TK5 - roof thermal insulation sandwich panel with polyurethane (PUR) or self-extinguishing polyurethane (PIR) core. The outer side of the panel is a 5-rib trapezoidal corrugated sheet and with corrugation on the inner side, which results in high load capacity of the panel.

Thickness: 30-40-50-60-80-100-120-150mm

Length: 2000mm - 15000mm



TK5	Pmax/L	. support system	7	,,,,		P	max						
	Panel	Maximum				Sup	port sp	acing L-	-*m1				Panel weight
	thickness (mm)	permissible load kg/m²	1,5	2	2,5	3,0	3,5	4	4,5	5,0	5,5	6	(kg/m²)
Outer side steel sheet	30	Pmax=	321	227	127	82	51						9,59
pb d = 0.5mm	40	Pmax=	360	239	159	118	85	66					9,99
	50	Pmax=	402	268	194	139	105	80	56				10,39
Inner side steel sheet	60	Pmax=	432	322	233	169	127	99	78	57			10,79
pb d = 0.4mm	80	Pmax=	566	412	309	233	170	140	107	78	64		11,59
	100	Pmax=	694	506	380	303	234	176	146	112	93	70	12,39
	120	Pmax=	828	625	490	373	292	227	194	155	122	99	13,19
Support width - 120mm	150	Pmax=	1027	764	607	490	379	303	245	198	165	140	14,39

TK5	Pmax/L	support system	ı(ı			Pi	max L						
	Panel	Maximum				Sup	port sp	acing L-	-*m1				Panel weigh
	thickness (mm)	permissible load kg/m²	1,5	2	2,5	3,0	3,5	4	4,5	5,0	5,5	6	(kg/m²)
Outer side steel sheet	30	Pmax=	362	383	191	102	67						9,59
pb d = 0.5mm	40	Pmax=	419	289	207	130	98	81					9,99
	50	Pmax=	456	332	232	166	127	98	73	54			10,39
Inner side steel sheet	60	Pmax=	536	398	294	210	169	129	87	71	55		10,79
pb d = 0.4mm	80	Pmax=	702	521	383	289	224	174	138	102	72	57	11,59
	100	Pmax=	861	644	504	376	289	232	181	151	115	87	12,39
	120	Pmax=	1027	766	636	463	362	283	232	187	151	123	13,19
Support width - 120mm	150	Pmax=	1272	947	779	593	470	376	304	246	210	174	14,39

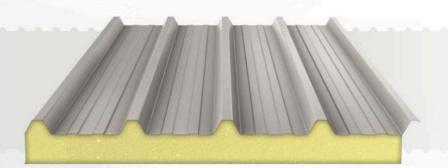
TK5			K - hea	at transfer	coefficie	nt			
	Panel thickness (mm)	30	40	50	60	80	100	120	150
	W/m² K	0,71	0,55	0,44	0,37	0,28	0,22	0,19	0,15
	Kcal/m²h °C	0,61	0,47	0,38	0,32	0,24	0,18	0,16	0,1

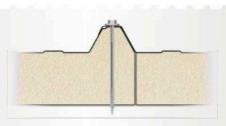
The calculation conforms to BAS EN 14509:2013

The bearing capacity is determined on the basis of two criteria: bolt clamping force=N/mm2

The criterion allows deflection Wdop=L/200mm

TESLA TK5 FARM - roof thermal insulation sandwich panels for farms







TESLA TK5 FARM - roof thermal insulation panel for special applications in the agricultural industry. It is produced only from polyurethane (PUR). They are most often used to cover farms. It consists of an outer covering made of laminated sheet and an inner layer made of fiberglass. The inner fiberglass layer provides the panel with high resistance to ammonia.

Thickness: 50mm

Length: 2000mm - 15000mm

WARNING!

All information given in the load diagrams refer to panel characteristics only. They cannot replace project calculations made by a qualified technician, who will apply the rules of the reference market.

All information about the characteristics of "TESLA PANELS" products, in terms of suitability, contained in this catalogue, on the website and in the information materials, must be checked by the customer whether they comply with the local regulations in the country where the product shall be installed.



TVF FADA	-		,	ļ		P	max					
TK5 FARM	Pmax/L	support system					L					
	Panel	Maximum permissible				Suppor	t spacin	g L*m1	l			Panel weight
	thickness (mm)	load kg/m²		1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00	(kg/m²)
Outer side steel sheet												
	50	Pmax=	601	383	265	189	125	85	626	45		7,4
Inner side steel sheet												
PRVF material												
Support width - 120mm												*

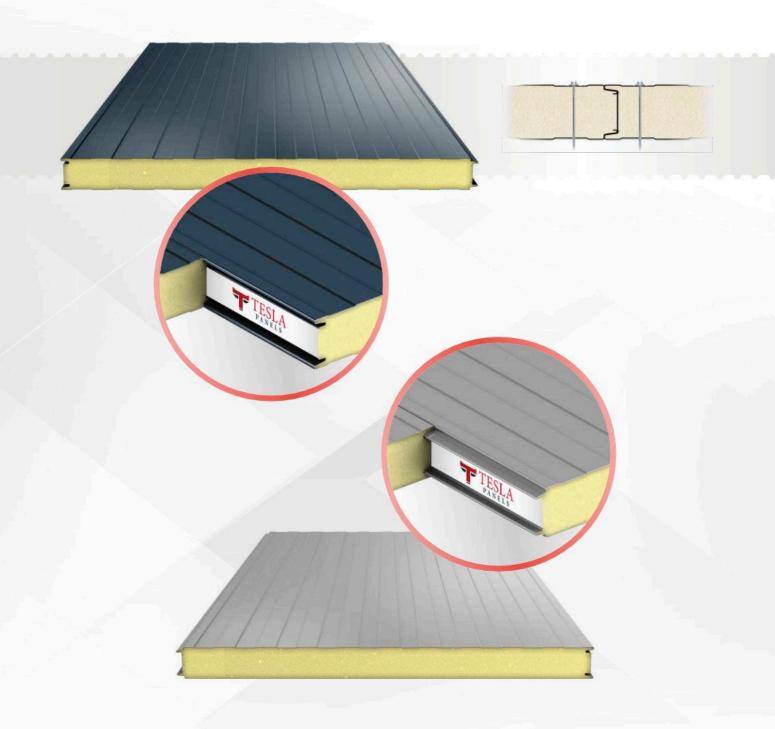
TUE FADA						Pi	max					
TK5 FARM	Pmax/L	support system				C	L					
	Panel	Maximum permissible				Suppor	t spacin	g L m				Panel weight
	thickness (mm)	load kg/m²	1,5	2	2,5	3,0	3,5	4	4,5	5,0	5,5	(kg/m²)
Outer side steel sheet												
	50	Pmax=	702	448	309	226	172	135	108	89	74	7,4
Inner side steel sheet												
PRVF material												
Support width - 120mm							-)					

TK5 FARM		K - heat transfer coefficient	
	Panel thickness (mm)	50	
	W/m² K	0,44	
	Kcal/m²h °C	0,38	

The calculation conforms to BAS EN 14509:2013

The bearing capacity is determined on the basis of two criteria: bolt clamping force=N/mm2

The criterion allows deflection Wdop=L/200mm



TESLA TVF - wall panel with visible screw and a core made of polyurethane (PUR) and self-extinguishing polyurethane (PIR) produced in a standard width of 1000 mm, but at the customer's request it can be produced up to 1200mm.

Thickness: 30-40-50-60-80-100-120-150-200mm Profiles: standard, micro and gladio (smooth)

Length: 2000mm - 15000mm















RAL9002

TFV	Pmax/L	support system	Pmax L										
	Panel	Maximum				Sup	port sp	acing L-	-*m1				Panel weight
	thickness (mm)	permissible load kg/m²	1,5	2	2,5	3,0	3,5	4	4,5	5,0	5,5	6	(kg/m²)
Outer side steel sheet	30	Pmax=	241	162	102	63							9,12
pb d = 0.5mm	40	Pmax=	272	185	135	95	68						9,52
	50	Pmax=	321	224	171	135	86	58					9,92
Inner side steel sheet	60	Pmax=	383	273	212	165	121	89	63				10,32
pb d = 0.4mm	80	Pmax=	495	359	288	224	162	121	94	62			11,12
	100	Pmax=	608	453	359	282	203	157	122	93	61		11,52
	120	Pmax=	732	547	435	341	249	191	151	121	95	76	12,72
Support width - 120mm	150	Pmax=	915	683	523	412	313	238	191	147	124	102	13,92
	180	Pmax=	1103	804	646	518	377	298	226	183	158	128	15,12
	200	Pmax=	1175	918	751	577	428	337	269	217	188	158	15,92

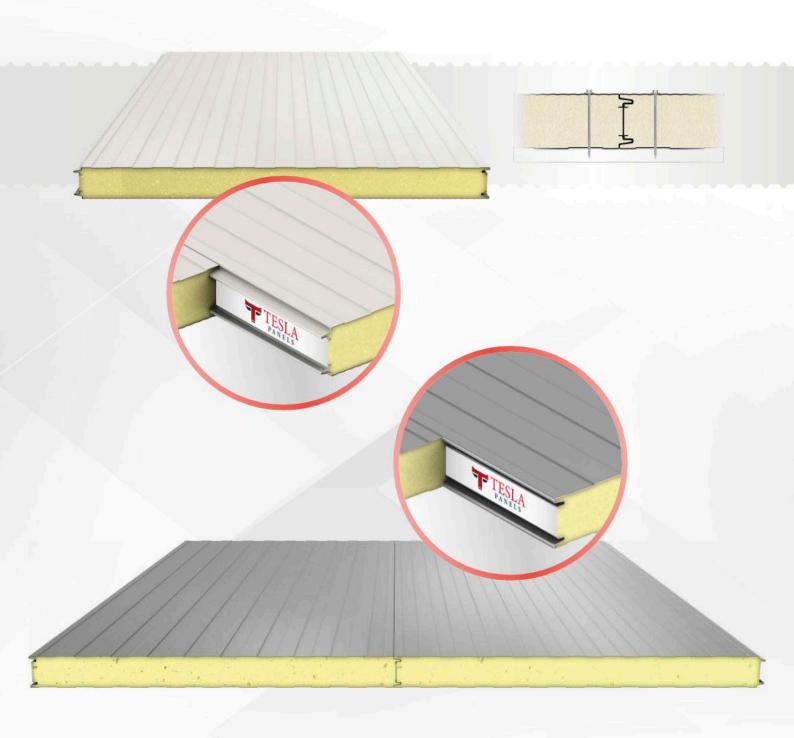
	i i					P	max						
TFV	Pmax/L	. support system					L						
	Panel	Maximum permissible				Sup	port sp	acing L-	-*m1				Panel weigh
	thickness (mm)	load kg/m²	1,5	2	2,5	3,0	3,5	4	4,5	5,0	5,5	6	(kg/m²)
Outer side steel sheet	30	Pmax=	205	130	108	81	55						9,12
pb d = 0.5mm	40	Pmax=	230	148	118	98	83	71					9,52
	50	Pmax=	289	189	148	127	106	89	71				9,92
Inner side steel sheet	60	Pmax=	348	230	183	155	130	100	83	65			10,32
pb d = 0.4mm	80	Pmax=	466	313	248	198	159	124	100	83	71		11,12
	100	Pmax=	584	395	313	242	189	148	124	100	89	74	11,52
	120	Pmax=	708	495	372	298	222	171	142	118	100	89	12,72
Support width - 120mm	150	Pmax=	867	596	455	356	277	211	165	142	118	106	13,92
	180	Pmax=	909	702	535	424	312	256	195	165	142	118	15,12
	200	Pmax=	1003	825	624	473	362	302	225	177	153	130	15,92

TFV		K - heat transfer coefficient									
	Panel thickness (mm)	30	40	50	60	80	100	120	150	180	200
	W/m² K	0,71	0,55	0,44	0,37	0,28	0,22	0,19	0,15	0,12	0,11
	Kcal/m²h °C	0,61	0,47	0,38	0,32	0,24	0,18	0,16	0,1	0,1	0,1

The calculation conforms to BAS EN 14509:2013

The bearing capacity is determined on the basis of two criteria: bolt clamping force=N/mm2

The criterion allows deflection Wdop=L/200mm



TESLA TFV+ - thermal insulating sandwich panel with a double joint that has been improved in the form of thermal characteristics of the panel.

Thickness: 120-150-200mm

According to the customer's request, possible thicknesses can range from: 40-50-60-80-100mm

Profiles: standard, micro and gladio (smooth)

Length: 2000mm - 15000mm



TFV	Pmax/L	. support system	i)	,,,,		P	max L					•	
	Panel	Maximum				Sup	port spa	acing L-	-*m1				Panel weight
	thickness (mm)	permissible load kg/m²	1,5	2	2,5	3,0	3,5	4	4,5	5,0	5,5	6	(kg/m²)
Outer side steel sheet					8								j
pb d = 0.5mm													
Inner side steel sheet													
pb d = 0.4mm													
Support width - 120mm													
	200	Pmax=	1175	918	751	563	433	337	269	217	188	158	16,8

The calculation conforms to BAS EN 14509:2013

The bearing capacity is determined on the basis of two criteria: bolt clamping force=N/mm2

The criterion allows deflection Wdop=L/200mm

WARNING!

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TESLA TFV FRIGO - pvanels for controlled environments or frigo panels are used as ceiling or wall panels for chambers and cold rooms in which it is necessary to maintain a constant temperature. All the advantages of this joint then become clearly articulated. They can be produced with polyurethane (PUR) and self-extinguishing polyurethane (PIR) core.

Thickness: 150-200-220mm

Profiles: standard, micro and gladio (smooth)

Length: 2000mm - 15000mm

WARNING!

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All information about the characteristics of "TESLA PANELS" products, in terms of suitability, contained in this catalogue, on the website and in the information materials, must be checked by the customer whether they comply with the local regulations in the country where the product shall be installed.



TFV	Pmax/L	. support system	1	<u>,</u>		P	max L						
	Panel	Maximum				Sup	port sp	acing L-	-*m1				Panel weight
	thickness (mm)	permissible load kg/m²	1,5	2	2,5	3,0	3,5	4	4,5	5,0	5,5	6	(kg/m²)
Outer side steel sheet													
pb d = 0.5mm													
Inner side steel sheet													
Support width - 120mm													Ī
	200	Pmax=	1003	825	624	473	362	302	225	177	153	130	16,8

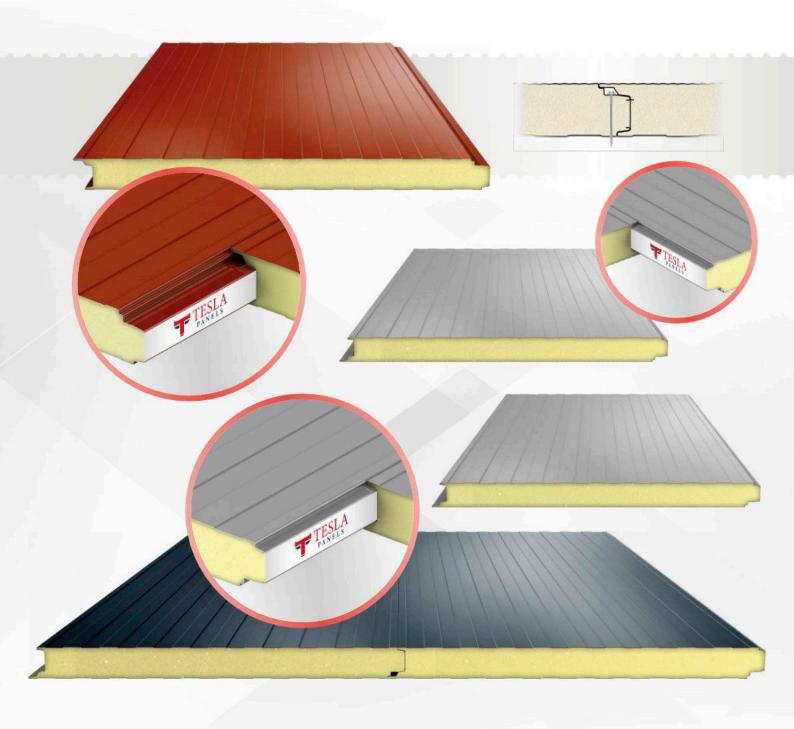
TFV	K - heat transfer coeff	cient
	Panel thickness (mm)	200
	W/m² K	0,11
	Kcal/m²h °C	0,1

The calculation conforms to BAS EN 14509:2013

The bearing capacity is determined on the basis of two criteria: bolt clamping force=N/mm2

The criterion allows deflection Wdop=L/200mm

TESLA TFH - wall thermal insulation sandwich panels with a hidden joint



TESLA TFH - wall panel with hidden screw and polyurethane (PUR) or self-extinguishing polyurethane (PIR) core. A sandwich panel with a hidden joint meets the strictest aesthetic requirements (during assembly, the screw remains hidden in the panel joint).

Thickness: 40-50-60-80-100-120mm

Profiles: standard, micro and gladio (smooth)

Length: 2000mm - 15000mm















RAL9002

RAL9006

RAL7016

RAL6028

RAL5010

TFH	Pmax/L	support system		,,,,,			L L						
	Panel	Maximum	Support spacing L*m1									Panel weight	
	thickness (mm)	permissible load kg/m²	1,5	2	2,5	3,0	3,5	4	4,5	5,0	5,5	6	(kg/m²)
Outer side steel sheet	30	Pmax=	241	162	102	63							9,12
pb d = 0.5mm	40	Pmax=	272	185	135	95	68						9,52
	50	Pmax=	321	224	171	135	86	58					9,92
Inner side steel sheet	60	Pmax=	383	273	212	165	121	89	63				10,32
pb d = 0.4mm	80	Pmax=	495	359	288	224	162	121	94	62			11,12
	100	Pmax=	608	453	359	282	203	157	122	93	61		11,52
	120	Pmax=	732	547	435	341	249	191	151	121	95	76	12,72
Support width - 120mm													

TFH	Pmax												
	Pmax/L support system						L			-S			
	Panel	Maximum permissible load kg/m²	Support spacing L*m1									Panel weight	
	thickness (mm)		1,5	2	2,5	3,0	3,5	4	4,5	5,0	5,5	6	(kg/m²)
Outer side steel sheet	30	Pmax=	205	130	108	81	55						9,12
pb d = 0.5mm	40	Pmax=	230	148	118	98	83	71					9,52
	50	Pmax=	289	189	148	127	106	89	71				9,92
Inner side steel sheet	60	Pmax=	348	230	183	155	130	100	83	65			10,32
pb d = 0.4mm	80	Pmax=	466	313	248	198	159	124	100	83	71		11,12
	100	Pmax=	584	395	313	242	189	148	124	100	89	74	11,52
	120	Pmax=	708	495	372	298	222	171	142	118	100	89	12,72
Support width - 120mm													

TFH	K - heat transfer coefficient										
	Panel thickness (mm)	40	50	60	80	100	120				
	W/m² K	0,55	0,44	0,37	0,28	0,22	0,19				
	Kcal/m²h °C	0,47	0,38	0,32	0,24	0,18	0,16				

The calculation conforms to BAS EN 14509:2013

The bearing capacity is determined on the basis of two criteria: bolt clamping force=N/mm2

The criterion allows deflection Wdop=L/200mm

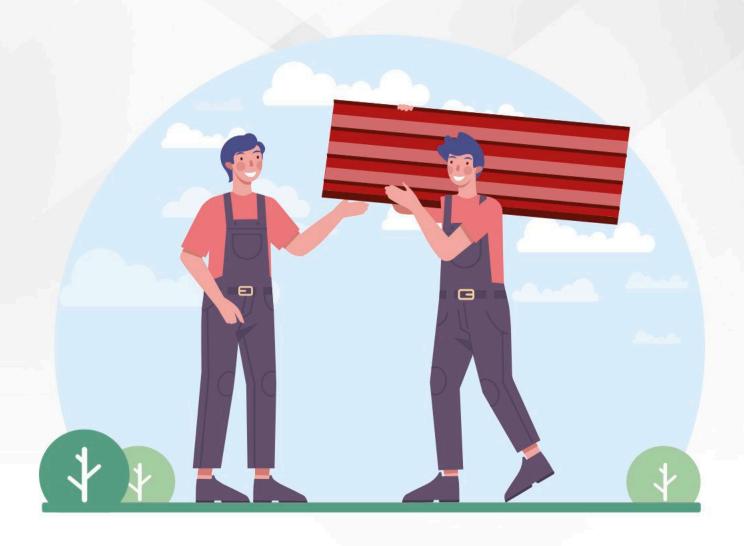


YOUR TRUST IS **OUR IMPERATIVE.**

The technical instructions and guidelines of TESLA PANELS should be adhere to for storage, transport and installation of facade and roof panels. In particular, you should consider the following:

- · Mechanical damage to panels permanently impairs the aesthetic appearance of the facade.
- The protective film on the surface of the panel can be damaged if exposed to UV rays and heat.
- · Remove the protective film immediately before or after installing the panel, failure to comply with the recommendations results in failure to remove the film from the panel surface.
- To cut panels only use scissors and special tools for panel cutting.

- · Grinders, drills and similar tools must not be used for panel cutting the use of which results in overheating of the sheet or the creation of filings that cause damage to the sheet protective layer and cause corrosion at the damaged spot.
- Roof panels are attached with self-tapping screws exclusively on the ribbed part using storm washers.
- · The screws must be optimally fastened to avoid panel deformation.
- · It is mandatory to install EPDM tapes on the joints of the roof panels (folds).
- In order not to damage the aesthetics of the facade, when installing the panels, take care of the width of the grouts, dilatations, and joints.



TESLA PANELS



We achieve high quality, reliability and safety by complying with the following standards:

- EN 14509:2014 European standard that defines the quality of production, the quality of the manufactured panel and the safety of the panel for use.
- · ISO 9001:2015 is an internationally recognized standard that provides a framework for implementing a quality management system.
- ISO 14001:2015 international standard that requires that organizations address environmental issues.
- ISO 45001:2018 occupational health and safety management system.
- · ISO/IEC 27001:2013 information security management systems.





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