





Five generations of experience assure our expertise in sheet metal forming. From wrought iron, forged by the blow of a hammer on an anvil, to the incorporation of the latest technologies that have transformed the carbon steel sector, our philosophy has been the same: "To provide sustainable solutions in steel to meet the needs of our customers."

MAGON ACEROS is a family company of MAGON EMPRESAS, a group of companies organized to cover the different technical, functional and aesthetic needs of customers in the steel sector.

Our company is becoming increasingly global, with a presence in more than 20 countries on 5 continents. With 28,000 m² of facilities, 15 profiling lines and 5 folding lines, we offer solutions in steel for the construction, agricultural and photovoltaic sectors.

All of our products meet the criteria of excellence and are regulated by innovative processes aimed at optimizing the efficient use of resources and respect for the environment.

At MAGON ACEROS our success has been supported by our commitment to:

- PEOPLE
- SUSTAINABILITY
- SOCIAL RESPONSIBILITY
- EXCELLENCE
- INNOVATION
- GROWTH AND STRENGTH
- CUSTOMER ORIENTATION

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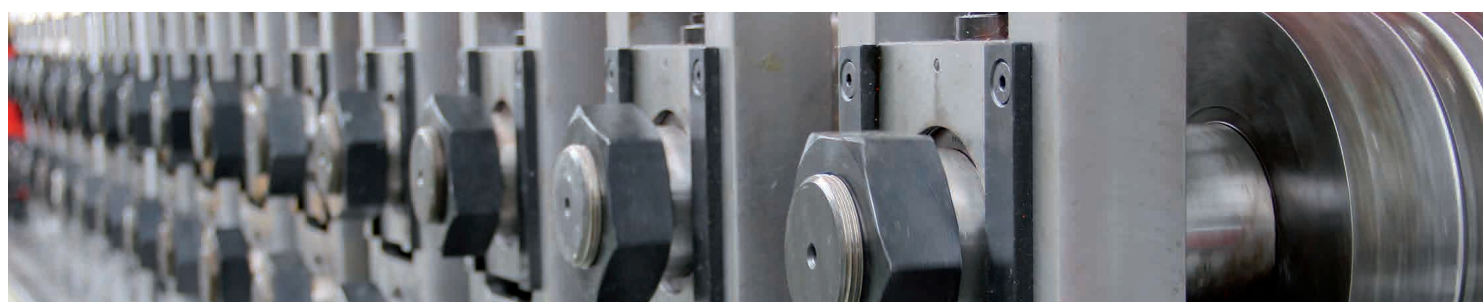
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What is steel?

Steel is an alloy of iron and carbon.

The traditional process for obtaining steel is based on two main elements: iron and coking coal. By melting them in blast furnaces, pig iron is obtained, an alloy of iron and carbon which is very brittle due to its high carbon content. That is why the next step is to remove excess carbon. This process is carried out in converters, where by blowing oxygen into the molten pig produces iron, steel with the desired percentage of carbon is produced.

Currently, obtaining steel through the use of electric furnaces is becoming increasingly important worldwide. This is due to the fact that the main raw material is scrap metal, which virtually eliminates any pollution generated.

Later, in both cases, the molten steel goes to the refining furnace, where the alloy is adjusted by incorporating the necessary alloying agents.



Carbon or construction steels

The so-called carbon steels, also known as construction steels or structural steels, are those in which the alloys present in the iron are limited. In addition to the previously mentioned carbon, alloying agents are limited to those necessary for their production, such as silicon and manganese, and others that are considered due to the difficulty of totally excluding them, such as sulphur or phosphorus.

Carbon steels differ, therefore, from alloy steels in that other elements are added to the latter. These alloying elements are added during the refining process in order to modify the properties of the steel.

Steel properties

Mechanical strength:

One way to define the mechanical resistance of steel is by its elasticity and plasticity values, which are determined by the elastic limit of the material. Elasticity is the ability of steel to retain its shape after being subjected to stress, so when the load is removed, the deformation disappears. Once the elastic region has been exceeded, the steel will enter the plasticity region, in which the deformation under the load is permanent. The plasticity of steel allows us to anticipate plastic breakage, as opposed to brittle breakage, which occurs suddenly.

The usual elastic limit of construction steels ranges from 220 MPa to 275 MPa.

Hardness:

Hardness is defined as the resistance of a metal to being scratched and cut on its surface. In general, the more carbon or alloys the steel has, the harder it is. To verify the degree of hardness, tests in Brinell units (HB) or Rockwell C units (HRC) are generally used.

The hardness of a hot rolled low-carbon construction steel is about 135 HB, while for cold rolled steels the hardness increases to about 160 HB.

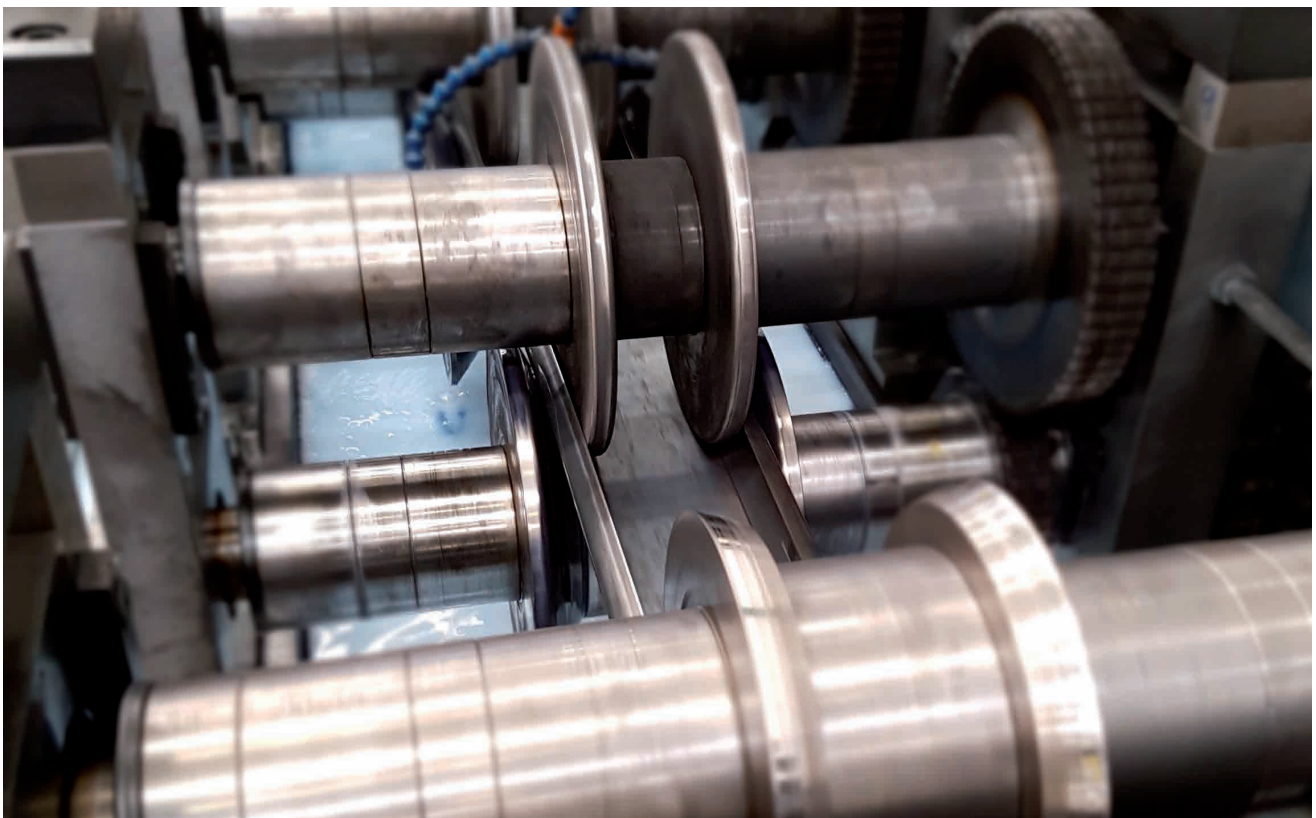
Welding:

The weldability of steel depends on its chemical composition, that is, on the percentage of carbon and other alloying elements.

Structural steels can be welded. Therefore, they have the advantage of being able to make joints or connections by welding.

Resistance to corrosion:

The corrosion resistance of steel varies depending on the climate conditions where the steel is located. Therefore, in most situations where steel is exposed to the elements, it is necessary to work with steels that have a metallic coating to improve resistance to corrosion.





All our products are CE marked, which certifies that our profiles comply with current European legislation.



Calle Persiles y Segismunda s/n 45221 ESQUIVIAS (TOLEDO)		DECLARACIÓN DE PRESTACIONES Nº1035-CPR-ES102896																																					
Albarán: _____																																							
1.- Nombre y código del producto MG 60/220 Canto 60 mm		2.- Clase de ejecución Componentes con clase de ejecución EXC2.																																					
3.- Uso previsto Construcción de forjados en todo tipo de edificaciones, viviendas, naves industriales, locales comerciales y obra pública, para el sustento del hormigón.																																							
4.- Condiciones de uso: Según especificaciones de proyecto. La estructura portante puede ser metálica, hormigón u obra de albañilería. La superficie total del apoyo de la losa sobre la viga metálica debe ser al menos de 75mm, siendo el apoyo mínimo del perfil de 50mm.																																							
5.- Sistema de evaluación y verificación de la constancia de las prestaciones Sistema 2+		5.- Declaración de empresa certificadora BUREAU VERITAS IBERIA, certifica que el control de producción en fábrica cumple los requisitos establecidos en la norma armonizada EN 1090-1:2009+A1 según nº de certificado 1035-CPR-ES102896																																					
6.- Prestaciones declaradas																																							
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Fdo: Javier Santamaría Fernández Responsable de Calidad																																							

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MAGON METALES PERFILADOS S.A. C/ Persiles y Segismunda s/n 45221 ESQUIVIAS (TOLEDO)	
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DECLARACIÓN DE PRESTACIONES Nº 1035-CPR-ES102896	
EN 1090-1:2009+A1:2011	
MG 60/220	
CHAPA DE ACERO GALVANIZADO DESTINADO A LA CONSTRUCCIÓN DE FORJADO DE TODO TIPO DE CONSTRUCCIONES	
ORGAISMO NOTIFICADO BUREAU VERITAS (Nº1035)	
CARACTERÍSTICAS ESENCIALES	
Tolerancias dimensionales	Acorde UNE-EN-1090-2 (Clase tolerancia 1)
Soldabilidad	S220GD
Tenacidad a la fractura	S220GD
Capacidad portante	SEGÚN FICHA TÉCNICA
Deformación en el estado límite de servicio	SEGÚN FICHA TÉCNICA
Resistencia a la fatiga	SEGÚN FICHA TÉCNICA
Reacción frente al fuego	A1
Emisión de cadmio y sus compuestos	CUMPLE
Emisión de radioactividad	CUMPLE
Durabilidad	Galvanizado en caliente. Z200 g/m3 ambas caras

Applicable regulations

UNE-EN 10346:2015	Continuously hot-dip coated steel flat products for cold forming. Technical delivery conditions.
UNE-EN 10143:2007	Continuously hot-dip coated steel sheet and strip. Tolerances on dimensions and shape.
UNE-EN 10169:2011+A1:2012	Continuously organic coated (coil coated) steel flat products. Technical delivery conditions.
UNE-EN 508-1: 2014	Roofing and cladding products from metal sheet. Specification for self-supporting of steel, aluminium or stainless steel sheet. Part 1: Steel.
UNE-EN 14782: 2006	Self-supporting metal sheet for roofing, external cladding and internal lining. Product specification and requirements.
UNE-EN 10162: 2005	Cold rolled steel sections. Technical delivery conditions. Dimensional and cross-sectional tolerances.
UNE-EN 10340: 2008	Steel castings for structural uses.
UNE-EN 1090-1: 2011 + A1: 2012	Execution of steel structures and aluminium structures. Part 1: Requirements for conformity assessment of structural components.
UNE-EN 1090-2: 2019	Execution of steel structures and aluminium structures. Part 2: Technical requirements for steel structures. Execution of steel structures and aluminium structures.
UNE-EN 1090-4: 2019 Part 4:	Technical requirements for cold-formed structural steel elements and cold-formed structures for roof, ceiling, floor and wall applications.

Zero emission manufacturing

The objective of MAGON ACEROS is to contribute to a global path towards a world without emissions. Therefore, our production processes use zero polluting emissions and low energy consumption. In addition, the products we manufacture help to achieve a world with less CO₂ produced and more efficient in terms of resources.

Furthermore, the weight-to-strength ratio of steel makes it possible to erect structures with high values of mechanical resistance using low-weight steel components. This guarantees, compared to other construction systems, a significant reduction in emissions throughout the supply chain, but especially in final transportation and installation on site.



MAGON ACEROS commitment to the environment translates into:

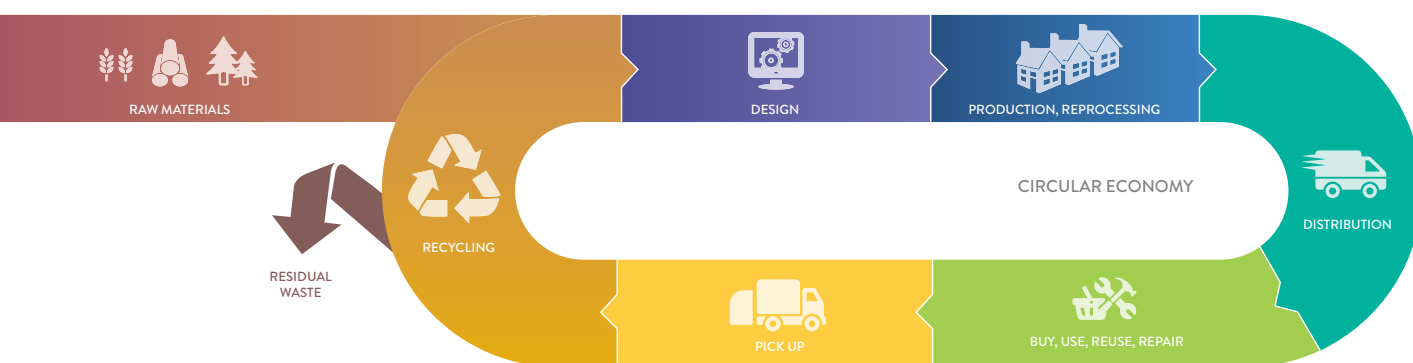
- **0% CO₂ emissions:** As we use cold transformation processes for steel, no polluting emissions are generated.
- **Low energy consumption:** We are constantly innovating with our production processes, seeking to minimize our energy impact.
- **Renewable energy:** We promote renewable energies, supplying products that reduce their installation costs. Our products provide high durability, guaranteeing the suitability of renewable energy installations for many years.
- **Lower consumption of materials and conservation of natural resources:** Thanks to the engineering advantages of lightweight structures, fewer resources are consumed both at origin and destination.



Contribution to sustainability

The current circumstances of society and the planet require more sustainable products. As steel is the most recycled material in the world, at MAGON ACEROS we believe in the principles of a circular economy, which help to minimize waste generated by using the following principles:

- **Sustainable raw materials:** the recycled material content of our raw materials can reach, depending on the production process, up to 90%. It is important to mention that recycling a ton of steel avoids the emission of a ton of CO₂.
- **Innovation:** We are in a process of continuous change, investing in new technologies which allow us to optimize our processes to generate minimal waste and 100% recyclable.



- **Production:** We work to optimize our processes. In addition, custom manufacturing for each client's project allows us to reduce waste in manufacturing and the environmental impact on the worksite.
- **Distribution:** We optimize the loads of our products, thus minimising our use of transport, seeking efficiency in the supply chain.
- **Reuse:** All of our products are easily removable and can be recycled, turning waste into a resource.
- **Recycling:** Steel can be recycled as many times as necessary without losing its properties. Approximately 98% of our steel products are recoverable through recycling processes. Thus, for every ton of steel that is recycled, a ton and a half of iron ore, 85% of the water, 80% of the energy and 95% of the coal are saved.

CONSTRUCTION SECTOR :



CONSTRUCTION SECTOR:

○ PROFILES FOR ROOFS & WALLS

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CONSTRUCTION SECTOR:
PROFILES FOR ROOFS & WALLS

MG 10/200



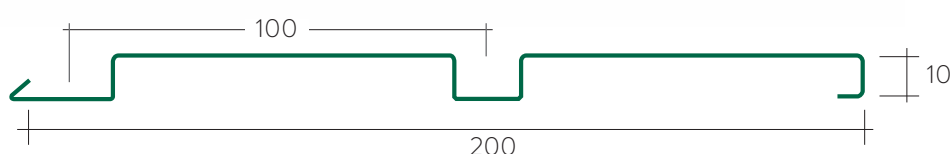
www.magon.es

Known as a door profile slat, it has numerous applications among which are: the manufacturing of doors, ceilings, side walls and eaves, shutters and fences. It is a high performance product, resistant and very easy to install. We also provide an assembly system which allows all screws to remain hidden, achieving a unique look for both vertical and horizontal installation. It is also offered in a perforated finish with different configurations.

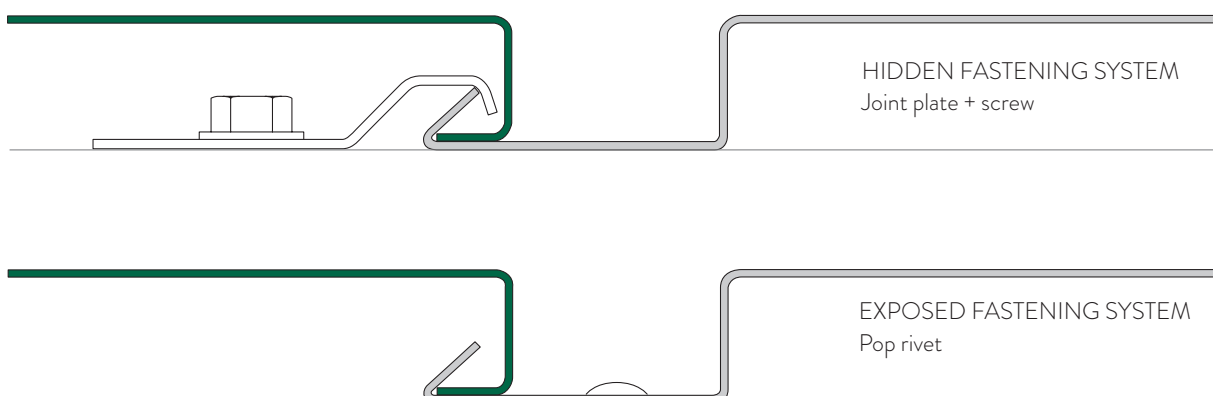
CE certified product according to the UNE-EN 14782: 2006 standard.



Measurements
In mm



JOINT DETAIL



FINISHES

This profile is manufactured from cold-formed coated steel sheets according to the following standards:

- Organic coating (UNE-EN10169): Polyester, PVDF, HDX, HPS.
- Metallic coating (UNE-EN10346): Galvanized.
- Cold rolled.
- Other finishes on request.

TECHNICAL FEATURES

- **End use:** Manufacturing of doors, ceilings and cladding.
- **Steel type:** Standard S250GD (other types of steel on request).
- **Rib height:** 10 mm.
- **Rib spacing:** 100 mm.
- **Usable width:** 200 mm.
- **Thickness:** From 0.6mm to 0.8mm.
- **Length:** On request (maximum 10 m).

CONSTRUCTION SECTOR:
PROFILES FOR ROOFS & WALLS

MG 14/200



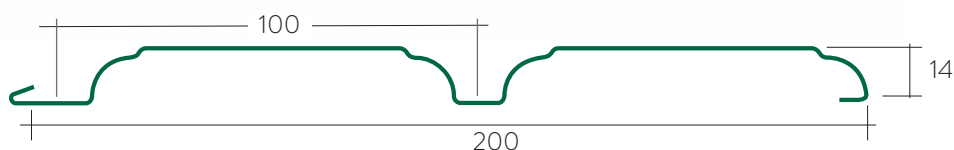
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Known as a door profile slat, it perfectly imitates wooden slats and has numerous applications, among which are: the manufacturing of doors, ceilings, side and eaves, shutters and fences. It is a high performance product, resistant and very easy to install. We also provide an assembly system which allows all screws to remain hidden, achieving a unique look for both vertical and horizontal installations. It is also offered in a perforated finish with different configurations.

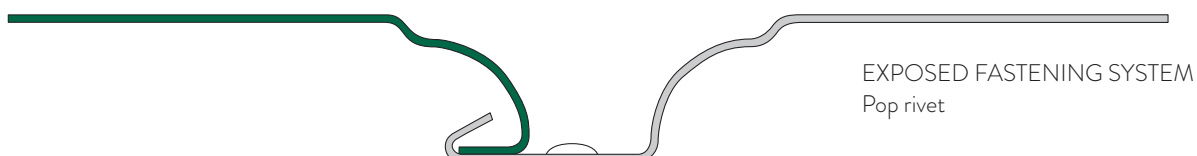
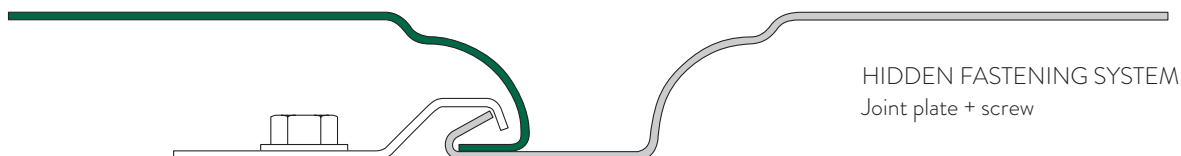
CE certified product according to the UNE-EN 14782: 2006 standard.



Measurements
In mm



JOINT DETAIL



FINISHES

This profile is manufactured from cold-formed coated steel sheets according to the following standards:

- Organic coating (UNE-EN10169): Polyester, PVDF, HDX, HPS.
- Metallic coating (UNE-EN10346): Galvanized.
- Cold rolled.
- Other finishes on request.

TECHNICAL FEATURES

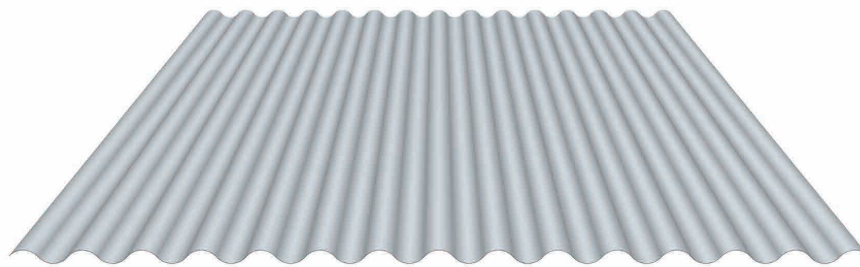
- **End use:** Manufacturing doors, ceilings and cladding.
- **Steel type:** Standard S250GD (other types of steel on request).
- **Rib height:** 14 mm.
- **Rib spacing:** 100 mm.
- **Usable width:** 200 mm.
- **Thickness:** From 0.6mm to 0.8mm.
- **Length:** On request (maximum 10 m).



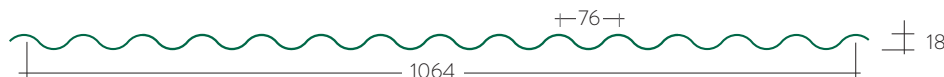
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A corrugated profile especially recommended for the enclosing of walls due to its attractive design and great structural durability. Ideal for use on facade, industrial ceilings and protective fences. It is notable for its ease of assembly, lightness and attractive appearance in both horizontal and vertical installation. Spans can be up to 1.75m. It is also offered in a perforated finish with different configurations. It is also made curved, for installation on curved roofs and hoods.

CE certified product according to the UNE-EN 14782: 2006 standard.



Measurements
In mm



Thickness (mm)	Weight (kg/m ²)	Moment Inertia I (cm ⁴)	Resistive Moment W (cm ³)	Maximum Moment (m. Kg)
0.5	4.61	2.35	2.61	57.48
0.6	5.53	2.83	3.14	69.10
0.7	6.46	3.30	3.67	80.73
0.8	7.38	3.78	4.20	92.30

NOTE: Data of the mechanical properties of the section based on the reference standards:

-CTE / -EAE / -EUROCODE 3, part 1-3

JOINT DETAIL

Overlap 1 wave.
Usable width:
1.064 mm.



Overlap 2 waves.
Usable width:
988 mm.



FINISHES:

This profile is manufactured from cold-formed coated steel sheets according to the following standards:

- Organic coating (UNE-EN10169): Polyester, PVDF, HDX, HPS.
- Metallic coating (UNE-EN10346): Galvanized.
- Other finishes on request.

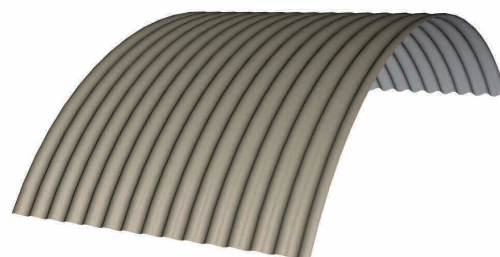
TECHNICAL FEATURES

- **End use:** Roofs and walls.
- **Steel type:** Standard S250GD (other types of steel on request).
- **Wave depth:** 18 mm.
- **Wave width:** 76 mm.
- **Usable width:** 1,064 mm (1 wave overlap).
- **Thickness:** From 0.5 mm to 0.8mm.
- **Length:** On request (maximum 14 m).

RESISTANCE TABLES:

- Permissible loadings kg/m². Calculated for a Service Limit State of deformation L / 200 (maximum admissible deflection). Loads not factored.
- The information displayed in the tables is for guidance purposes only, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

	Thickness (mm)	L (spans in metres)				
		1.00	1.25	1.50	1.75	2.00
1 span	0.50	209	121	70	44	30
	0.60	251	146	84	53	36
	0.70	294	170	99	62	42
	0.80	336	195	113	71	48
2 spans	0.50	209	134	93	68	52
	0.60	251	161	112	82	63
	0.70	294	188	130	96	73
	0.80	336	215	149	110	84
3 or more spans	0.50	261	167	116	85	55
	0.60	314	201	140	103	66
	0.70	367	235	163	120	77
	0.80	420	268	186	137	88



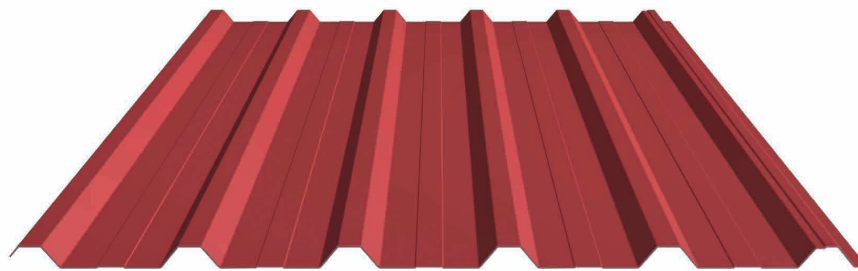
Possibility of manufacturing curved profile.



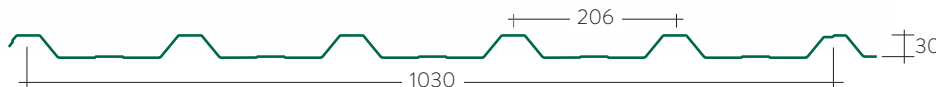
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It is one of the most commonly used profiles in all types of metal cladding due to its mechanical resistance and the non-deformable longitudinal joint detail which guarantees its watertightness. Ideal for use on roofs, wall panels, industrial false ceilings and protective fences. It is notable for its ease of assembly, lightness and attractive appearance in both horizontal and vertical installation. Spans can be up to 2.5 m. It is also offered in a perforated finish with different configurations.

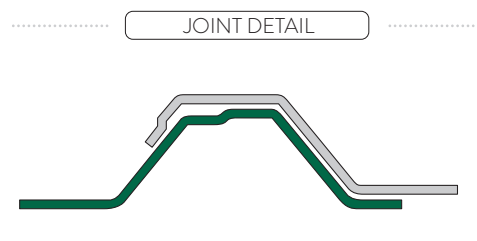
CE certified product according to the UNE-EN 14782: 2006 standard.



Measurements
In mm



Thickness (mm)	Weight (kg / m ²)	POSITION A			POSITION B		
		Moment of Inertia I (cm ⁴)	Resistive Moment W (cm ³)	Maximum Moment (m. Kg)	Moment of Inertia I (cm ⁴)	Resistive Moment W (cm ³)	Maximum Moment (m. Kg)
0.5	4.76	6.00	2.84	62.50	3.99	2.72	59.88
0.6	5.72	7.58	3.63	79.88	5.09	3.41	74.98
0.7	6.67	9.20	4.44	97.72	6.26	4.03	88.73
0.8	7.62	10.72	5.19	114.23	7.49	4.67	102.76



NOTE: Data of the mechanical properties of the section based on the reference standards:

-CTE / -EAE / -EUROCODE 3, part 1-3

FINISHES:

This profile is manufactured from cold-formed coated steel sheets according to the following standards:



- Organic coating (UNE-EN10169): Polyester, PVDF, HDX, HPS.
- Metallic coating (UNE-EN10346): Galvanized.
- Other finishes on request.

TECHNICAL FEATURES

- **End use:** Roof and Wall.
- **Steel type:** Standard S250GD (other types of steel on request).
- **Rib height:** 30 mm.
- **Rib spacing:** 206 mm.
- **Usable width:** 1,030 mm.
- **Thickness:** From 0.5 mm to 0.8mm.
- **Length:** On request (maximum 14 m).

RESISTANCE TABLES:

- Permissible loadings kg/m². Calculated for a Service Limit State of deformation L / 200 (maximum permissible deflection). Loads not factored.
- The information displayed in the tables is for guidance purposes only, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

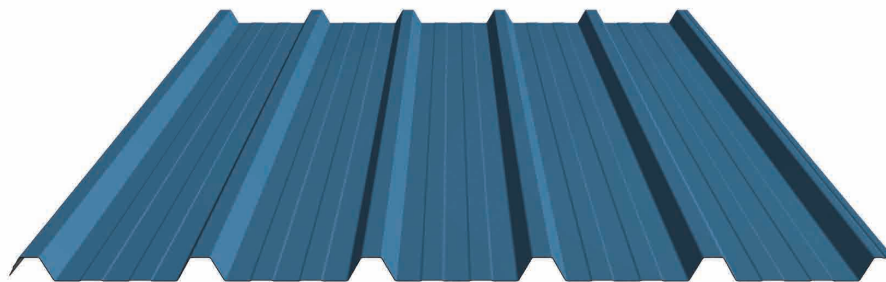
POSITION A								Thickness mm	POSITION B							
																
	2.50	2.25	2.00	1.75	1.50	1.25	1.00			1.00	1.25	1.50	1.75	2.00	2.25	2.50
1 span	40	55	78	119	162	233	364	0.5	348	223	155	114	54	38	27	1 span
	50	68	97	152	207	297	465	0.6	436	279	194	142	68	48	35	
	60	82	116	186	253	364	569	0.7	516	330	229	169	84	59	43	
	69	95	135	217	295	425	665	0.8	598	383	266	195	100	71	51	
2 spans	59	73	93	121	165	237	370	0.5	386	247	172	126	97	76	62	2 spans
	74	92	116	151	206	297	464	0.6	494	316	219	161	123	98	79	
	88	108	137	179	244	351	549	0.7	604	387	268	197	151	119	97	
	102	125	159	207	282	407	635	0.8	706	452	314	231	177	139	113	
3 or more spans	70	86	109	142	194	279	435	0.5	455	291	202	148	114	90	73	3 or more spans
	87	108	136	178	242	349	545	0.6	581	372	258	190	145	115	93	
	103	127	161	211	287	413	645	0.7	711	455	316	232	178	140	114	
	120	148	187	244	332	478	747	0.8	831	532	369	271	208	164	133	



www.magon.es

This is a versatile profile that can be used in all types of metal cladding such as: roofs, wall panels, industrial false ceilings and protective fences. Nevertheless, the design of its longitudinal joint gives it an ideal aesthetic finish on wall panels and ceilings. It is notable for its ease of assembly, lightness and its finish in both horizontal and vertical installation. Spans can be up to 2.5m. It is also offered in a perforated finish with different configurations.

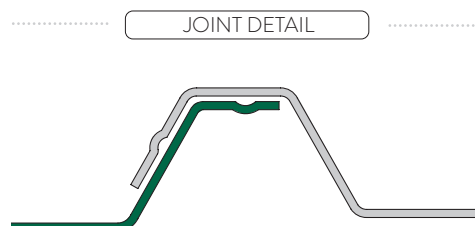
CE certified product according to the UNE-EN 14782: 2006 standard.



Measurements
In mm



Thickness (mm)	Weight (kg / m ²)	POSITION A			POSITION B		
		Moment of Inertia I (cm ⁴)	Resistive Moment W (cm ³)	Maximum Moment (m. Kg)	Moment of Inertia I (cm ⁴)	Resistive Moment W (cm ³)	Maximum Moment (m. Kg)
0.5	4.70	6.50	2.81	61.87	3.80	2.35	51.80
0.6	5.63	8.17	3.57	78.46	5.05	3.06	67.33
0.7	6.57	9.66	4.22	92.73	6.27	3.68	81.05
0.8	7.51	11.04	4.81	105.76	7.50	4.27	93.92



NOTE: Data of the mechanical properties of the section based on the reference standards:

-CTE / -EAE / -EUROCODE 3, part 1-3

FINISHES:

This profile is manufactured from cold-formed coated steel sheets according to the following standards:



- Organic coating (UNE-EN10169): Polyester, PVDF, HDX, HPS.
- Covering metallic (UNE-EN10346): Galvanized.
- Other finishes on request.

TECHNICAL FEATURES

- **End use:** Roof and Wall.
- **Steel type:** Standard S250GD (other types of steel on request).
- **Rib height:** 30 mm.
- **Rib spacing:** 209 mm.
- **Usable width:** 1,045 mm.
- **Thickness:** From 0.5 mm to 0.8mm.
- **Length:** On request (maximum 14 m).

RESISTANCE TABLES:

- Permissible loadings kg/m². Calculated for a Service Limit State of deformation $L / 200$ (maximum admissible deflection). Loads not factored.
- The information displayed in the tables is for guidance purposes only, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

POSITION A								Thickness mm	POSITION B							
 L (spans in metres)									 L (spans in metres)							
	2.50	2.25	2.00	1.75	1.50	1.25	1.00		1.00	1.25	1.50	1.75	2.00	2.25	2.50	
1 span	43	58	83	118	160	230	360	0.5	301	193	134	98	52	36	27	1 span
	53	73	103	149	203	292	456	0.6	392	251	174	128	68	48	35	
	62	85	122	176	240	345	540	0.7	472	302	210	154	85	59	43	
	71	98	139	201	273	394	615	0.8	546	350	243	178	101	71	52	
2 spans	51	63	80	105	142	205	320	0.5	382	245	170	125	96	76	61	2 spans
	67	82	104	136	185	266	416	0.6	485	310	216	158	121	96	78	
	80	99	125	164	223	321	501	0.7	573	367	255	187	143	113	92	
	93	115	145	190	258	372	581	0.8	654	418	291	213	163	129	105	
3 or more spans	60	74	94	123	167	241	377	0.5	450	288	200	147	112	89	72	3 or more spans
	78	97	122	160	218	313	490	0.6	571	365	254	186	143	113	91	
	94	116	147	192	262	377	589	0.7	674	432	300	220	169	133	108	
	109	135	171	223	304	437	683	0.8	769	492	342	251	192	152	123	

CONSTRUCTION SECTOR:
PROFILES FOR ROOFS & WALLS

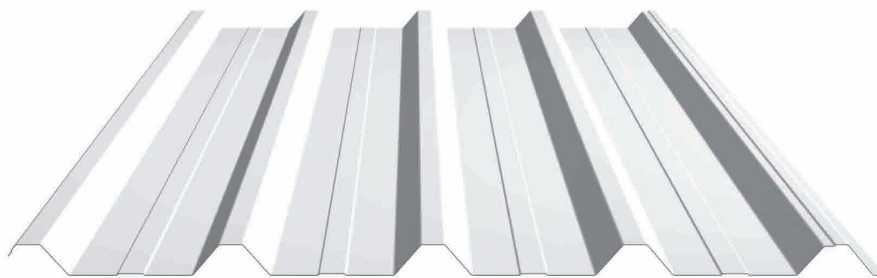
MG 40/250



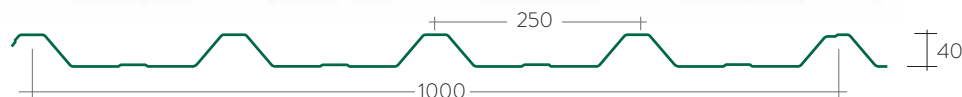
www.magon.es

A profile ideal for all types of metal cladding due to its mechanical resistance and the non-deformable longitudinal overlap that guarantees its watertightness. Its rib height allows large spans and is ideal for use on roofs, wall panels, industrial ceilings and protective fences. It is notable for its ease of assembly, lightness and attractive appearance in both horizontal and vertical installation. Spans can be up to 2.5m. It is also offered in a perforated finish with different configurations.

CE certified product according to the UNE-EN 14782: 2006 standard.



Measurements
In mm



POSITION A					POSITION B		
Thickness (mm)	Weight (kg / m ²)	Moment of Inertia I (cm ⁴)	Resistive Moment W (cm ³)	Maximum Moment (m. Kg)	Moment of Inertia I (cm ⁴)	Resistive Moment W (cm ³)	Maximum Moment (m. Kg)
0.5	4.90	11.40	3.91	86.01	7.05	3.52	77.49
0.6	5.89	14.29	4.95	108.84	8.94	4.37	96.04
0.7	6.87	17.24	6.01	132.24	10.95	5.18	113.99
0.8	7.85	20.04	7.01	154.12	13.06	6.01	132.29

NOTE: Data of the mechanical properties of the section based on the reference standards:

-CTE / -EAE / -EUROCODE 3, part 1-3

JOINT DETAIL



FINISHES

This profile is manufactured from cold-formed coated steel sheets according to the following standards:



- Organic coating (UNE-EN10169): Polyester, PVDF, HDX, HPS.
- Metallic covering (UNE-EN10346): Galvanized.
- Others finishes on request.

TECHNICAL FEATURES

- **End use:** Roof and wall.
- **Type of steel:** Standard S250GD (other types of steel on request).
- **Rib height:** 40 mm.
- **Rib spacing:** 250 mm.
- **Usable width:** 1,000 mm.
- **Thickness:** From 0.5 mm to 0.8mm.
- **Length:** On request (maximum 14 m).

RESISTANCE TABLES:

- Permissible loadings kg / m². Calculated for a Service Limit State of deformation L / 200 (maximum admissible deflection). Loads not factored.
- The information displayed in the tables is for guidance purposes only, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

POSITION A								Thickness mm	POSITION B							
																
	2.50	2.25	2.00	1.75	1.50	1.25	1.00			1.00	1.25	1.50	1.75	2.00	2.25	2.50
1 span	75	99	125	163	222	320	500	0.5	451	289	200	147	113	89	49	1 span
	93	125	158	207	281	405	633	0.6	559	358	248	182	140	110	62	
	112	152	192	251	342	492	769	0.7	663	424	295	217	166	131	76	
	129	177	224	293	399	574	897	0.8	770	493	342	251	192	152	91	
2 spans	77	95	120	156	213	307	479	0.5	532	340	236	174	133	105	85	2 spans
	95	117	148	194	264	380	594	0.6	673	431	299	220	168	133	108	
	113	139	176	230	313	451	705	0.7	817	523	363	267	204	161	131	
	131	162	204	267	363	523	818	0.8	953	610	423	311	238	188	152	
3 or more spans	90	111	141	184	250	361	564	0.5	626	400	278	204	156	124	100	3 or more spans
	112	138	175	228	310	447	698	0.6	792	507	352	258	198	156	127	
	133	164	207	271	368	531	829	0.7	962	616	427	314	240	190	154	
	154	190	241	314	428	616	962	0.8	1121	717	498	366	280	221	179	



CONSTRUCTION SECTOR:
PROFILES FOR ROOFS & WALLS

MG 50/250 ROOF DECK

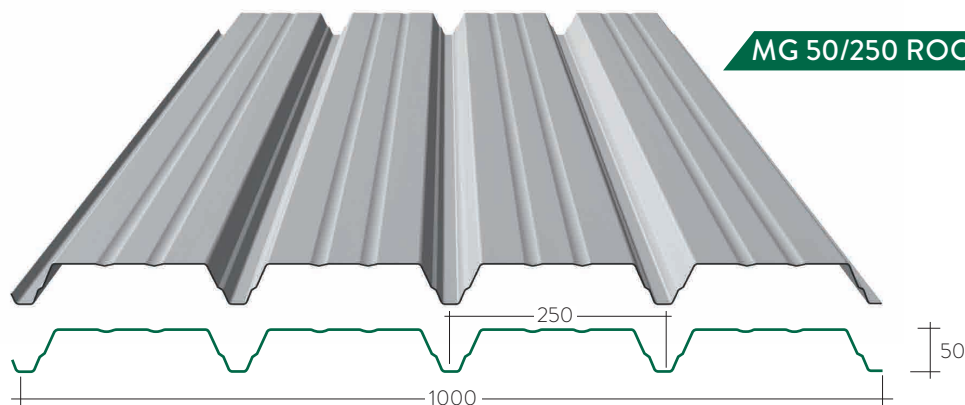


www.magon.es

The **MG 50/250 DECK** profile is specially designed for application on deck-type roofs in industrial and commercial buildings. Deck-type roofs are a construction system made up of a corrugated steel sheet, an insulating core and a waterproof outer membrane. It is an ideal construction system for enclosing large roofs thanks to its speed of installation, high thermal performance, watertightness and high durability.

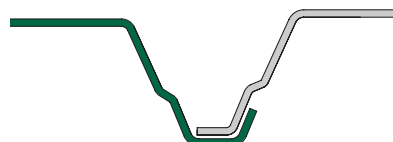
CE certified product according to standard UNE-EN 14782: 2006

Measurements
In mm



Thickness (mm)	Weight (kg / m ²)	Moment of Inertia I (cm ⁴)	Resistive Moment W (cm ³)	Maximum moment (m. Kg)
0.50	4.91	20.32	5.35	121.57
0.60	5.89	24.38	6.42	145.88
0.70	6.87	28.45	7.49	170.19
0.75	7.36	30.48	8.02	182.35
0.80	7.85	32.51	8.56	194.51

JOINT DETAIL



FINISHES

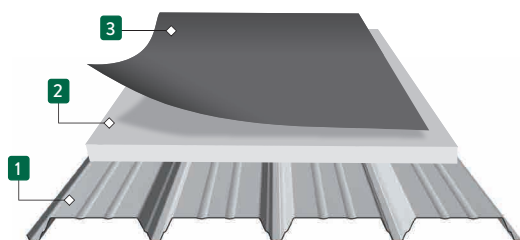
This profile is manufactured from cold-formed coated steel sheets according to the following standards:

- Organic coating (UNE-EN10169): Polyester, PVDF, HDX, HPS.
- Metallic coating (UNE-EN10346): Galvanized.
- Other finishes on request.

TECHNICAL FEATURES

- **End use:** Roof Decks.
- **Type of steel:** Standard S250GD (other types of steel on request).
- **Rib height:** 50 mm.
- **Rib spacing:** 250 mm.
- **Usable width:** 1,000 mm.
- **Thickness:** From 0.5 mm to 0.8mm.
- **Length:** On request (maximum 14 m).

ROOF DECK COMPOSITION:



- 1). Steel profile MG 50/250
- 2 Insulating core
- 3). Waterproof membrane

RESISTANCE TABLES:

- Permissible loadings kg/m². Calculated for a Service Limit State of deformation $L / 200$ (maximum admissible deflection). Loads not factored
- The information displayed in the tables is for guidance purposes only, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

	Thickness (mm)	L (spans in metres)										
		2.25	2.40	2.50	2.60	2.75	2.80	3.00	3.20	3.25	3.40	3.50
1 span	0.50	146	120	106	94	80	76	61	51	48	42	39
	0.60	175	144	127	113	96	91	74	61	58	51	46
	0.75	219	180	159	142	120	113	92	76	73	63	58
	0.80	233	192	170	151	128	121	98	81	77	68	62
2 spans	0.50	229	188	167	148	125	119	96	79	76	66	61
	0.60	291	240	212	189	160	151	123	101	97	84	77
	0.75	393	324	287	255	215	204	166	137	130	114	104
	0.80	429	353	313	278	235	223	181	149	142	124	114
3 or more spans	0.50	204	168	148	132	112	106	86	71	68	59	54
	0.60	260	214	189	168	142	135	110	90	86	75	69
	0.75	350	289	255	227	192	182	148	122	116	102	93
	0.80	382	315	279	248	209	198	161	133	127	111	102

CONSTRUCTION SECTOR:
PROFILES FOR ROOFS & WALLS

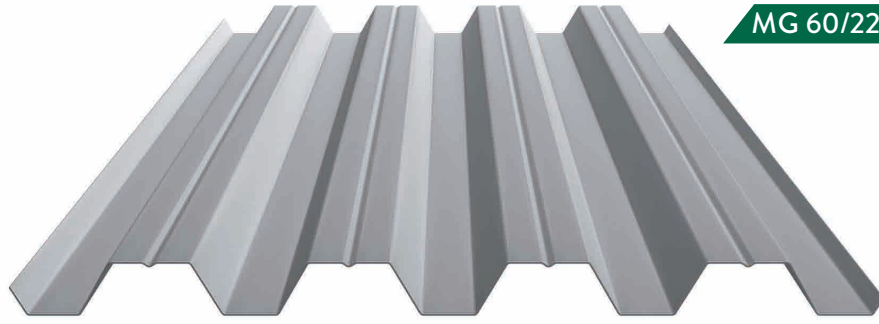
MG 60/220 ROOF DECK



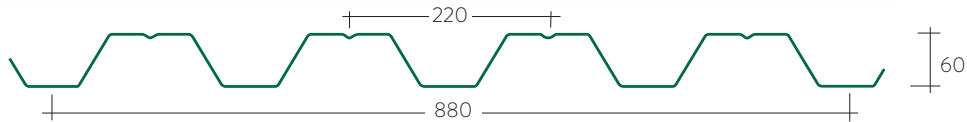
www.magon.es

The **MG 60/220** profile is specially designed for application on roof decks in industrial and commercial buildings. Roof deck use a constructive system made up of a corrugated steel sheet, an insulating core and a waterproof outer membrane. It is an ideal construction system for enclosing large roofs thanks to its speed of execution, high thermal installation, watertightness and high durability.

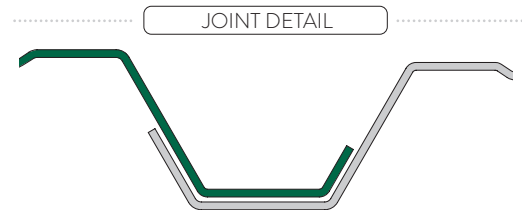
CE certified product according to the UNE-EN 14782: 2006 standard.



Measurements
In mm



Thickness (mm)	Weight (kg / m ²)	Moment of Inertia I (cm ⁴)	Resistive Moment W (cm ³)	Maximum moment (m. Kg)
0.6	6.69	46.98	15.15	157
0.7	7.81	54.75	17.05	223
0.8	8.92	62.64	20.15	295
1.0	11.12	78.30	25.09	365
1.2	13.38	93.97	30.02	440



FINISHES

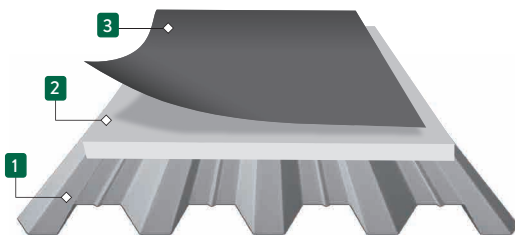
This profile is manufactured from cold-formed coated steel sheets according to the following standards:

- Organic coating (UNE-EN10169): Polyester, PVDF, HDX, HPS.
- Metallic coating (UNE-EN10346): Galvanized.
- Other finishes on request.

TECHNICAL FEATURES

- **End use:** Roofs Decks.
- **Type of steel:** Standard S250GD (other types of steel on request).
- **Rib height:** 60 mm.
- **Rib spacing:** 220 mm.
- **Usable width:** 880 mm.
- **Thickness:** From 0.6mm to 1.2 mm.
- **Length:** On request (maximum 14 m).

COMPOSITION OF A DECK COVER:



- 1). Steel profile MG 60/220
- 2). Insulating core
- 3). Waterproof membrane

RESISTANCE TABLES:

- Permissible loadings kg / m². Calculated for a Service Limit State of deformation L / 200 (maximum admissible deflection). Loads not factored.
- The information displayed in the tables is for guidance purposes only, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

	Thickness (mm)	L (spans in metres)														
		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
1 span	0.6	786	754	443	335	244	184	145	112	86						
	0.7	933	646	522	386	285	214	166	127	105	86					
	0.8	1,040	764	584	441	321	242	185	145	116	94	76				
	1.0	1,032	957	733	558	402	302	232	182	145	122	97				
	1.2	1,555	1,142	874	668	487	367	283	223	175	142	116	97			
2 spans	0.6	780	752	441	344	282	233	192	163	144	121	114	96	85	76	
	0.7	933	646	522	412	333	275	231	196	173	147	133	118	105	95	86
	0.8	1,044	764	584	466	377	312	263	224	193	165	145	132	118	106	96
	1.0	1,302	953	733	575	466	385	324	275	237	206	185	165	142	132	115
	1.2	1,555	1,142	874	694	562	462	387	334	284	247	217	192	171	153	142
3 or more spans	0.6	982	722	553	437	355	293	247	207	167	136	115	92	82		
	0.7	1,162	853	652	515	417	344	293	244	195	162	134	113	95	76	
	0.8	1,301	965	735	577	467	386	324	276	224	181	153	124	104	92	75
	1.0	1,623	1,192	912	720	583	482	404	344	280	227	187	146	131	111	95
	1.2	1,944	1,432	1,093	897	703	578	485	413	337	274	225	187	157	133	114



CONSTRUCTION SECTOR:
STRUCTURAL PROFILES

MG 60/220
COMPOSITE FLOOR DECK
MG 60/220
NON-COMPOSITE FLOOR DECK

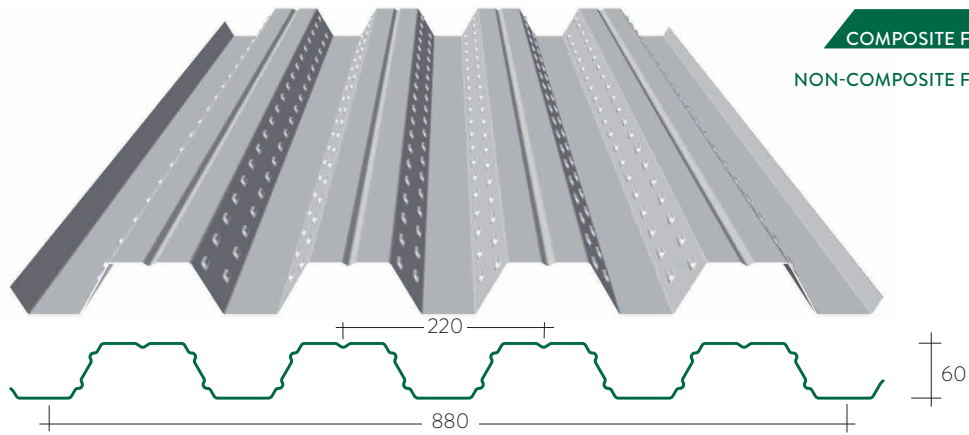


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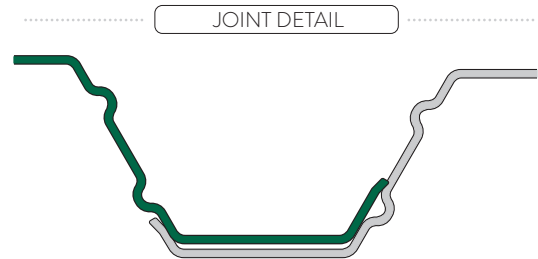
A profile specially designed for the construction of mixed concrete-steel floors for industrial, residential and commercial buildings. It can be used as a composite slab metal profile or as a non-composite floor deck in concrete slabs. It has a rib height of 60 mm, usable width of 880mm, and includes countersunk embossments on the side of the ribs. It drastically reduces the use of struts, enables immediate transit, requires little labour, is quick to install and involves less dead load on the structure.

Product certified according to UNE-EN 10340: 2008 and UNE-EN 1090: 2019 standards.

Measurements
In mm



Thickness (mm)	Weight (kg / m ²)	Moment of Inertia I (cm ⁴)	Resistive Moment W (cm ³)	Maximum moment (m. Kg)
0.8	8.92	62.64	20.14	295
1.0	11.12	78.30	25.09	365
1.2	13.38	93.97	30.02	440



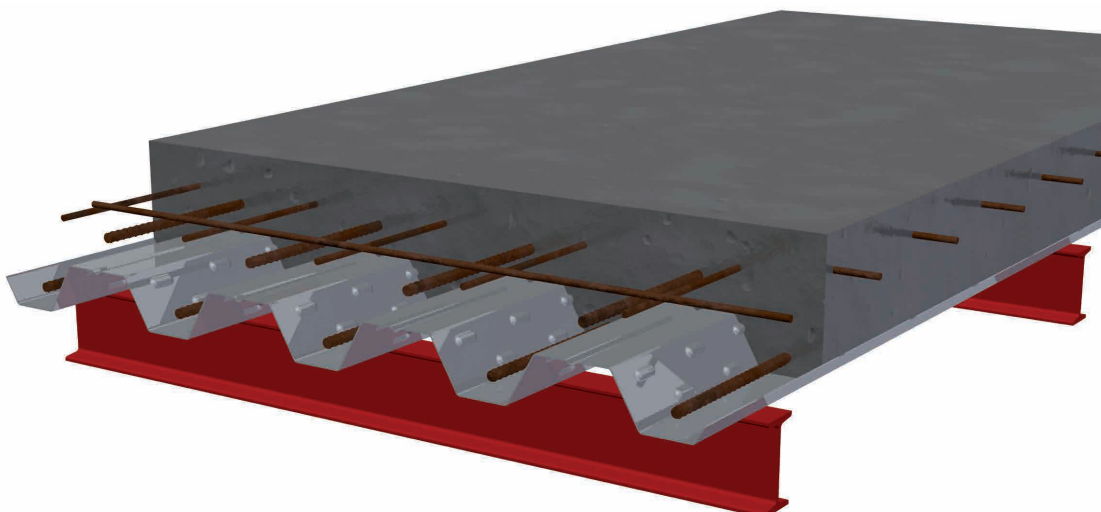
TECHNICAL FEATURES

- **End use:** Composite floors and permanent formwork.
- **Type of steel:** Standard S250GD (other types of steel on request).
- **Rib height:** 60 mm.
- **Rib spacing:** 220 mm.
- **Usable width:** 880 mm.
- **Thickness:** From 0.8 mm to 1.2 mm.
- **Length:** On request (maximum 14 m).

CHARACTERISTICS OF THE SLAB:

Item	Quality	Mechanical Properties	
		Re (N/mm ²)	Rm (N/mm ²)
Formed Sheet	S250GD	250	330
Steel Reinforcement	B 500 S	500	550
Concrete	HA-250	250	330

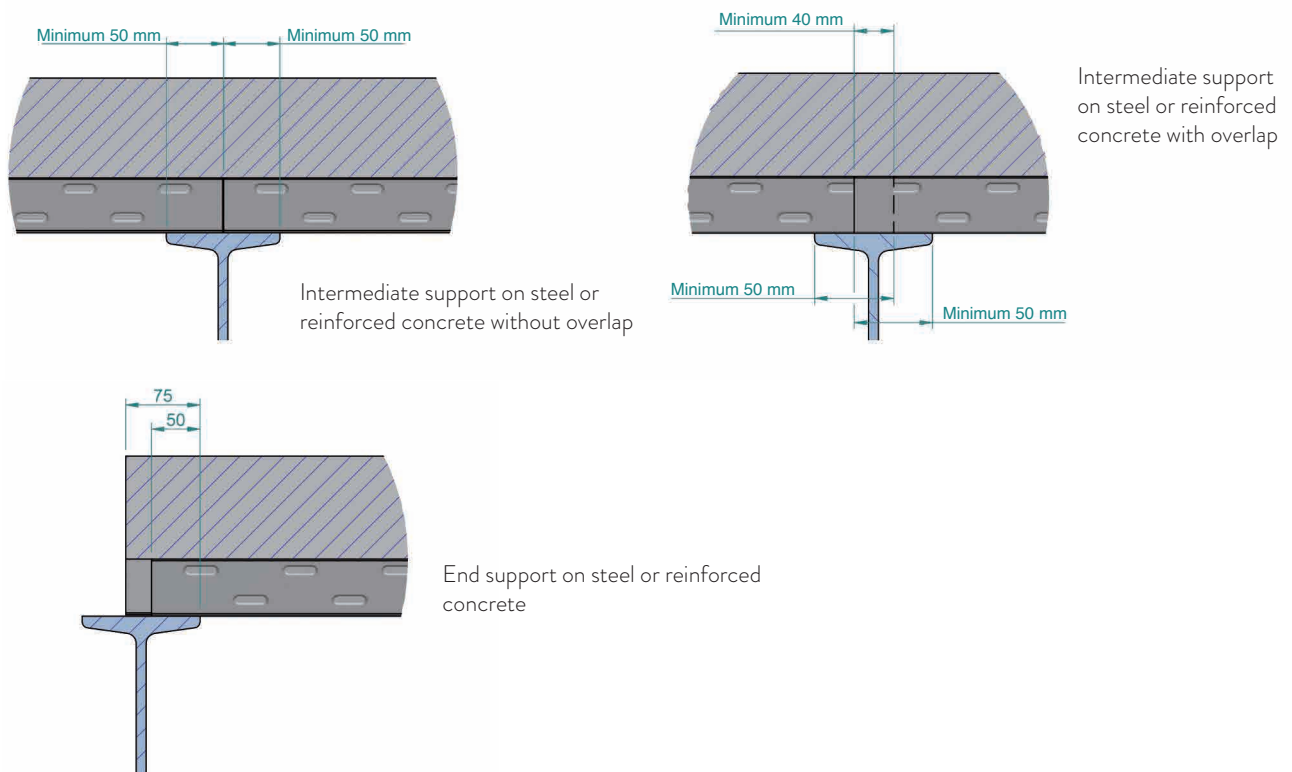
SLAB WEIGHT(kg / m ²)					
Thickness (mm)	EDGE (mm)				
	120mm	140mm	160mm	180mm	200mm
0.8	216	263	311	359	407
1.0	218	266	314	362	410
1.2	220	268	316	364	412



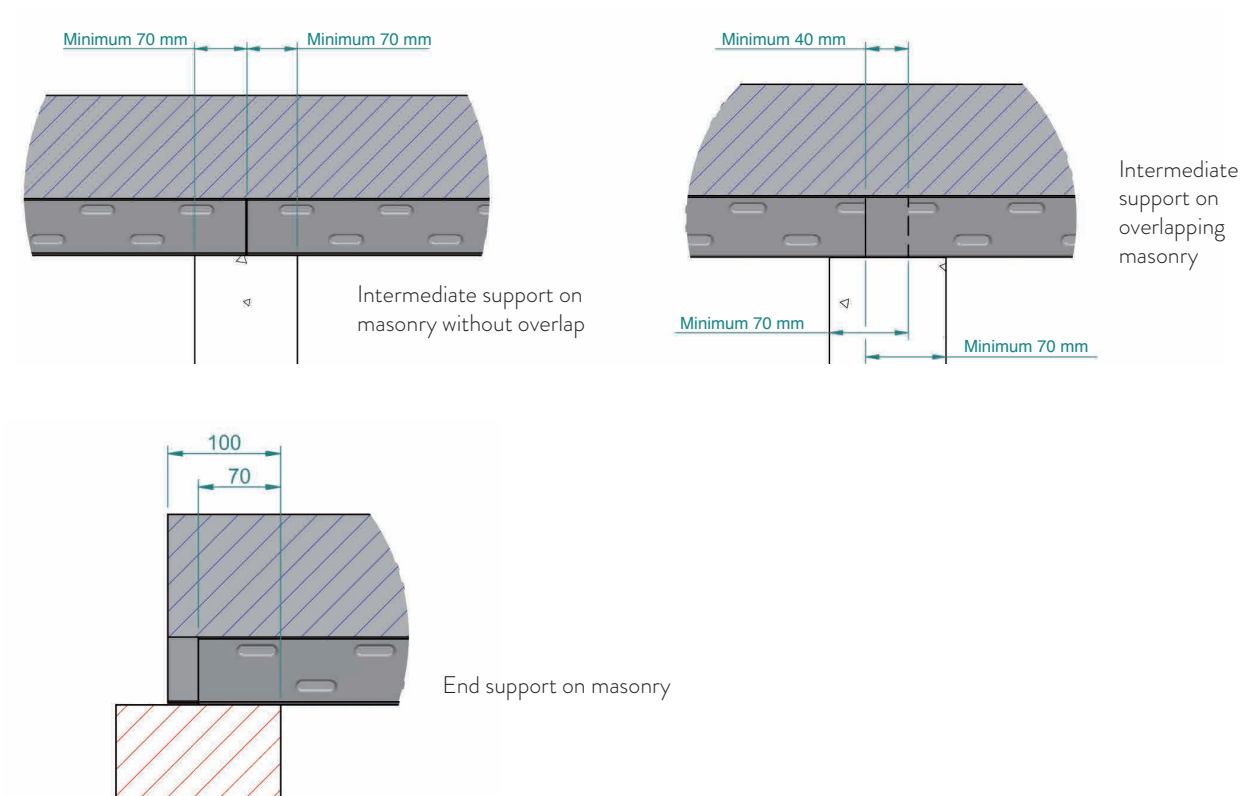
RECOMMENDATIONS FOR USE:

The nature of the supporting structure can be metallic, concrete or masonry. The supports on it must comply with the premises established by the EUROCODE.

- Slabs that support steel or concrete beams must have a minimum support of 75 mm (50 mm per sidewhere the structure is continuous)



- Slabs which are supported on other materials must have a minimum support of 100 mm (70 mm per side where the structure is continuous)



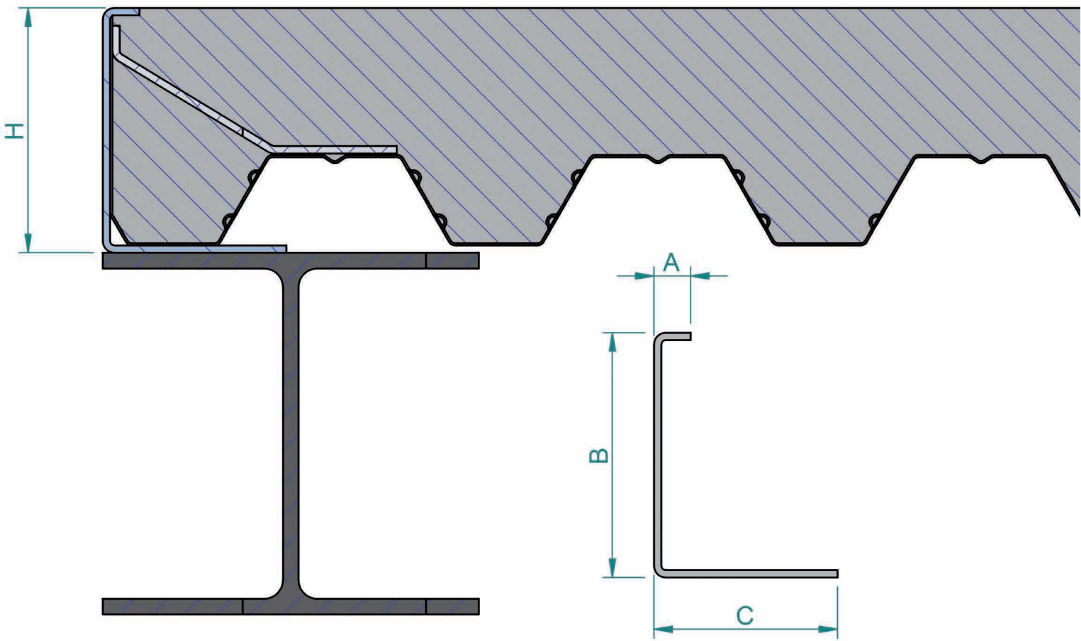
SIDE PERIMETER CLOSING

MG 60/220

COMPOSITE FLOOR DECK

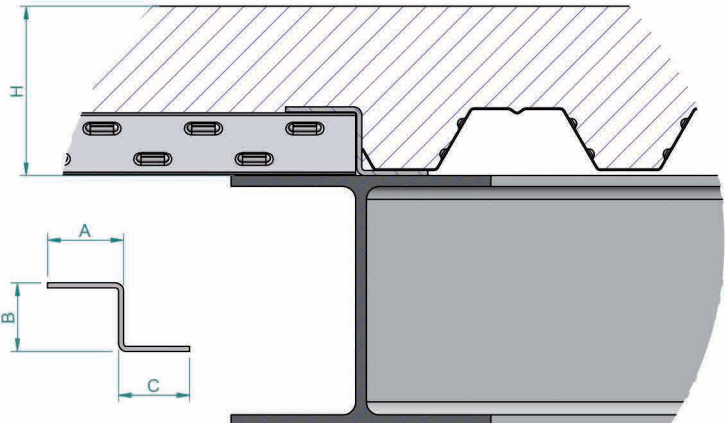
MG 60/220

NON-COMPOSITE FLOOR DECK



	H (mm)				
	120	140	160	180	200
A (mm)	25	25	25	25	25
B (mm)	120	140	160	180	200
C (mm)	125	105	148	128	108

DIRECTIONAL PERIMETER CHANGE



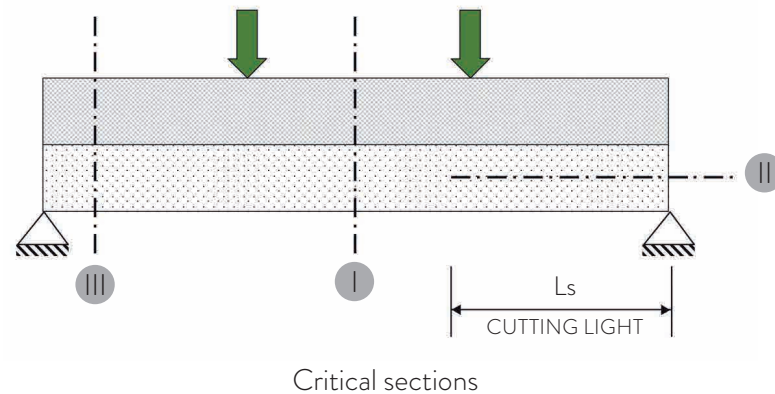
DIRECTIONAL CHANGE	
A (mm)	70
B (mm)	60
C (mm)	70

1.- DEFINITIONS

1.1.- MIXED SLAB

It is an element used as a slab, consisting of a ribbed metal sheet that initially serves as a formwork supporting the weight of the concrete, the reinforcement and the installation loads. After hardening, the set can behave like a slab so that the sheet constitutes all or part of its tensile reinforcement. To confirm that the ribbed sheet works partially with concrete, tests have been carried out at the Eduardo Torroja Construction Institute corresponding to report nº 18664, in which the coefficients m and k are determined.

In this case, the way in which failure occurs determines the calculation criteria based on three types, as seen in the following figure:



- I - Bending
- II - Low-level stresses
- III - Shear and punching

This process can also be omitted by adding reinforcement that absorbs the sagging bending moment in the spans, in which case it will be used as non-composite floor deck.

1.2.- NON-COMPOSITE FLOOR DECK

When designing a concrete slab, it must be taken into account that, during the construction phase, for a certain time, the concrete is soft and requires an element to retain it until it hardens. Hence the idea of non-composite metal floor deck was born.

When used in this way, the trapezoidal sheet presents a series of considerable advantages thanks to its speed of assembly and its self-supporting capacity to bear the weight of fresh concrete and the loads of the slab installation.

The loads that must be considered when calculating a non-composite floor deck are:

- The sheet's own weight.
- The concrete's own weight (thickness and type: normal or light).
- Temporary loading in the concreting phase.

The criterion used in the tables for the allowable deflection is $L/200$.

The data necessary to calculate the most suitable profile is:

- Distance between supports and number of spans.
- Slab thickness.
- Type of concrete: Normal (2400 Kg/m^3), Light (1900 Kg/m^3). The resistance of the concrete used to make the boards is HA-25.
- Maximum deflection ratio by default ($L/200$).

2.- PRE-DIMENSIONAL CALCULATION HYPOTHESIS

2.1.- TABLES CALCULATION CRITERIA

- Deflection criterion in pouring (concreting): $F=L/200$.
- Elastic limit of complementary reinforcement steel: $\delta_e \geq 500 \text{ N / mm}^2$.
- Yield strength of formed sheet S250GD $\delta_e \geq 250 \text{ N / mm}^2$.
- Characteristic resistance of concrete: $F_{ck} = 25 \text{ N / mm}^2$.
- Material reduction coefficient:
 - Concrete: 1.8
 - Steel arm: 1.15
 - Structural steel: 1.1

2.2.- LOADS TO CONSIDER WHEN CONSULTING THE CHARTS

In the calculation of a metal slab, three types of vertical loads come into consideration, which we will now define:

- Own weight: This refers, as its name indicates, to the weight of the resistant element itself, whether it is the ribbed profile, the case of a self-supporting metal slab, or the complete slab, in the case of a composite slab.
- Permanent loads (dead loads): Include all those loads that act permanently on the slab, not varying over time. Clear examples are flooring, false ceilings, suspended installations, partitions, etc.
- Use, in service or working loads: Usable required load, which will vary depending on the type of building and the purpose for which the premises are to be used and corresponds to the weight of anything that may weigh on the slab due to its use.

3.- SIZING CRITERIA OF A MIXED SLAB FLOOR

In a project with a composite slab floor, all relevant limit situations and states are considered to guarantee a satisfactory level of safety and service, in particular:

3.1.- ASSEMBLY SITUATION

In this phase, the only resistant element is the ribbed sheets that act as concrete formwork and must withstand the following:

- Weight of concrete and sheet.
- Construction loads, including concrete stacking during pouring.
- Stockpiles of materials, if any.
- “Pooling” effect, a greater thickness of concrete due to deflection in the sheet metal.

3.2.- SERVICE SITUATION

When checking the floor as a composite part once the props have been removed, any unfavorable loads must be distributed by applying one of the following procedures:

- Linear analysis, with or without redistribution.
- Overall rigid-plastic analysis provided that the sections where plastic hinges are formed have sufficient rotation capacity.
- Elastoplastic analysis, considering the non-linear properties of the material.

3.3.- ULTIMATE LIMITS STATES

In a mixed floor with sheet metal as permanent formwork, the rupture modes and the critical sections where a rupture can occur are:

- Critical section type I: these sections occur in the centre of spans and in supports; breakage occurs in the form of bending when the final positive or negative moment is reached.
- Critical section type II: these sections occur in the supports, and are only critical in special cases, such as large depth slabs with small spans and significant loads; failure occurs by vertical shearing and / or punched holes when the ultimate value is reached.

3.4.- IN SERVICE LIMIT STATES

- Concrete cracks: The crack width in continuous negative moment areas is evaluated under the criteria indicated in section 4.4.2. of EUROCODE 2.
- Deflections: the limitations relative to the admissible deflections that these floors must satisfy are similar to those specified for beams and must meet acceptable values for the structural elements they support (partitions, walls, etc.) and for the appearance of the building. In general, the criteria given in section 4.2.2 of the EUROCODE 3 may be adopted.

The reference standard used to prepare these tables is:

• EHE-08 RD 1247/2008

• EUROCODE 4. Part 1-1



COMPOSITE FLOOR TABLES:

MG 60/220
COMPOSITE FLOOR DECK

ONE SPAN OR END SPAN

CONCRETE: HA-250

STEEL: S250GD

TOTAL FACTORED LOADS (kg / m ²)																
PROFILE THICKNESS IN mm	TOTAL SLAB THICKNESS IN mm.	L (spans in metres)														max span without bracing (m)
		1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1	
0.8	100	1.384	1010	751	564	426	320	156								2.61
	110	1583	1155	858	645	487	367	179								2.58
	120	1780	1299	965	726	548	412	201								2.52
	130	1979	1444	1073	807	609	341	224								2.47
	140	2176	1588	1180	887	670	374	246	145							2.42
	160	2572	1877	1395	1049	792	443	291	171							2.33
	180	2968	2166	1610	1210	737	511	336	198							2.26
	200	3364	2455	1825	1372	835	580	381	225							2.19

TOTAL FACTORED LOADS (kg / m ²)																
PROFILE THICKNESS IN mm	TOTAL SLAB THICKNESS IN mm.	L (spans in metres)														max span without bracing (m)
		1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1	
1.0	100	1845	1368	1038	799	621	486	381	214	147						2.81
	110	2109	1565	1186	914	711	556	436	246	169						2.78
	120	2372	1760	1334	1028	799	625	490	276	190						2.71
	130	2636	1956	1483	1142	889	696	427	308	212						2.66
	140	2900	2151	1631	1256	977	765	469	338	233	146					2.61
	160	3427	2543	1928	1485	1155	904	555	400	275	173					2.51
	180	3955	2934	2225	1714	1333	866	641	462	318	201					2.43
	200	4482	3325	2522	1942	1511	982	727	524	361	228					2.36

TOTAL FACTORED LOADS (kg / m ²)																
PROFILE THICKNESS IN mm	TOTAL SLAB THICKNESS IN mm.	L (spans in metres)														max span without bracing (m)
		1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1	
1.2	100	2307	1728	1326	1035	818	653	523	421	255	188					2.99
	110	2637	1976	1516	1183	936	746	599	482	293	216	152				2.95
	120	2966	2222	1705	1331	1052	839	673	435	329	242	170				2.88
	130	3297	2470	1895	1479	1170	933	749	485	367	270	190				2.83
	140	3626	2717	2084	1627	1286	1026	823	532	403	297	209				2.77
	160	4286	3211	2463	1923	1521	1213	820	630	476	351	247	161			2.67
	180	4945	3705	2842	2219	1755	1400	946	727	550	405	286	186			2.59
	200	5605	4199	3222	2515	1989	1587	1073	824	623	459	324	211			2.51

Struts. Placing 1 girder in the centre of the span.

NOTE:

The tables presented serve as a pre-dimensioning of a mixed slab project, providing a quick tool to define slab thickness and steel thickness to be chosen as a starting point in the development of the project.

The data shown in the tables is for guidance purposes only, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

COMPOSITE TABLES:

INTERMEDIATE SPAN

CONCRETE: HA-250

STEEL: S250GD

TOTAL FACTORED LOADS (kg / m ²)																
PROFILE THICKNESS IN mm	TOTAL SLAB THICKNESS IN mm.	L (spans in metres)														max span without bracing (m)
		1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1	
0.8	100	1785	1318	995	762	588	457	354	190							2.90
	110	2040	1507	1137	871	673	523	405	218	144						2.86
	120	2295	1695	1279	980	757	587	456	245	161						2.80
	130	2551	1884	1422	1089	842	653	507	273	180						2.74
	140	2805	2072	1564	1198	926	718	427	300	197						2.69
	160	3316	2449	1849	1416	1094	849	505	355	234						2.59
	180	3826	2827	2133	1634	1263	803	584	410	270	156					2.51
	200	4336	3204	2418	1852	1431	911	662	465	306	177					2.44

TOTAL FACTORED LOADS (kg / m ²)																
PROFILE THICKNESS IN mm	TOTAL SLAB THICKNESS IN mm.	L (spans in metres)														max span without bracing (m)
		1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1	
1.0	100	2353	1761	1349	1052	830	661	530	425	258	189					3.13
	110	2690	2013	1542	1203	950	756	606	487	296	217	152				3.09
	120	3026	2264	1735	1352	1068	851	681	547	332	244	171				3.02
	130	3363	2517	1928	1503	1187	946	758	608	370	272	191				2.96
	140	3699	2768	2121	1653	1305	1040	833	539	407	299	209				2.90
	160	4371	3271	2507	1954	1543	1229	985	637	481	353	248	160			2.79
	180	5044	3775	2892	2255	1781	1419	960	736	555	408	286	185			2.70
	200	5717	4279	3278	2556	2018	1608	1088	834	630	463	325	210			2.62

TOTAL FACTORED LOADS (kg / m ²)																
PROFILE THICKNESS IN mm	TOTAL SLAB THICKNESS IN mm.	L (spans in metres)														max span without bracing (m)
		1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1	
1.2	100	2924	2205	1705	1343	1073	867	706	578	475	307	237	179			3.32
	110	3342	2521	1949	1535	1227	991	807	661	543	352	272	205	149		3.28
	120	3760	2836	2192	1727	1380	1115	908	743	611	396	306	231	167		3.21
	130	4178	3151	2436	1919	1534	1239	1009	827	561	440	341	257	187		3.14
	140	4595	3466	2680	2111	1687	1363	1110	779	617	484	374	282	205		3.08
	160	5431	4097	3167	2495	1994	1611	1312	921	729	572	443	334	242	165	2.97
	180	6267	4727	3654	2879	2301	1859	1514	1063	842	661	511	386	280	190	2.87
	200	5605	4199	3222	2515	1989	1587	1073	824	623	459	324	211			2.79

Struts. Placing 1 girder in the centre of the span.

NOTE:

The tables presented serve as a pre-dimensioning of a mixed slab project, being a quick tool to define slab and steel thickness to be chosen as a starting point in the development of the project.

The data shown in the tables is for guidance purposes only, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

TWO SPANS

TOTAL LOADS UNFACTORED (kg / m ²)															
	REINFORCED SECTION (mm)	L (spans in metres)													
		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	5.25
SLAB 200mm	16	5,470	4,862	4,376	3,772	3,169	2,700	2,326	2,028	1,783	1,579	1,409	1,264	1,141	1,035
	12+10	5,391	4,792	4,313	3,677	3,090	2,633	2,270	1,977	1,738	1,540	1,373	1,232	1,112	1,009
	12+8	5,188	4,594	4,115	3,401	2,857	2,435	2,089	1,829	1,607	1,424	1,270	1,140	1,029	933
	12	4,771	4,004	3,243	2,680	2,252	1,919	1,855	1,441	1,267	1,122	1,001	896	811	735
	10	4,247	3,356	2,718	2,246	1,868	1,606	1,387	1,208	1,062	941	839	753	680	616
SLAB 180mm	16	5,085	4,520	3,996	3,302	2,775	2,365	2,039	1,776	1,561	1,383	1,233	1,107	999	906
	12+10	5,004	4,448	3,897	3,220	2,706	2,306	1,988	1,732	1,522	1,348	1,203	1,079	974	884
	12+8	4,778	4,247	3,606	2,980	2,504	2,134	1,840	1,603	1,409	1,248	1,113	999	901	818
	12	4,375	3,514	2,847	2,353	1,977	1,684	1,452	1,265	1,112	985	879	789	712	645
	10	3,731	2,948	2,388	1,974	1,658	1,413	1,218	1,061	933	826	737	661	597	541
SLAB 160mm	16	4,687	4,166	3,428	2,833	2,381	2,029	1,749	1,524	1,339	1,186	1,058	950	857	777
	12+10	4,605	4,093	3,344	2,764	2,322	1,979	1,706	1,486	1,306	1,157	1,032	926	836	758
	12+8	4,376	3,824	3,097	2,560	2,151	1,833	1,580	1,377	1,210	1,072	956	858	774	702
	12	3,828	3,025	2,450	2,025	1,701	1,450	1,250	1,089	957	848	756	679	613	556
	10	3,215	2,540	2,058	1,701	1,429	1,218	1,050	915	804	712	635	570	514	467
SLAB 140mm	16	4,276	3,532	2,861	2,364	1,987	1,693	1,460	1,271	1,117	990	883	792	715	649
	12+10	4,193	3,446	2,791	2,307	1,938	1,652	1,424	1,241	1,090	966	862	773	698	633
	12+8	3,961	3,195	2,588	2,139	1,797	1,532	1,321	1,150	1,011	896	799	717	647	587
	12	3,209	2,535	2,053	1,697	1,426	1,215	1,048	913	802	711	634	569	513	466
	10	2,699	2,133	1,728	1,428	1,200	1,022	881	768	675	598	533	479	432	392
SLAB 120mm	16	2,144	1,694	1,372	1,134	953	812	700	610	536	475	424	380	343	311
	12+10	3,583	2,831	2,293	1,895	1,592	1,357	1,170	1,019	896	793	708	635	573	520
	12+8	3,498	2,764	2,239	1,850	1,555	1,325	1,142	995	875	775	691	620	560	508
	12	3,249	2,567	2,080	1,719	1,444	1,231	1,061	924	812	720	642	576	520	472
	12	2,589	2,046	1,657	1,369	1,151	980	845	736	647	573	511	459	414	376
SLAB 100mm	10	2,183	1,725	1,397	1,155	970	827	713	621	546	484	431	387	349	317
	8	1,739	1,374	1,113	920	773	658	568	495	435	385	343	308	278	252

Struts. Placing 1 girder in the centre of the span.

MG 60/220 0.8 mm

MG 60/220 0.8 mm/1.0 mm

MG 60/220 0.8 mm/1.0 mm/1.2 mm

NOTE:

The tables presented serve as a pre-dimensioning of a mixed slab project, providing a quick tool to define slab edges and steel thickness to be chosen as a starting point in the development of the project.

The data shown in the tables is, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

NON-COMPOSITE FLOOR DECK TABLES:

THREE SPANS

TOTAL LOADS UNFACTORED (kg / m ²)															
	REINFORCED SECTION (mm)	L (spans in metres)													
		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	5.25
SLAB 200mm	16	4,376	3,890	3,501	3,183	2,917	2,499	2,154	1,877	1,650	1,461	1,303	1,170	1,056	958
	12+ 10	4,313	3,833	3,450	3,136	2,865	2,442	2,105	1,834	1,612	1,428	1,274	1,143	1,032	936
	12+ 8	4,134	3,675	3,308	3,007	2,667	2,273	1,960	1,707	1,500	1,329	1,185	1,064	960	871
	12	3,816	3,392	3,053	2,543	2,137	1,821	1,570	1,367	1,202	1,065	950	852	769	698
	10	3,597	3,197	2,603	2,151	1,808	1,540	1,328	1,157	1,017	901	803	721	651	590
	8	3,278	2,806	2,273	1,878	1,578	1,345	1,160	1,010	888	786	701	630	568	515
SLAB 180mm	16	4,068	3,616	3,254	2,958	2,538	2,163	1,865	1,624	1,428	1,265	1,128	1,012	914	829
	12+ 10	4,003	3,559	3,203	2,912	2,482	2,115	1,823	1,588	1,396	1,237	1,103	990	893	810
	12+ 8	3,823	3,398	3,058	2,754	2,314	1,972	1,700	1,481	1,302	1,153	1,028	923	833	756
	12	3,500	3,111	2,680	2,215	1,861	1,586	1,367	1,191	1,047	927	827	742	670	608
	10	3,278	2,806	2,273	1,878	1,578	1,345	1,160	1,010	888	786	701	630	568	515
	8	2,948	2,398	1,942	1,605	1,349	1,149	991	863	759	672	600	538	486	440
SLAB 160mm	16	3,749	3,333	2,999	2,552	2,144	1,827	1,575	1,372	1,206	1,068	953	855	772	700
	12+ 10	3,684	3,275	2,947	2,497	2,098	1,788	1,541	1,343	1,180	1,045	932	837	755	685
	12+ 8	3,501	3,112	2,801	2,333	1,961	1,671	1,440	1,255	1,103	977	871	782	706	640
	12	3,174	2,819	2,284	1,887	1,586	1,351	1,165	1,015	892	790	705	633	571	518
	10	2,948	2,398	1,942	1,605	1,349	1,149	991	863	759	672	600	538	486	440
	8	2,438	1,926	1,560	1,290	1,084	923	796	693	610	540	482	432	390	354
SLAB 140mm	16	3,421	3,041	2,520	2,082	1,750	1,491	1,286	1,120	984	872	778	698	630	571
	12+ 10	3,354	2,982	2,468	2,040	1,714	1,461	1,259	1,097	964	854	762	684	617	560
	12+ 8	3,169	2,817	2,314	1,913	1,607	1,370	1,181	1,029	904	801	714	641	579	525
	12	2,837	2,330	1,887	1,560	1,310	1,117	963	839	737	653	582	523	472	428
	10	2,519	1,990	1,612	1,332	1,120	954	823	717	630	558	498	447	403	366
	8	2,033	1,606	1,301	1,075	903	770	664	578	508	450	402	360	325	295
SLAB 120mm	16	3,050	2,410	1,952	1,613	1,356	1,155	996	868	763	675	602	541	488	443
	12+ 10	2,993	2,365	1,916	1,583	1,330	1,134	977	851	748	663	591	531	479	434
	12+ 8	2,821	2,229	1,806	1,492	1,254	1,068	921	803	705	625	557	500	451	409
	12	2,329	1,840	1,491	1,232	1,035	882	760	662	582	516	460	413	373	338
	10	2,003	1,583	1,282	1,060	890	759	654	570	501	444	396	355	321	291
	8	1,627	1,286	1,042	861	723	616	531	463	407	360	321	289	260	236

Struts. Placing 1 girder in the centre of the span.

MG 60/220 0.8 mm	MG 60/220 0.8 mm/1.0 mm	MG 60/220 0.8 mm/1.0 mm/1.2 mm
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NOTE:

The tables presented serve as a pre-dimensioning of a mixed slab project, providing a quick tool to define slab edges and steel thickness to be chosen as a starting point in the development of the project.

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FOUR SPANS

TOTAL LOADS UNFACTORED (kg / m ²)															
	REINFORCED SECTION (mm)	L (spans in metres)													
		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	5.25
SLAB 200mm	16	4,558	4,052	3,647	3,315	3,039	2,805	2,605	2,346	2,062	1,826	1,629	1,462	1,320	1,197
	12+ 10	4,492	3,993	3,594	3,267	2,995	2,764	2,567	2,292	2,015	1,785	1,592	1,429	1,289	1,170
	12+ 8	4,307	3,828	3,445	3,132	2,871	2,650	2,450	2,134	1,875	1,661	1,482	1,330	1,200	1,089
	12	3,975	3,534	3,180	2,891	2,650	2,276	1,962	1,709	1,502	1,331	1,187	1,065	961	872
	10	3,747	3,331	2,998	2,689	2,259	1,925	1,660	1,446	1,271	1,126	1,004	901	813	738
SLAB 180mm	16	4,237	3,766	3,390	3,082	2,825	2,608	2,331	2,031	1,785	1,581	1,410	1,266	1,142	1,036
	12+ 10	4,170	3,707	3,336	3,033	2,780	2,566	2,279	1,985	1,745	1,546	1,379	1,237	1,117	1,013
	12+ 8	3,982	3,540	3,186	2,896	2,655	2,450	2,125	1,851	1,627	1,441	1,286	1,154	1,041	944
	12	3,646	3,241	2,917	2,652	2,327	1,982	1,709	1,489	1,309	1,159	1,034	928	838	760
	10	3,414	3,035	2,731	2,348	1,973	1,681	1,449	1,263	1,110	983	877	787	710	644
SLAB 160mm	16	3,906	3,472	3,124	2,840	2,604	2,284	1,969	1,715	1,508	1,335	1,191	1,069	965	875
	12+ 10	3,837	3,411	3,070	2,791	2,558	2,234	1,927	1,678	1,475	1,307	1,165	1,046	944	856
	12+ 8	3,647	3,242	2,917	2,652	2,431	2,088	1,801	1,568	1,379	1,221	1,089	978	882	800
	12	3,306	2,939	2,645	2,359	1,982	1,689	1,456	1,269	1,115	988	881	791	714	647
	10	3,071	2,730	2,428	2,007	1,686	1,437	1,239	1,079	948	840	749	673	607	551
	8	2,879	2,408	1,950	1,612	1,354	1,154	995	867	762	675	602	540	488	442
SLAB 140mm	16	3,563	3,167	2,850	2,591	2,187	1,864	1,607	1,400	1,230	1,090	972	872	787	714
	12+ 10	3,494	3,106	2,795	2,541	2,143	1,826	1,574	1,371	1,205	1,068	952	855	771	700
	12+ 8	3,301	2,934	2,641	2,391	2,009	1,712	1,476	1,286	1,130	1,001	893	801	723	656
	12	2,956	2,627	2,359	1,949	1,638	1,396	1,204	1,048	921	816	728	653	590	535
	10	2,717	2,416	2,015	1,666	1,400	1,192	1,028	896	787	697	622	558	504	457
	8	2,523	2,008	1,626	1,344	1,129	962	830	723	635	563	502	450	407	369
SLAB 120mm	16	3,210	2,853	2,440	2,017	1,695	1,444	1,245	1,084	953	844	753	676	610	553
	12+ 10	3,140	2,791	2,395	1,979	1,663	1,417	1,222	1,064	935	829	739	663	599	543
	12+ 8	2,944	2,617	2,257	1,865	1,567	1,336	1,152	1,003	882	781	697	625	564	512
	12	2,594	2,300	1,863	1,540	1,294	1,102	951	828	728	645	575	516	466	422
	10	2,353	1,978	1,603	1,324	1,113	948	818	712	626	555	495	444	401	363
	8	2,034	1,607	1,302	1,076	904	770	664	579	509	450	402	361	325	295

Struts. Placing 1 girder in the centre of the span.

MG 60/220 0.8 mm	MG 60/220 0.8 mm/1.0 mm	MG 60/220 0.8 mm/1.0 mm/1.2 mm
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NOTE:

The tables presented serve as a pre-dimensioning of a mixed slab project, being a quick tool to define slab and steel thickness to be chosen as a starting point in the development of the project.

The data shown in the tables is for guidance purposes only, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

DISTRIBUTION REINFORCEMENT

In the upper slab, a distribution reinforcement will be laid out with steel wires of at least 4 mm in diameter in both directions, at intervals not exceeding 35 cm in both directions (perpendicular and parallel to the ribs).

Distribution reinforcement features:

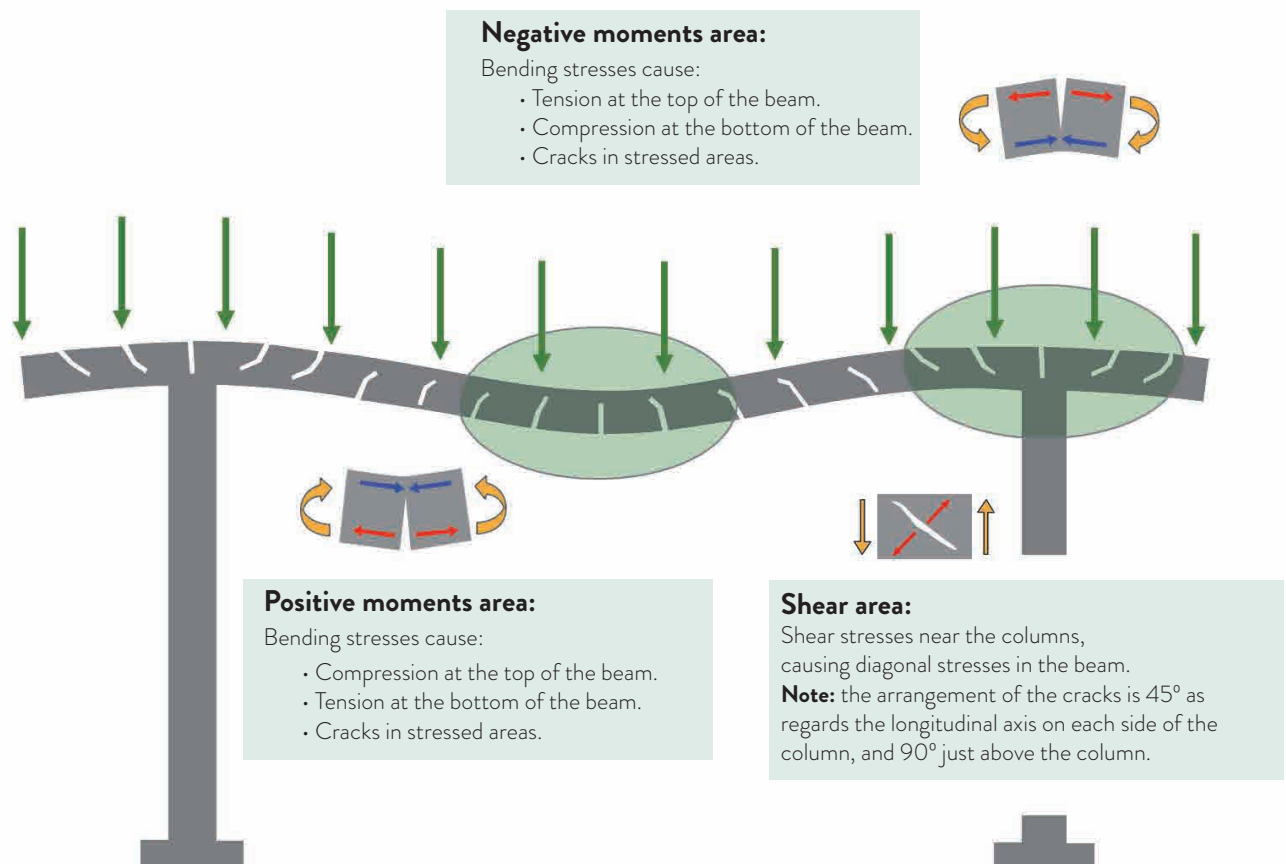
- The distribution reinforcement plays an essential role for the transversal distribution of the local loads, preventing the cracking of the lining of the lower face of the floor.
- It serves to distribute the cracks produced by shrinkage and temperature variations.
- Provides resistance, long the plane of the slab, against horizontal forces that act on the entire structure.
- Protects the link between the slab and the rest of the structure against unforeseen forces. For this reason, it is prescribed that the distribution reinforcement is required to be made up of bars in both directions, although the bars will be predominately perpendicular to the ribs.

NEGATIVE REINFORCEMENT

The function of the **negative** reinforcement in **slabs** is to support the **negative** bending moments, meaning, the tensile stresses produced on the upper face of the **slab**. The material used is corrugated bars of different diameters depending on the specifications of the slab. The length of these bars must be at least one-third of the length of each span.

Basic scheme of applied load in a concrete structure:

APPLIED LOADS



The Technical Building Code - Basic Safety Document in case of fire CTE-DB-CI only establishes the necessary fire resistance time of the structural elements so for its verification in mixed structures, it is necessary to apply the criteria of Eurocode 4.

The fire resistance of the slab is ensured by reinforcing the passive (negative) reinforcements. This can be the reinforcement put into the design at room temperature (for control of cracking, etc.) which in many cases is sufficient for the fire conditions.

During a fire the corrugated sheet heats up rapidly and expands, and there is the possibility that it will separate from the concrete. However, recent tests have shown that this behaviour is not relevant. The sheet contributes to improving the criteria of integrity and thermal insulation: it acts as a shield preventing the passage of flame and hot gases, thus reducing the flow of heat through the concrete.

This is why a composite slab is guaranteed an **RF-30** (30 minutes of fire resistance without the need for complementary reinforcement).

If the project requires a fire resistance of more than 30 minutes, there are several possible solutions:

- Place a fire protection system, continuous coatings, ceilings, etc. on the underside of the slab.
- As mentioned earlier, with the incorporation of passive (negative) reinforcements, with which its supporting capacity in a fire situation (factor R) is increased.

OPENING A HOLE IN AN EXISTING SLAB

In the first place, as always when we act on a structural element, it must be removed to unload it and be able to work safely. Props must be placed in order to transfer the load to the ground, since otherwise damage can be caused to the slab on to which the loads are transmitted.

The holes must be made prior to pouring the concrete. In general, when the side of the hole to be made is greater than one rib, we must reinforce the perimeter of the hole longitudinally and transversely. Normally the following guidelines are followed when placing the reinforcements:

- If the sides of the hole are less than 300 mm, it is not necessary to use reinforcements.
- If the sides are between 300 and 700 mm, it is necessary to use reinforcements.
- For larger measurements, auxiliary structures will have to be used. The cutting of the steel will be done when the concrete is set.

CONSTRUCTION SECTOR:
STRUCTURAL PROFILES

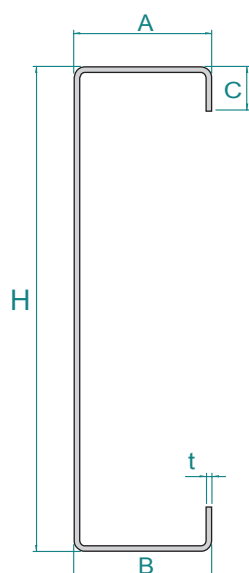
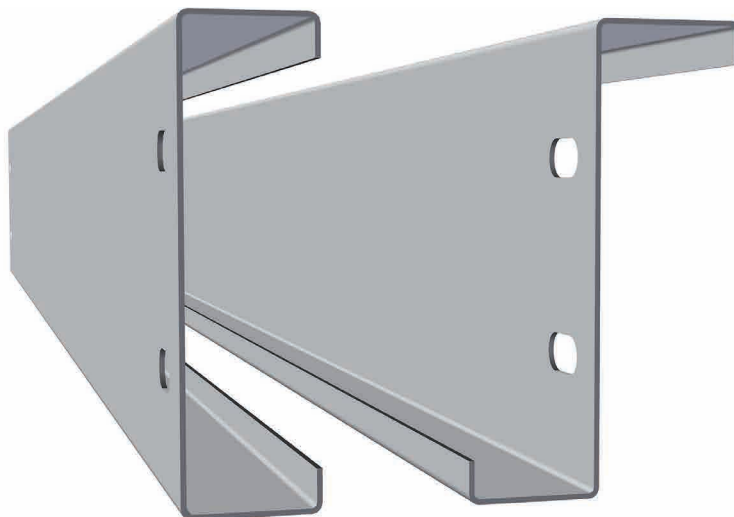
MG Z AND MG C PURLINS



www.magon.es

MG C and **MG Z** purlins are an ideal solution as a supporting structure for roof and wall cladding panels. They represent a solution that is lighter than concrete, is more manageable and reduces the loads on the primary structure of the building. They offer high mechanical performance with minimal weight, and are easy to install, as they are supplied cut to size and punched according to customer specifications.

CE certified product according to the UNE-EN 1090: 2019 standard.

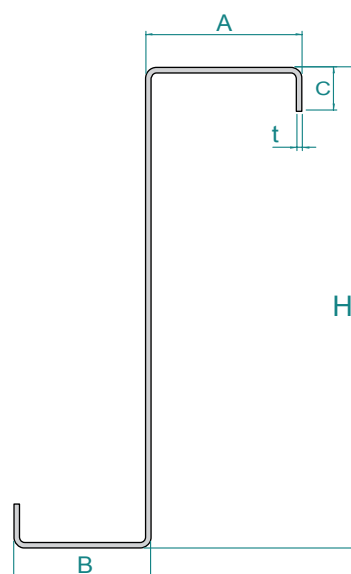


MG C

Profile	H (mm)	A (mm)	B (mm)	C (mm)	t (mm)
C-125	125	50	50	16	2 / 2.5 / 3
C-150	150	50	50	16	“ “
C-175	175	50	50	16	“ “
C-200	200	70	70	20	“ “
C-225	225	70	70	20	“ “
C-250	250	70	70	20	“ “
C-275	275	70	70	20	“ “
C-300	300	70	70	20	“ “

MG Z

Profile	H (mm)	A (mm)	B (mm)	C (mm)	t (mm)
Z-125	125	57	50	16	2 / 2.5 / 3
Z-150	150	57	50	16	“ “
Z-175	175	57	50	16	“ “
Z-200	200	80	70	20	“ “
Z-225	225	80	70	20	“ “
Z-250	250	80	70	20	“ “
Z-275	275	80	70	20	“ “
Z-300	300	80	70	20	“ “



FINISHES

- The MG C and MG Z range are cold-formed galvanized structural steel purlins .
- Type of steel:
 - Standard: structural steel from S220GD to S320GD and galvanized from Z140 to Z275.
 - Special: Other types of steel on request.
- They are manufactured with different punching options to facilitate the assembly and the screw jointing of these elements on site.
- As well as these profiles, we offer a complete system by also supplying all accessories needed for on-site installation.

TECHNICAL FEATURES

- We offer a wide range of sizes, in various configurations, from 125 mm to 300 mm high and 2, 2.5 and 3 mm thick. Manufacturing lengths go up to 14 m.
- Suitable for supporting metal cladding or insulating panels in industrial and commercial buildings, structures for solar installations and light structures.
- They are lighter than concrete, which means lower total loads on the primary structure.
- They have an optimal mechanical resistance at the lowest weight.
- Their installation is simple, as their length can be adjusted to each project's needs. They facilitate the assembly of the structure and avoid unnecessary handling and cutting.
- The purlins can be punched, thus facilitating their installation and optimizing the assembly time. Typically, "slotted" type holes are used to absorb the movements of the structure due to expansion.

APPLICABLE REGULATIONS:

- It is a CE certified product under the new regulations.

UNE-EN 1090-1 + A1	Execution of steel and aluminum structures Part 1: Requirements for conformity assessment of structural components.
UNE-EN 1090-2 + A1 of steel structures.	Execution of steel and aluminum structures Part 2: Technical requirements for steel structures.
UNE-EN 1090-4: 2019	Execution of steel and aluminum structures. Part 4: Technical requirements for cold-formed structural elements and cold formed steel structures for roof, roof, ceiling and wall applications.



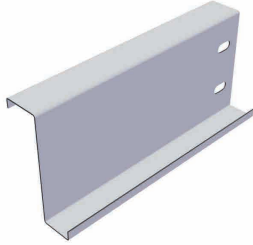
PUNCHED HOLES AND ACCESSORIES:

MG C AND MG Z
PURLINS

- Together with the MG C and MG Z profiles, we provide you with the necessary accessories for their correct installation and operation, adapting to the specific needs of each client.

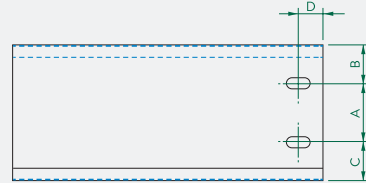
SINGLE PUNCHED HOLES

MOD.1

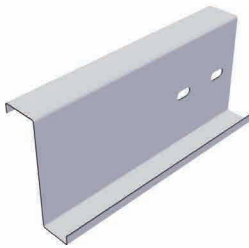


SLOTTED HOLE

30 x 15 mm.
30 x 18 mm.

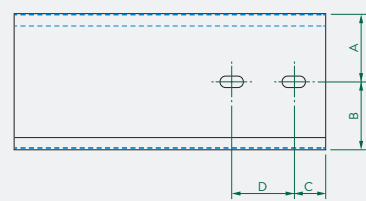


MOD.2

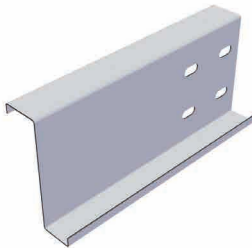


SLOTTED HOLE

30 x 15 mm.
30 x 18 mm.

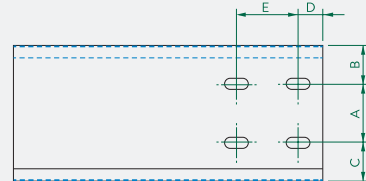


DOUBLE PUNCHED HOLES

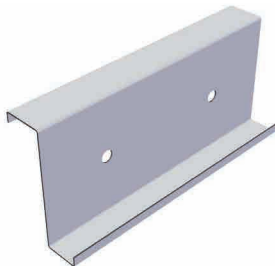


SLOTTED HOLE

30 x 15 mm.
30 x 18 mm.

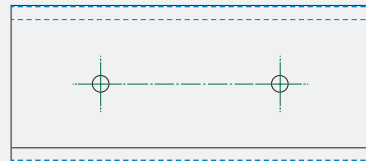


TIGHTENING HOLES



ROUND

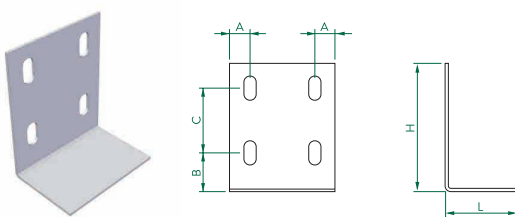
Ø 9 mm.
Ø 18 mm.



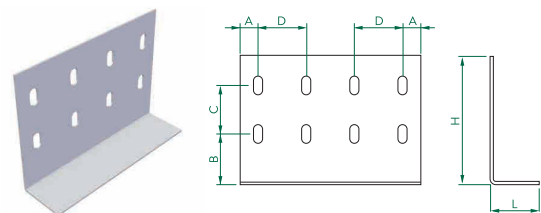
CLEATS

Joining element between the purlin and the primary structure.

Single



Double



Thickness up to 3 mm. SLOTTED HOLE 30 x 15 mm.
30 x 18 mm.

TABLE OF PROPERTIES PROFILE C

t=2mm.	h/a-c(mm)	C-125/50-16	C-150/50-16	C-175/50-16	C-200/70-20	C-225/70-20	C-250/70-20	C-275/70-20	C-300/70-20
	Area:(A/cm ²)	4.88	5.38	5.88	7.34	7.84	8.34	8.84	9.34
	Perimeter	49.17	54.17	59.17	73.77	78.77	83.77	88.77	93.77
	Weight: :P(Kg/m)	3.75	4.15	4.54	5.57	5.97	6.36	6.75	7.14
	C.D.G.:Xg(cm)	X:1.58	X:1.45	X:1.33	X:2.02	X:1.89	X:1.79	X:1.69	X:1.61
	M. Inertia: Ixx (cm ⁴)	X: 117.32	X: 180.14	X: 259.77	X: 446.93	X: 589.43	X: 756.42	X: 949.46	X: 1170.12
	M. Inertia: Iyy (cm ⁴)	Y: 16.63	Y: 17.63	Y: 18.46	Y: 47.72	Y: 49.44	Y: 50.96	Y: 52.30	Y: 53.50
	M.Resist: Wxx (cm ³)	X: 18.77	X: 24.02	X: 29.69	X: 44.69	X: 52.39	X: 60.51	X: 69.05	X: 78.01
	M.Resist: Wyy (cm ³)	Y: 4.86	Y: 4.97	Y: 5.03	Y: 9.58	Y: 9.68	Y: 9.78	Y: 9.85	Y: 9.93
	Turn Radius: ix (cm)	X: 4.90	X: 5.79	X: 6.65	X: 7.80	X: 8.67	X: 9.53	X: 10.37	X: 11.19
	Turn Radius iy (cm)	Y: 1.85	Y: 1.81	Y: 1.77	Y: 2.55	Y: 2.51	Y: 2.47	Y: 2.43	Y: 2.39
t=2.5mm.	h/a-c(mm)	C-125/50-16	C-150/50-16	C-175/50-16	C-200/70-20	C-225/70-20	C-250/70-20	C-275/70-20	C-300/70-20
	Area:(A/cm ²)	6.01	6.64	7.26	9.09	9.71	10.34	10.96	11.59
	Perimeter	48.61	53.61	58.61	73.21	75.21	83.21	88.21	93.21
	Weight: :P(Kg/m)	4.69	5.18	5.67	6.97	7.46	7.95	8.44	8.93
	C.D.G.:Xg(cm)	X:1.58	X:1.44	X:1.33	X:2.01	X:1.89	X:1.79	X:1.69	X:1.61
	M. Inertia: Ixx (cm ⁴)	X: 142.85	X: 219.85	X: 317.59	X: 549.00	X: 724.76	X: 930.87	X: 1169.29	X: 1441.98
	M. Inertia: Iyy (cm ⁴)	Y: 19.92 Y: 21.12	Y: 22.12	Y: 57.85	Y: 59.94	Y: 61.78	Y: 63.41	Y: 64.86	
	M.Resist: Wxx (cm ³)	X: 22.86 X: 29.31	X: 36.30	X: 54.90	X: 64.42	X: 74.47	X: 85.04	X: 96.13	
	M.Resist: Wyy (cm ³)	Y: 5.82 Y: 5.93	Y: 6.03	Y: 11.59	Y: 11.73	Y: 11.86	Y: 11.94	Y: 12.03	
	Turn Radius: ix (cm)	X: 4.87	X: 5.75	X: 6.61	X: 7.77	X: 8.64	X: 9.49	X: 10.33	X: 11.15
	Turn Radius iy (cm)	Y: 1.82	Y: 1.78	Y: 1.75	Y: 2.52	Y: 2.48	Y: 2.44	Y: 2.41	Y: 2.37
t=3mm.	h/a-c(mm)	C-125/50-16	C-150/50-16	C-175/50-16	C-200/70-20	C-225/70-20	C-250/70-20	C-275/70-20	C-300/70-20
	Area: (A / cm ²)	7.12	7.87	8.62	10.81	11.56	12.31	13.06	13.81
	Perimeter	48.05	53.05	58.05	72.65	77.65	82.65	87.65	92.65
	Weight: P (Kg / m)	5.63	6.22	6.81	8.36	8.95	9.54	10.13	10.72
	CDG: Xg (cm)	X: 1.59	X: 1.44	X: 1.33	X: 2.01	X: 1.89	X: 1.79	X: 1.69	X: 1.61
	M. Inertia: Ixx (cm ⁴)	X: 166.91	X: 257.47	X: 372.62	X: 647.28	X: 855.36	X: 1099.55	X: 1382.21	X: 1705.68
	M. Inertia: Iyy (cm ⁴)	Y: 22.88	Y: 24.28	Y: 25.43	Y: 67.29	Y: 69.73	Y: 71.87	Y: 73.77	Y: 75.46
	M.Resist: Wxx (cm ³)	X: 26.71	X: 34.33	X: 42.59	X: 64.73	X: 76.03	X: 87.96	X: 100.52	X: 113.71
	M.Resist: Wyy (cm ³)	Y: 6.69	Y: 6.82	Y: 6.93	Y: 13.48	Y: 13.65	Y: 13.79	Y: 13.89	Y: 14.00
	Turn Radius: ix (cm)	X: 4.84	X: 5.72	X: 6.58	X: 7.74	X: 8.60	X: 9.45	X: 10.29	X: 11.11
	Turn radius: iy (cm)	Y: 1.79	Y: 1.76	Y: 1.71	Y: 2.50	Y: 2.46	Y: 2.42	Y: 2.38	Y: 2.34

C-PROFILE LOAD CHART

- Permissible loadings kg / m². Calculated for a Service Limit State of deformation L / 200 (maximum admissible deflection). Loads not factored.
- The data shown in the tables is for guidance purposes only, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

	SEPARATION BETWEEN STRUCTURAL FRAMES (m)																			
	4.00			5.00			6.00				7.00				8.00			9.00		
Distance between purlins (mm)	1.25	1.50	1.75	1.25	1.50	1.75	1.25	1.50	1.75	2.00	1.25	1.50	1.75	2.00	1.50	1.75	2, 00	1.50	1.75	2.00
C-125 x 2 mm	112	93	80	70	59															
C-125 x 2.5 mm	137	114	98	86	72	62	59													
C-125 x 3 mm	160	145	115	101	84	72	69	57												
C-150 x 2 mm	144	120	103	91	76	65	62	52												
C-150 x 2.5 mm	177	147	126	112	93	80	76	64	54											
C-150 x 3 mm	208	173	148	131	109	94	90	75	64											
C-175 x 2 mm	179	149	128	113	94	81	76	65	55											
C-175 x 2.5 mm	220	183	157	139	116	99	95	79	68	60	69									
C-175 x 3 mm	259	216	175	164	137	117	112	94	80	70	81	67	57							
C-200 x 2 mm	286	239	205	183	153	131	127	106	91	78	94	78	65	57						
C-200 x 2.5 mm	352	293	251	225	188	161	156	130	112	96	115	96	80	70	70	60				
C-200 x 3 mm	415	346	297	266	222	190	185	154	132	114	136	113	95	83	83	71	62			
C-225 x 2 mm	332	277	237	213	177	152	148	123	105	92	109	90	76	67	67	58	50			
C-225 x 2.5 mm	409	341	292	262	218	187	182	151	130	114	134	111	94	82	83	71	62	64		
C-225 x 3 mm	483	402	345	309	258	221	215	179	153	135	158	131	112	98	98	84	74	76	65	
C-250 x 2 mm	381	317	272	244	203	174	169	141	121	107	124	104	88	77	78	67	59	61	52	
C-250 x 2.5 mm	469	391	335	300	250	214	208	174	149	132	153	128	109	96	96	83	72	75	64	56
C-250 x 3 mm	554	462	396	355	296	253	246	205	165	156	181	151	129	113	114	98	86	89	76	67
C-275 x 2 mm	432	360	308	276	230	197	192	160	137	122	141	117	101	89	90	77	67	71	61	53
C-275 x 2.5 mm	532	443	380	341	284	243	236	197	169	151	145	145	124	110	111	95	83	88	75	64
C-275 x 3 mm	629	525	450	403	336	288	280	233	200	179	206	171	147	130	131	112	98	104	89	77
C-300 x 2 mm	485	404	347	311	259	222	216	180	154	138	158	132	115	100	101	87	76	79	65	59
C-300 x 2.5 mm		499	427	383	319	274	266	222	190	170	195	163	142	124	125	107	94	98	84	73
C-300 x 3 mm			506	453	378	324	315	262	225	202	231	193	168	147	148	127	111	116	99	87

Z PROFILE PROPERTIES TABLE

MG C AND MG Z
PURLINS

t=2mm.	h/a-c(mm)	Z-125/57/50-16	Z-150/57/50-16	Z-175/57/50-16	Z-200/80/70-20	Z-225/80/70-20	Z-250/80/70-20	Z-275/80/70-20	Z-300/80/70-20
	Area:(A/cm ²)	5.02	5.52	6.02	7.54	8.04	8.54	9.04	9.54
	Perimeter	50.57	55.57	60.57	75.77	80.77	85.77	90.77	95.77
	Weight: :P(Kg/m)	3.75	4.14	4.54	5.73	6.17	6.52	6.91	7.30
	C.D.G.:Xg(cm)	X:5.08	X:5.07	X:5.05	X:7.14	X:7.13	X:7.11	X:7.10	X:7.09
	M. Inertia: Ixx (cm ⁴)	X: 122.47	X: 187.62	X: 270.00	X: 466.01	X: 613.68	X: 786.45	X: 985.90	X: 1213.59
	M. Inertia: Iyy (cm ⁴)	Y: 32.91	Y: 32.93	Y: 32.94	Y: 90.09	Y: 90.12	Y: 90.15	Y: 90.17	Y: 90.19
	M.Resist: Wxx (cm ³)	X: 19.07	X: 24.40	X: 30.17	X: 45.41	X: 53.24	X: 61.49	X: 70.16	X: 79.26
	M.Resist: Wyy (cm ³)	Y: 6.07	Y: 6.06	Y: 6.05	Y: 11.76	Y: 11.74	Y: 11.73	Y: 11.71	Y: 11.70
	Turn Radius: ix (cm)	X: 4.94	X: 5.83	X: 6.70	X: 7.86	X: 8.74	X: 9.60	X: 10.44	X: 11.28
	Turn Radius: iy (cm)	Y: 2.56	Y: 2.44	Y: 2.34	Y: 3.46	Y: 3.35	Y: 3.25	Y: 3.16	Y: 3.08

t=2.5mm.	h/a-c(mm)	Z-125/57/50-16	Z-150/57/50-16	Z-175/57/50-16	Z-200/80/70-20	Z-225/80/70-20	Z-250/80/70-20	Z-275/80/70-20	Z-300/80/70-20
	Area:(A/cm ²)	6.19	6.81	7.44	9.34	9.96	10.59	11.21	11.84
	Perimeter	50.01	55.01	60.01	75.21	80.21	85.21	90.21	95.21
	Weight: :P(Kg/m)	4.69	5.18	5.67	7.16	7.71	8.14	8.64	9.13
	C.D.G.:Xg(cm)	X:5.06	X:5.04	X:5.03	X:7.11	X:7.10	X:7.09	X:7.07	X:7.06
	M. Inertia: Ixx (cm ⁴)	X: 149.23	X: 229.12	X: 330.30	X: 572.73	X: 754.92	X: 968.25	X: 1214.67	X: 1496.13
	M. Inertia: Iyy (cm ⁴)	Y: 39.38	Y: 39.40	Y: 39.42	Y: 109.14	Y: 109.18	Y: 109.21	Y: 109.24	Y: 109.27
	M.Resist: Wxx (cm ³)	X: 23.24	X: 29.79	X: 36.89	X: 55.80	X: 65.47	X: 75.70	X: 86.43	X: 97.70
	M.Resist: Wyy (cm ³)	Y: 7.30	Y: 7.15	Y: 7.27	Y: 14.29	Y: 14.27	Y: 14.25	Y: 14.23	Y: 14.22
	Turn Radius: ix (cm)	X: 4.91	X: 5.80	X: 6.66	X: 7.83	X: 8.70	X: 9.56	X: 10.41	X: 11.24
	Turn Radius: iy (cm)	Y: 2.52	Y: 2.40	Y: 2.30	Y: 3.42	Y: 3.31	Y: 3.21	Y: 3.12	Y: 3.04

t=3mm.	h/a-c(mm)	Z-125/57/50-16	Z-150/57/50-16	Z-175/57/50-16	Z-200/80/70-20	Z-225/80/70-20	Z-250/80/70-20	Z-275/80/70-20	Z-300/80/70-20
	Area:(A/cm ²)	7.33	8.08	8.83	11.11	11.86	12.61	13.36	14.11
	Perimeter	49.45	54.45	59.45	74.65	79.65	84.65	89.65	94.65
	Weight: :P(Kg/m)	5.63	6.22	6.81	8.60	9.26	9.77	10.36	10.95
	C.D.G.:Xg(cm)	X:5.03	X:5.01	X:5.00	X:7.09	X:7.07	X:7.06	X:7.05	X:7.04
	M. Inertia: Ixx (cm ⁴)	X: 174.50	X: 268.52	X: 387.79	X: 675.60	X: 891.39	X: 1144.22	X: 1436.46	X: 1770.43
	M. Inertia: Iyy (cm ⁴)	Y: 45.21	Y: 45.23	Y: 45.26	Y: 126.88	Y: 126.92	Y: 126.96	Y: 126.99	Y: 127.03
	M.Resist: Wxx (cm ³)	X: 27.16	X: 34.92	X: 43.33	X: 65.78	X: 77.31	X: 89.43	X: 102.20	X: 115.56
	M.Resist: Wyy (cm ³)	Y: 8.39	Y: 8.40	Y: 8.38	Y: 16.67	Y: 16.64	Y: 16.62	Y: 16.60	Y: 16.67
	Turn Radius: ix (cm)	X: 4.88	X: 5.77	X: 6.63	X: 7.80	X: 8.67	X: 9.53	X: 10.37	X: 11.20
	Turn Radius: iy (cm)	Y: 2.48	Y: 2.37	Y: 2.26	Y: 3.38	Y: 3.27	Y: 3.17	Y: 3.08	Y: 3.00

Z PROFILE LOAD CHART

- Permissible loadings kg / m². Calculated for a Service Limit State of deformation L / 200 (maximum admissible deflection). Loads not factored
- The data shown in the tables is for guidance purposes only, with the designer being responsible for carrying out the structural calculations in accordance with the applicable regulations in each country. MAGON ACEROS will not be responsible for the inappropriate use of these tables.

	SEPARATION BETWEEN STRUCTURAL FRAMES (m)																				
	4.00			5.00			6.00				7.00				8.00			9.00			
Distance between purlins (mm)	1.25	1.50	1.75	1.25	1.50	1.75	1.25	1.50	1.75	2.00	1.25	1.50	1.75	2.00	1.50	1.75	2.00	1.50	1.75	2.00	
Z-125 x 2 mm	107	89	76	67	56																
Z-125 x 2.5 mm	131	109	93	82	69	59	56														
Z-125 x 3 mm	153	128	109	96	80	69	66	55													
Z-150 x 2 mm	138	115	99	87	73	62	60	50													
Z-150 x 2.5 mm	169	141	121	107	89	76	73	61	52												
Z-150 x 3 mm	199	166	142	126	105	90	86	71	61												
Z-175 x 2 mm	172	144	123	109	91	78	75	62	53												
Z-175 x 2.5 mm	212	176	151	134	111	96	92	76	65												
Z-175 x 3 mm	249	208	178	158	131	113	108	90	77												
Z-200 x 2 mm	276	230	197	177	147	126	123	102	88	75	90	75									
Z-200 x 2.5 mm	339	283	242	217	181	155	151	126	108	93	111	92	79	67							
Z-200 x 3 mm	400	334	286	256	213	183	178	148	127	110	131	109	93	80							
Z-225 x 2 mm	320	267	229	205	171	146	142	119	102	89	105	87	75	64							
Z-225 x 2.5 mm	394	328	281	252	210	180	175	146	125	110	129	107	92	79	82						
Z-225 x 3 mm	465	388	332	298	248	213	207	172	148	130	152	127	108	94	95	81					
Z-250 x 2 mm	367	306	262	235	196	168	163	136	117	105	120	102	87	77	77	66	58	60			
Z-250 x 2.5 mm	452	377	323	289	241	207	201	167	143	130	148	126	108	94	95	82	71	74	63		
Z-250 x 3 mm	534	445	381	342	285	244	237	198	170	154	174	149	128	112	113	97	85	88	75	66	
Z-275 x 2 mm	417	347	298	267	222	190	185	154	132	121	136	113	97	88	87	74	67	69	59	49	
Z-275 x 2.5 mm	513	428	367	328	274	235	228	190	163	149	168	140	120	109	107	92	82	84	72	62	
Z-275 x 3 mm	607	506	433	388	324	277	270	225	193	177	198	165	142	129	126	108	98	100	86	76	
Z-300 x 2 mm	468	390	335	300	250	214	208	174	149	137	153	127	109	99	98	84	75	77	66	59	
Z-300 x 2.5 mm		481	412	370	308	264	257	214	183	169	189	157	135	123	120	103	93	95	81	73	
Z-300 x 3 mm			488	437	364	312	304	253	217	201	223	186	159	146	142	122	110	112	96	86	

CONSTRUCTION SECTOR:
STRUCTURAL PROFILES

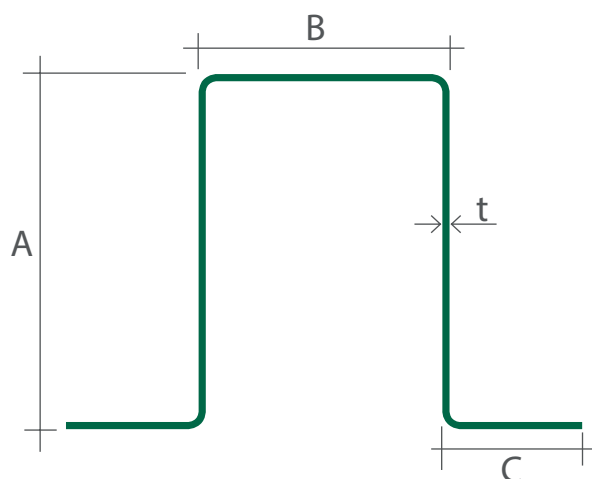
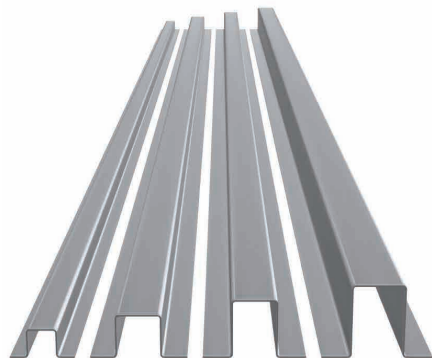
MG HAT CHANNEL



www.magon.es

As a structural profile, it has numerous applications, among which the following stand out: as a secondary structure between the two layers that make up the sandwich roofing, an anchoring substructure in the rehabilitation of fiber cement roofs and as a support structure for roof tiles in housing roofs. We offer various types of hat channel depending on the needs of each project.

CE certified product according to the UNE-EN 1090: 2019 standard.



A (mm)	B (mm)	C (mm)	t (mm)
20	20	15	0.6 / 0.8
20	40	15	0.6 / 0.8 / 1.0
30	30	18	0.8 / 1.0 / 1.2
40	30	20	0.8 / 1.0 / 1.2
40	40	20	0.8 / 1.0 / 1.2 / 1.5
50	35	20	0.8 / 1.0 / 1.2 / 1.5

FINISHES

This profile is manufactured from coated steel sheets according to the following standards:

- Metallic coating (UNE-EN10346): Galvanized.
- Other finishes on request.

TECHNICAL FEATURES

- **End use:** Secondary structures.
- **Thickness:** From 0.6mm to 1.5 mm.
- **Length:** Standard length of 5 mm. Other lengths available on request.



CONSTRUCTION SECTOR:
ACCESSORIES

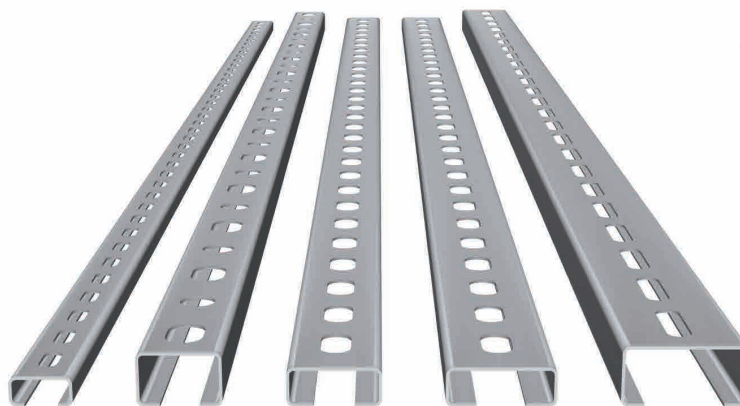
MG C PERFORATED PROFILE



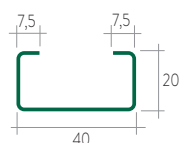
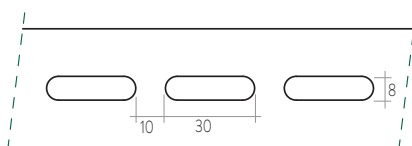
www.magon.es

Type “C” Perforated profile with different sizes and thicknesses. Made of galvanized or electrozinc steel. They are specially designed for fastening ducts: air conditioning, ventilation, electrical installations, plumbing, heating and photovoltaic plate supports in self-consumption systems.

CE certified product according to the UNE-EN 1090: 2019 standard.

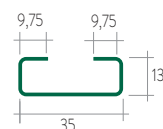
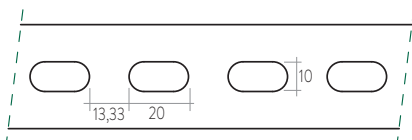


C Perforated Profile 40:



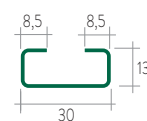
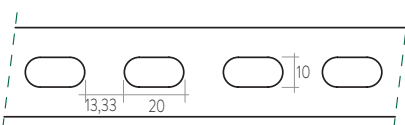
- Dimensions in mm
- Usual thickness: $t=1.5$ mm

C Perforated Profile 35:



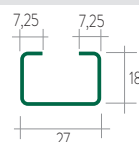
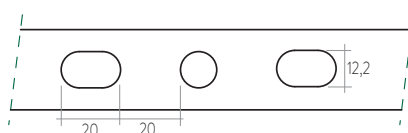
- Dimensions in mm
- Usual thickness: $t=1.2$ mm

C Perforated Profile 30:



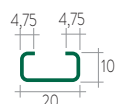
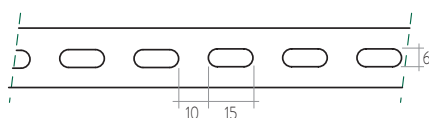
- Dimensions in mm
- Usual thickness: $t=1.2$ mm

C Perforated Profile 27:



- Dimensions in mm
- Usual thickness: $t=1.2$ mm

C Perforated Profile 20:



- Dimensions in mm
- Usual thickness: $t=1.0$ mm

FINISHES

This profile is manufactured from cold-formed coated steel sheets according to the following standards:

- Metallic coating (UNE-EN10346): Galvanized.
- Other finishes on request.

TECHNICAL FEATURES

End use: Duct fastening.

Type of steel: Standard S250GD (other types of steel on request).

- **Thickness:** From 1.0 mm to 1.5 mm.
- **Length:** Standard length of 2 m. Other lengths on request.

CONSTRUCTION SECTOR:
ACCESSORIES

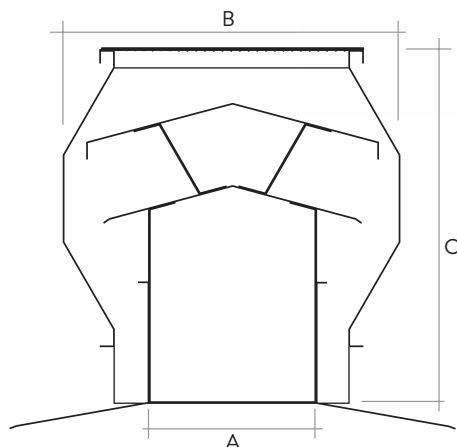
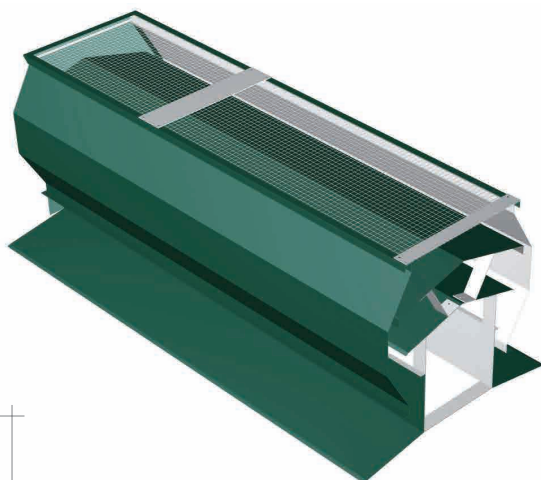
MG AIR250 AND MG AIR500 VENTRIDGE



www.magon.es

Nowadays a suitable working environment is more essential than ever. So, it is vital to have a suitable ventilation system that helps to improve productivity and which complies with current legislation relevant to the activities being carried out in the area. To this end, MAGON ACEROS supplies **MG Air250** and **MG Air500** ventridges which serve a double purpose:

- Recycling of used air from industrial processes
- Extraction of accumulated hot air.



TYPES	A (mm)	B (mm)	C (mm)
MG AIR250	250	345	420
MG AIR500	500	595	420

FINISHES

Manufactured from cold-formed coated steel sheets according to the following standards:

- Organic coating (UNE-EN10169): Polyester, PVDF, HDX, HPS.
- Metallic coating (UNE-EN10346): Galvanized.
- Other finishes on request.

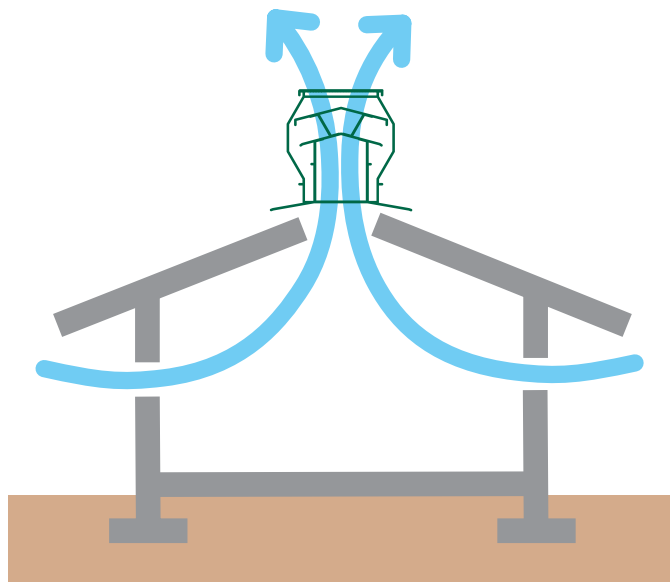
TECHNICAL FEATURES

End use: Natural ventilation of buildings.

Type of steel: Standard S250GD (other types of steel on request).

- **Thickness:** 0.6 mm or 0.8 mm
- **Length:** On request (maximum 6 m).

When installing the MG VentrIDGE, it must be taken into account that, in order for static natural ventilation to occur through the ventridge, it is necessary to provide the installations with air inlets at a lower level which favours this circulation (Venturi effect).



Depending on the activity to be carried out in the property, a certain number of air renewals must be performed, such as in the following chart:

Activity	no. Renewals / hour
warehouses	from 2 to 5
sports centre and markets	from 4 to 8
workshops and rooms with machinery	from 6 to 10
industry with ovens	from 10 to 15
steel industry	from 15 to 20

Once we know the volume of air to be renewed and the number of renewals necessary according to the activity, with our table we can calculate the number of metres of ventilation necessary.

Difference in degrees between exterior and interior (°C)	Difference in heights between air inlet and outlet (m)	Extraction flow per linear metre of ventilator (m³ / hour)	
		MG 250	MG 500
5	6	795	1,570
	8	870	1,690
	10	1,005	1,980
	12	1,090	2,160
	14	1,175	2,335
10	6	1,080	2,125
	8	1,132	2,228
	10	1,271	2,551
	12	1,408	2,788
15	6	1,310	2,585
	8	1,394	2,750
	10	1,560	3,077
	12	1,750	3,450
20	6	1,818	4,258
	8	1,924	4,788
	10	2,109	5,336
	12	2,395	5,981
	14	2,600	6,689

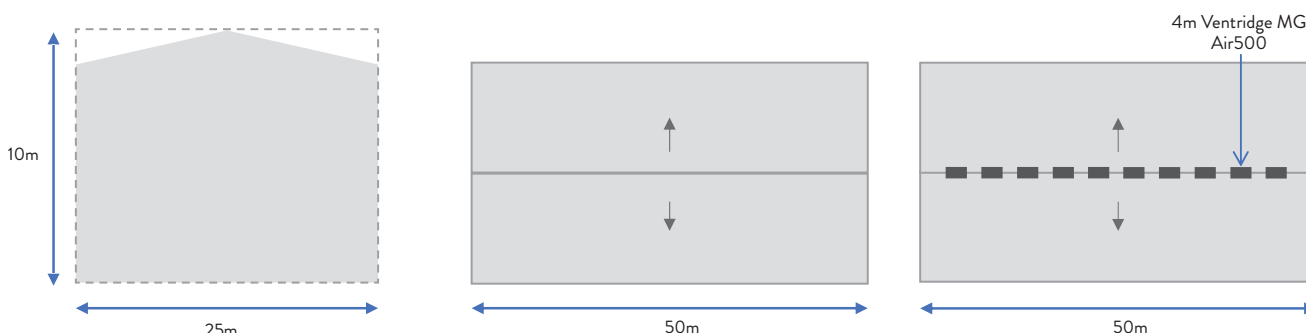
CASE STUDY

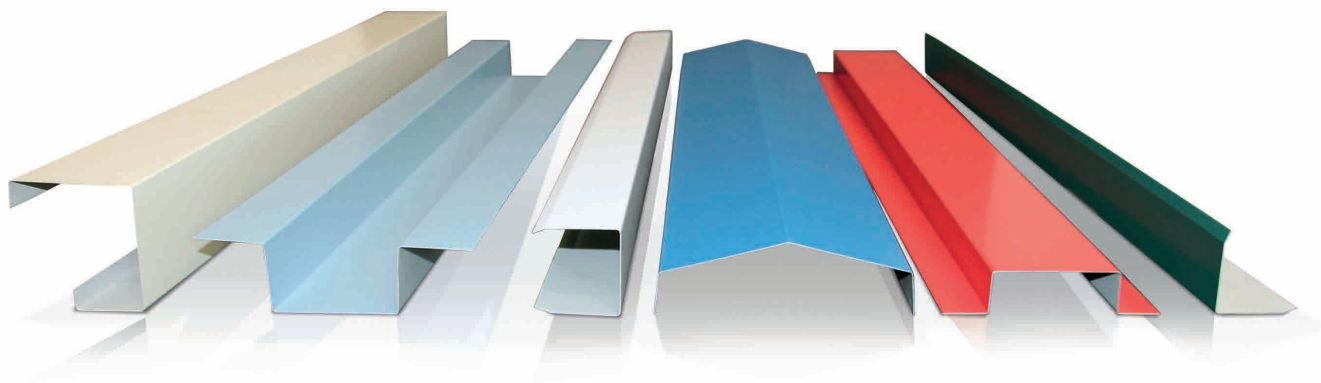
A 1,250m² (25m X 50m) warehouse with a total volume of 12,500m³ (25m X 50m X 10m) to be used as a workshop requires 6 to 10 air renewals per hour. For this case study we are going to assume 8 renewals / hr. We are also going to assume that there is a temperature difference (indoor-outdoor) of 10° C.

By referring to the table, we see that one meter of MG Air500 ventridge evacuates 2,551m³ / hr. We then divide (12,500X8) / 2,551=39.20. This means that 39.20 metres of this type of ventridge are necessary to be able to renew the volume of air, eight times per hour, in this warehouse.

Solution:

10 MG Air500 ventridges of 4m, distributed along the ridge.





At **MAGON ACEROS** we offer you a wide range of finishing pieces that provide solutions to any construction detail, achieving functionality and attractiveness in accordance with the needs of each project.

We can adapt to the design requests of our customers, and are able to carry out any cutting or bending job, whatever your requirements.



Our flashings are made from coated steel sheets according to the following standards:

- Galvanized steel according to UNE-EN 10346
- Prepainted steel according to UNE-EN 10169

We use only quality raw materials; the flashings can be manufactured up to 8 metres in length, with thicknesses from 0.50 mm to 3.00 mm and with a variety of different metal finishes:

- Galvanized
- Prepainted
- Aluminium
- Available colors: see colour chart:.
- Copper
- Stainless steel.
- Magnelis®

	Available thicknesses (mm)
Galvanized	0.60 / 0.80 / 1.00 / 1.20 / 1.50 / 2.00 / 2.50 / 3.00
Prepainted	0.50 / 0.60 / 0.80
Wood imitation	0.60
Aluminium	Available on request
Copper	
Stainless steel.	
Magnelis®	

* Consult our sales department for available widths according to the type of material and thickness.

* For construction details using flashings, please see page 68 of this catalogue.
Also available on our website www.magon.aceros.es

CONSTRUCTION SECTOR:
ACCESSORIES

SKYLIGHTS

POLYCARBONATE / POLYESTER



www.magon.es

We offer skylights for roofs and wall panels that facilitate the use of natural light within the building, improving energy efficiency and benefiting the well-being of the people who work in.

We are referring to sheets specially designed for our profiles, which allow easy installation and a perfect fit.

We offer solutions in compact polycarbonate and in polyester reinforced with fiberglass. Other materials may be supplied on request.



POLYCARBONATE
POLYESTER

The corrugated and trapezoidal compact polycarbonate sheets are protected from ultraviolet rays by co-extrusion of UV absorbers. They can be used on roofs and wall panels, and are characterised by high optical clarity, light transmission and exceptional impact resistance.

Their main characteristics are:

- Transparency.
- Excellent natural lighting.
- Good durability.
- Impact resistance.
- Cold bendable.
- Good fire resistance.

Available profiles: MG 30/206, MG 40/250 and MG 18/76.

POLYCARBONATE

Polycarbonate Features		
Property	Value	Tolerances
Width	Various available	
Length	Up to 5.00 m	-0, +10mm
	More than 5.00 m	-0, +25mm
Thickness	0.9mm	+/- 0.05mm
Sheet Weight	1.25 kg / m ²	
U value	5.73 W / m ² K	
Colour	Natural	Opal
Light Transmission	88%	46%
Solar Transmission	85%	55%

Continuously produced Polyester sheets, are composed of polyester resin reinforced with fiberglass and protected with a "gelcoat" coating on both sides. They can be used on roofs and wall panels, and are characterized by their high chemical resistance and their low coefficient of expansion.

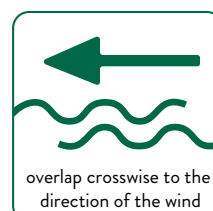
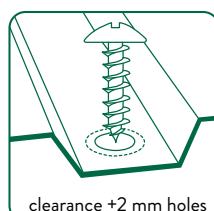
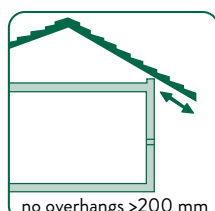
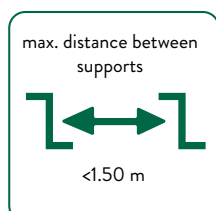
Their main characteristics are:

- Easy installation
- Minimal expansion
- High chemical resistance
- Good light transmission

Available profiles: MG 30/206, MG 40/250 and MG 18/76.

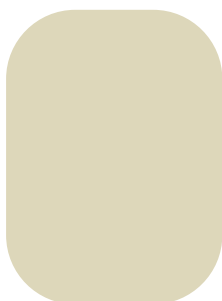
POLYESTER

Polyester Features		
Property	Value	
Width	Various available	
Lengths available	6.00 m	
	8.00 m (other lengths, on request)	
Thickness	1.00 mm	(other thicknesses, on request)
Colour	Natural	Opal
Light transmission	81%	48%

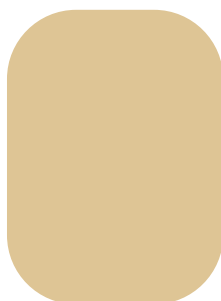




galvanized.



bidaso cream



sand



light wood



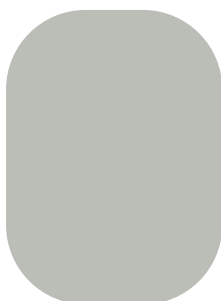
dark wood



pyrenean white



oyster white



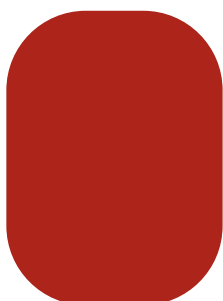
pearl grey



metallic silver



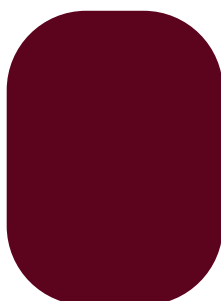
7016 anthracite grey



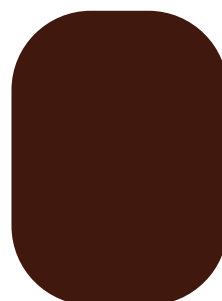
coral red



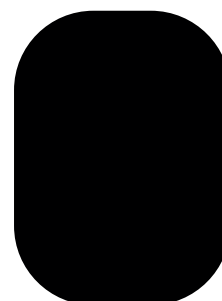
tile red



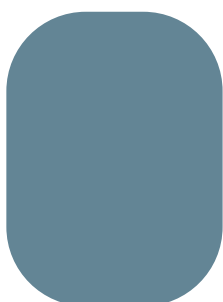
baztan red



tobacco



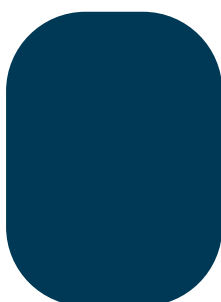
dextar black



sky blue



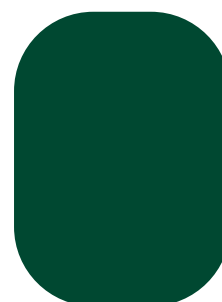
lake blue



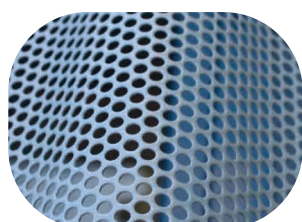
sea blue



light green



navarra green



- R3T5 standard perforation. others perforated, on request.
- Permanent stock perforated in White P. and in Silver M. Other colors

- The colours in this catalogue are approximate.
- Possibility of manufacturing in other colours on request.

Any metal exposed is subject to the corrosion process, which happens naturally and spontaneously. The speed at which the oxidation process takes place will depend on the temperature, where the metal is, and the nature of the metal itself. The corrosion process occurs when a current of electrons is generated by a difference in energy between two different points on the metal surface. When this happens, oxidation of the surface occurs on the part that has lost electrons.

Since oxidation implies a loss of mass of the metal, a prolonged oxidation would affect the mechanical properties of the steel.

Steels therefore have very limited resistance to corrosion. Metallic coatings were created to protect steel from the oxidation process described above. Metallic coating is possible provided that a metal with a higher charge is placed on another with a lower charge. The procedure consists of completely covering the steel with the chosen metallic coating, which can be either a continuous or a discontinuous process.

Once finished, it is the metallic coating that is exposed to the elements, and, therefore, to the oxidation process. These metallic coatings are designed to be highly resistant to oxidation and to last over time.

TYPES

There are a wide variety of metallic coatings available on the market. However, they all have one element in common: zinc, as it oxidizes more easily, protects the steel panel from oxidation when exposed to the environment.

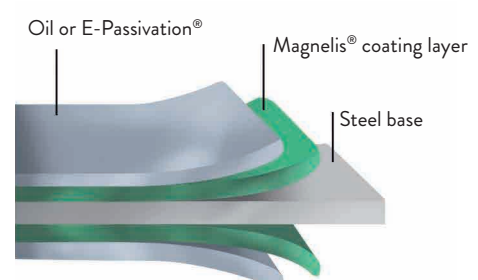
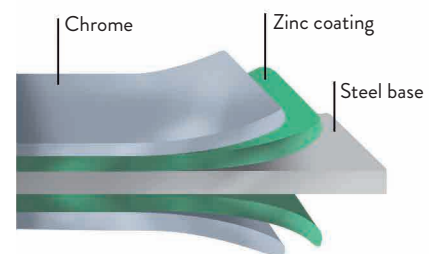
Among the different metallic coatings, the most used are:

- Zinc or galvanized coating.

This is a coating with a zinc percentage higher than 99%. It is the most widespread coating on structural profiles (Z and C profiles), commercial profiles for metal cladding (trapezoidal sheet, corrugated sheet, slat) and profiles for slabs.

- Zinc-magnesium coating.

This is a coating made mostly of zinc, to which aluminum and magnesium are added, in a proportion of 1.5 to 8% of the total coating, with a minimum of 0.2% magnesium. Aluminum and magnesium improve the corrosion resistance of the coating.



In order to choose the right pre-lacquered material for each use, the person responsible for the design of the installation must take into account both the incidence of UV rays and the exposure to corrosive environments of the building or project.

- **Corrosion resistance of the paint system**

To determine the corrosion resistance of a paint system, it is subjected to the salt spray test. This test evaluates the appearance of corrosion after a number of hours in a saline mist chamber. The results provide each paint scheme with an RC corrosion resistance value, from RC1 to RC5, with RC1 being the lowest value. This means that those RC3 rated paint schemes have shown their suitability for environments rated C3 or lower.

- **Resistance to UV radiation of the paint system**

To determine the UV resistance of a paint system, it is subjected to the QUV accelerated ageing test. This test evaluates the loss of gloss and colour over time due to UV rays. The results provide each paint scheme with a UV resistance value RUV, from RUV1 to RUV4, with RUV1 being the lowest value.

- **Classification of environments**

DESCRIPTION OF CORROSIVE CATEGORIES FOR EXTERNAL ENVIRONMENTS

- C1** Very Low.
- C2** Low: Areas with low level of contamination. Mainly rural or industrial areas without significant presence of sulphur dioxide.
- C3** Moderate: Urban and industrial areas with low sulphur dioxide (SO₂) pollution and coastal areas with low salinity (10 km to 20 km from the sea).
- C4** High: Industrial areas with moderate contamination by sulphur dioxide (SO₂) and coastal areas with moderate salinity (3 km to 10 km from the sea).
- C5 I** Very high: Industrial areas with very aggressive atmospheres and major pollution by sulphur dioxide (SO₂)
- C5 M** Very high: Coastal and maritime areas with high salinity (1 km to 3 km from the sea).

Corrosive environment category	Type of environment			
	Rural	Urban	Industrial	Marine
C1 - very low				
C2 -Low				
C3 - medium			SO ₂ low	(10-20 km)
C4 - high			SO ₂ moderate	(3-10 km)
C5 I - very high			SO ₂ high	
C5 M - very high:				(1-3 km)

DESCRIPTION OF THE CATEGORIES OF UV RESISTANCE FOR EXTERNAL ENVIRONMENTS

- Area 1:** Areas not exposed to UV radiation. Indoor use without any radiation.
- Area 2:** Areas with low exposure to UV radiation or without special colour maintenance requirements.
- Area 3:** Areas with moderate exposure to UV radiation.
- Area 4:** Areas with high exposure to UV radiation or with special colour maintenance requirements.

Choosing paint systems for different environments

Once the category of the environment is known, the person responsible for the design must decide on the painting system::

1) You will need to determine the suitable paint system in terms of corrosion. The following table can be used as a guide.

				Polyester	PVDF	HDX
Corrosion resistance category				RC3	RC4	RC5
Type of exterior atmosphere	Rural		C2	✓	✓	✓
	Urban		C3	✓	✓	✓
	Industrial	Low contamination	C3	✓	✓	✓
		Medium contamination	C4	X	✓	✓
		High pollution	C5	X	X	✓
	Marine	10 - 20 km	C3	✓	✓	✓
		3 - 10 km	C4	X	✓	✓
		1 - 3 km	C5	X	X	✓

2) You will need to determine the suitable paint system in terms of UV radiation. The following table can be used as a guide.

				Polyester	PVDF	HDX
UV resistance category				RUV2	RUV4	RUV4
Type of exterior atmosphere	Area 1			✓	✓	✓
	Area 2			✓	✓	✓
	Area 3			X	✓	✓
	Area 4			X	✓	✓

3) A suitable paint system should be chosen in terms of both corrosion resistance and UV resistance. The following cases can be used as a guide.

Strength category corrosion	Strength category UV	Choice
C3	Area 2	Polyester
C4	Area 4	PVDF
C5	Area 3	HDX

The data shown in the tables are guidelines and do not constitute a guarantee of the material. You should contact MAGON ACEROS for those applications which require a guarantee on the profiles steel.

FINISHES

POLYESTER

MAIN PROPERTIES:

HIGH RESISTANCE TO CORROSION

HIGH RESISTANCE TO UV RADIATION:

GOOD RESISTANCE TO FOR DEFORMATION

GOOD STABILITY OF COLOURS
AND APPEARANCE

INDOOR AND OUTDOOR USE

APP:

STANDARD FINISH FOR ALL TYPES OF
ROOFING, WALL PANELS,
COLD STORES AND ACCESSORIES

SURFACE APPEARANCE:

SMOOTH

THICKNESS

25 MICRONS

OUTER FACE COMPOSITION:

5 MICRONS PRIMER + 20 MICRONS
OF FINISHING COAT

GLOSSINESS:

30UB +/- 5

COATING ADHESION:

< 2 T

RESISTANCE TO CRACKING
ON FOLDING:

< 3 T

IMPACT RESISTANCE:

VERY GOOD

SURFACE "PENCIL" HARDNESS:

BETWEEN HB AND H

SALT SPRAY TEST:

150 TO 360 HRS DEPENDING ON SUBSTRATE

CONDENSATION RESISTANCE:

1000 HRS

RESISTANCE TO UV
RADIATION CATEGORY:

RUV2

RESISTANCE TO CORROSION
CATEGORY

RC3

RESISTANCE TO FIRE:

COMPLIANCE WITH STANDARD EN 13501-1 (A1)

RESISTANCE TO ACIDS AND BASES:

GOOD

RESISTANCE TO ALIPHATIC AND
ALCOHOLIC SOLVENTS:

VERY GOOD

RESISTANCE TO AROMATIC
SOLVENTS::

LOW

RESISTANCE TO MINERAL OILS:

VERY GOOD

Standard finish: Polyester 25 um. Other finishes available on request.

Guide values to be taken as a reference. Consult us for guarantees.

PVDF

PU 55µm (GRANITE® HDX / PUPA55)

VERY HIGH RESISTANCE TO CORROSION

EXCELLENT RESISTANCE TO CORROSION

EXCELLENT RESISTANCE TO UV RADIATION

EXCELLENT RESISTANCE TO UV RADIATION

GOOD FORMABILITY

GOOD FORMABILITY

EXCELLENT STABILITY OF COLOURS
AND APPEARANCE

EXCELLENT STABILITY OF COLOURS

INDOOR AND OUTDOOR USE

INDOOR AND OUTDOOR USE

SPECIAL FINISH, WITH VERY GOOD
CORROSION RESISTANCE AND HIGH COLOUR
STABILITY, FOR ALL TYPES OF ROOFS, WALL
PANELS. COLD ROOMS AND ACCESSORIESRECOMMENDED FINISH FOR HARSH ENVIRONMENTS,
COASTAL AREAS AND/OR SEVERE WEATHER
CONDITIONS, DUE TO ITS EXCELLENT RESISTANCE
TO CORROSION.

SMOOTH

GRANULATED

25-35 MICRONS

55 MICRONS

5-15 MICRONS PRIMER + 20 MICRONS
FINISH COAT

25 MICRONS PRIMER + 30 MICRONS OF PUR COATING

30UB +/- 5

30UB +/- 5

<1T

<1T

<2T

<1,5T

VERY GOOD

VERY GOOD

BETWEEN HB AND H

F TO H

500 HRS

700 HRS

1500 HRS

1500 HRS

RUV4

RUV4

RC4

RC5

COMPLIES WITH EN 13501-1 (A1) STANDARD

COMPLIES WITH EN 13501-1 (A1) STANDARD

VERY GOOD

VERY GOOD

VERY GOOD

VERY GOOD

VERY GOOD

VERY GOOD

VERY GOOD

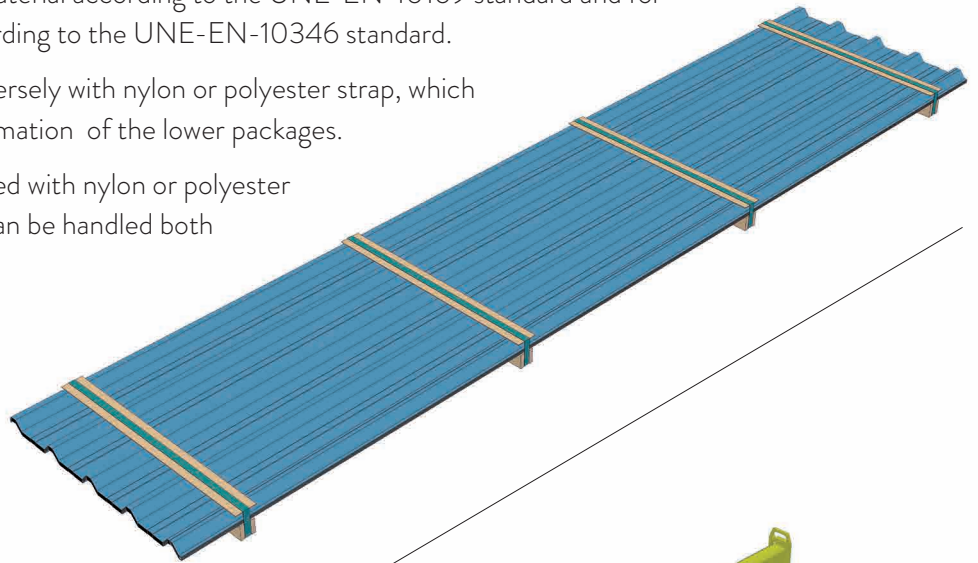
VERY GOOD

PACKAGING

The packages are individually labeled, ensuring their traceability, and we provide a Quality Certificate (if requested) for pre-painted material according to the UNE-EN-10169 standard and for galvanized base material according to the UNE-EN-10346 standard.

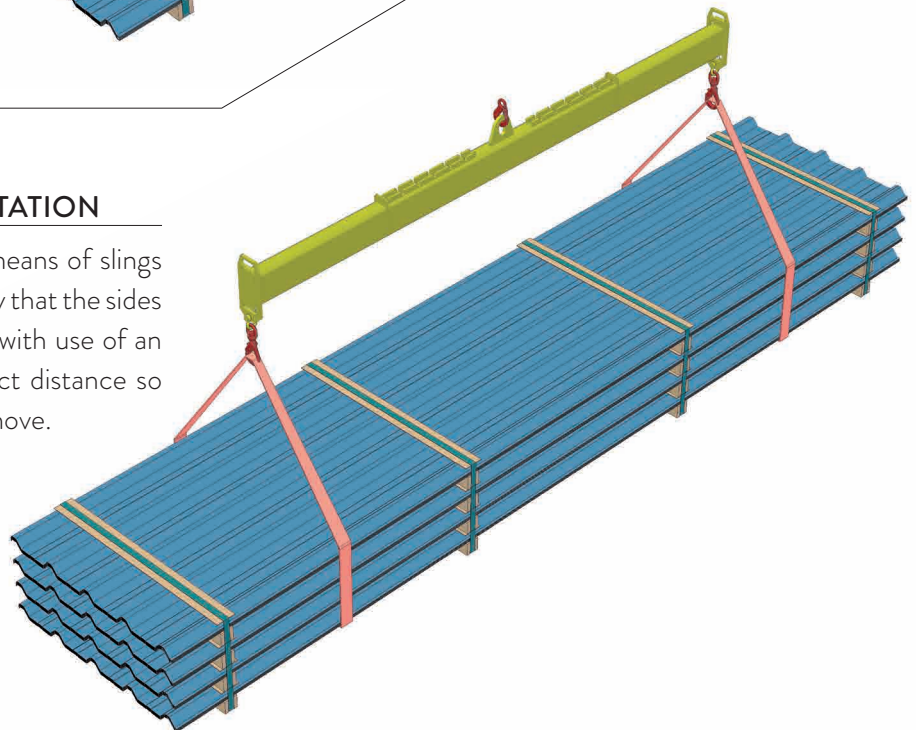
Each package is bound transversely with nylon or polyester strap, which allows stacking, without deformation of the lower packages.

Finally, the products are packed with nylon or polyester straps, so that the packages can be handled both by weight and size.



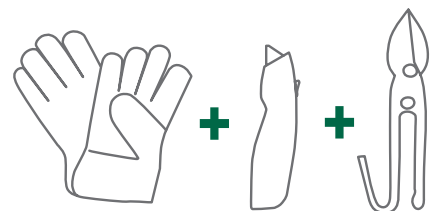
HANDLING AND TRANSPORTATION

The material must be handled by means of slings for unloading, placing it in such a way that the sides of the packages are not damaged (with use of an unloading cradle) and at the correct distance so that the suspended load does not move.

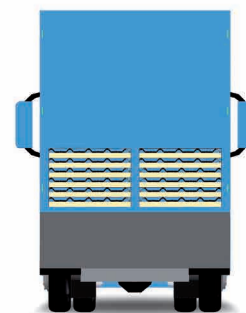
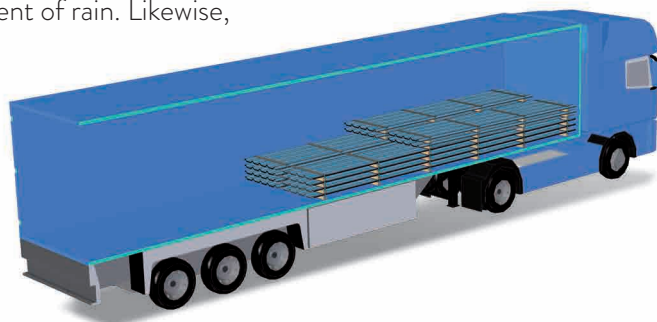


Staff must always handle the sheets and profiles with safety gloves

Appropriate tools should be used to remove the sheets and profile packaging.

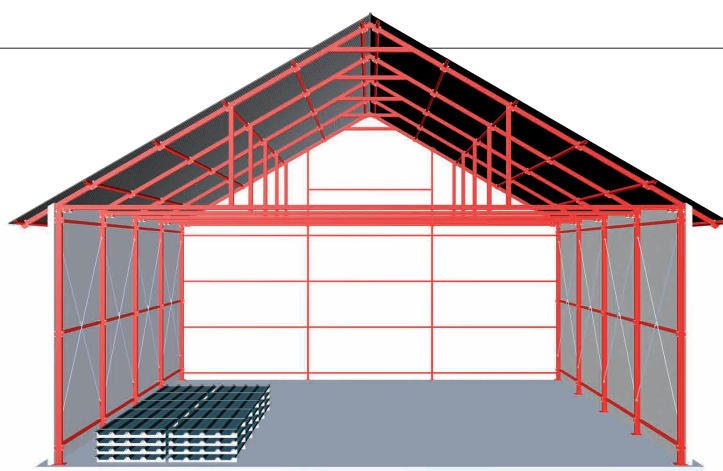


During transport, the packages must be well stacked to prevent the load from shifting, placing them in such a way as to avoid the accumulation of water in the event of rain. Likewise, they must travel in covered transport, MAGON ACEROS is exempt from all responsibility if these recommendations are not followed.



STORAGE.

The packages must always be covered and ventilated, preventing them from touching the ground by means of wooden blocks or similar materials, and stacked at an angle. As the material is sensitive to humidity, condensation and rain, the infiltration of water can lead to the formation of "white rust" which, although not harmful to the material, can mar the material's appearance.



COATING REPAIR

When damage that affects the coating occurs during the handling of the panels, proceed as follows:

When the zinc coating is visible:

- 1). Clean the surface to be repaired
- 2). Apply an epoxy-polyurethane type primer on the affected area
- 3). Apply a coat of acrylic-polyurethane paint over the primer in the same shade as the repaired surface.

When painting over pre-lacquered paint:

- 1). Clean the surface to be repaired
- 2). Apply a coat of acrylic-polyurethane paint in the same shade as the repaired surface

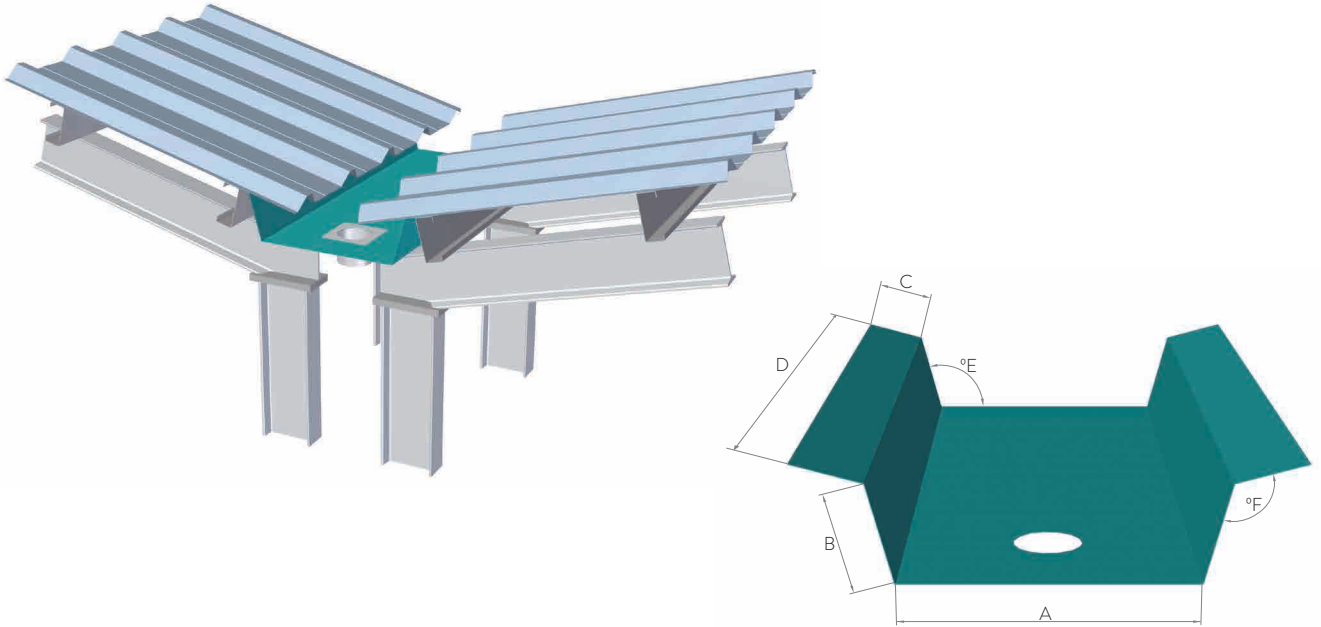
MAINTENANCE

For proper maintenance of our material, we recommend cleaning any residue that could cause water retention on the roof (mould, vegetation, any type of debris ...).

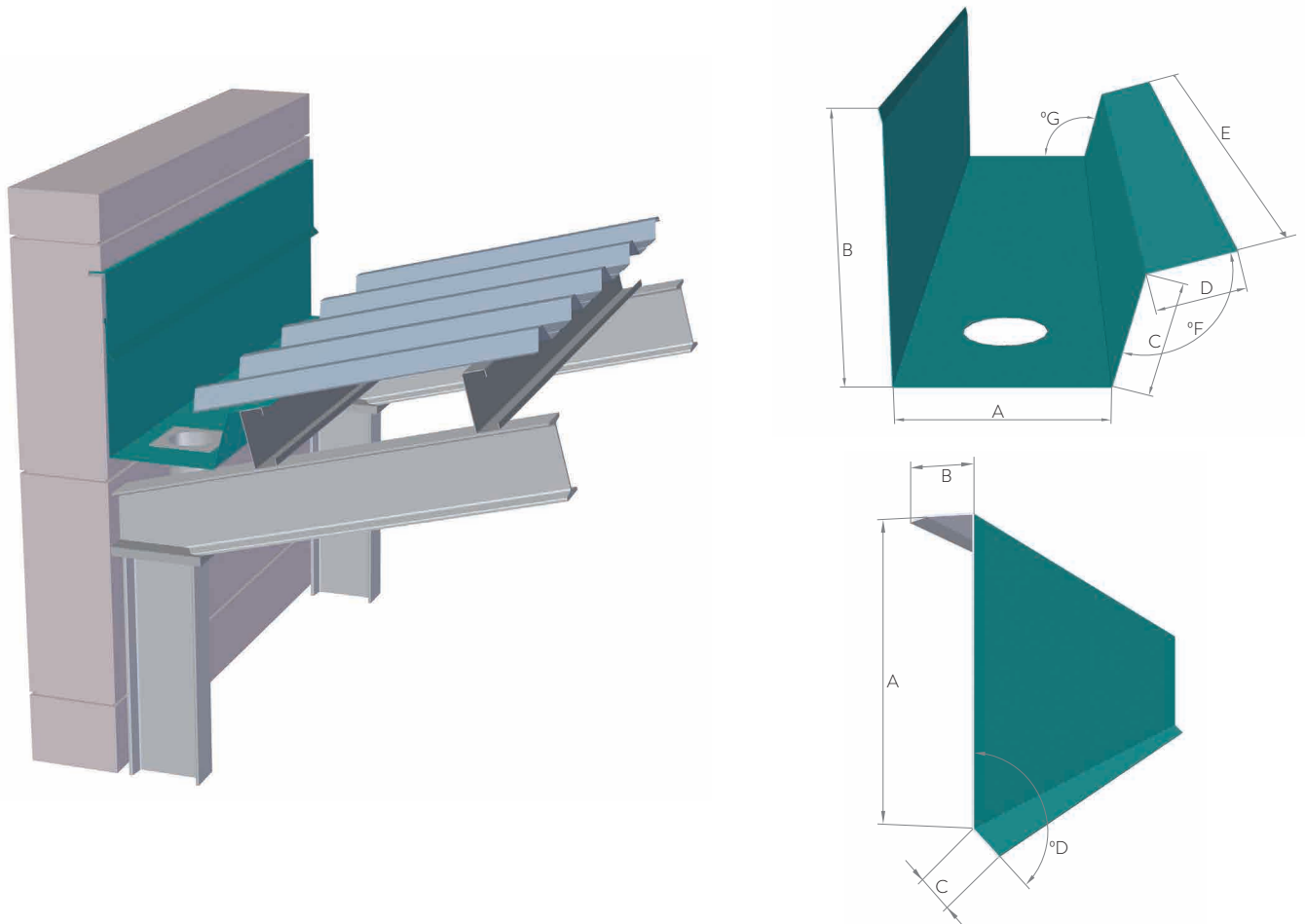
In addition, we recommend maintaining the drainage of rainwater and washing the wall panels and roofs (if detergent is used, it must be with a neutral PH).

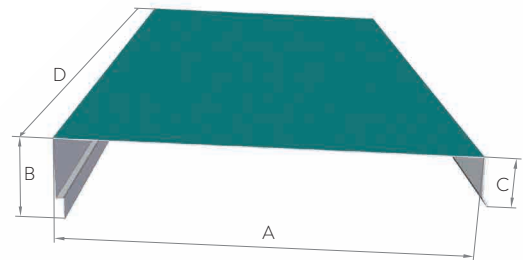
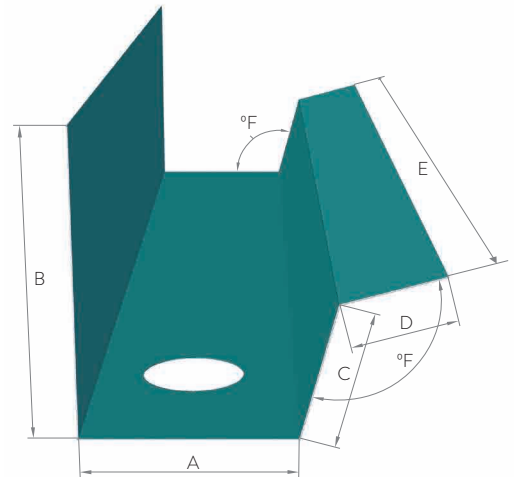
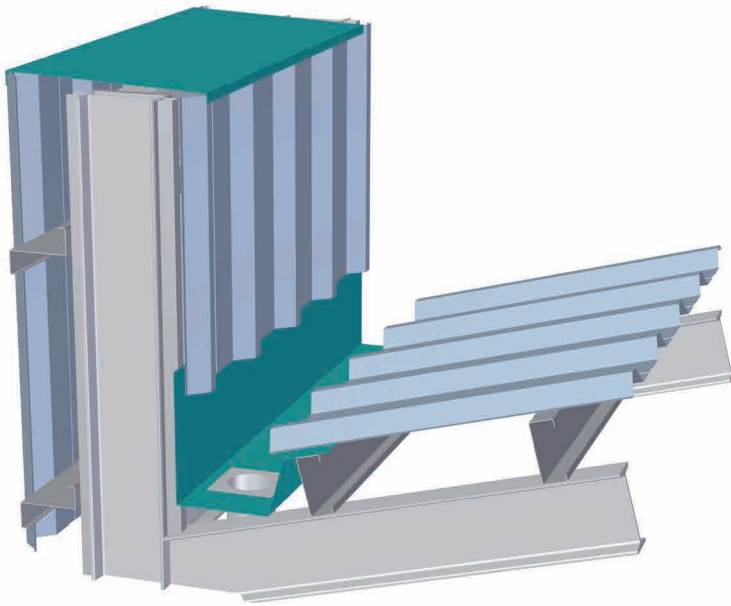


CENTRAL GUTTERING:

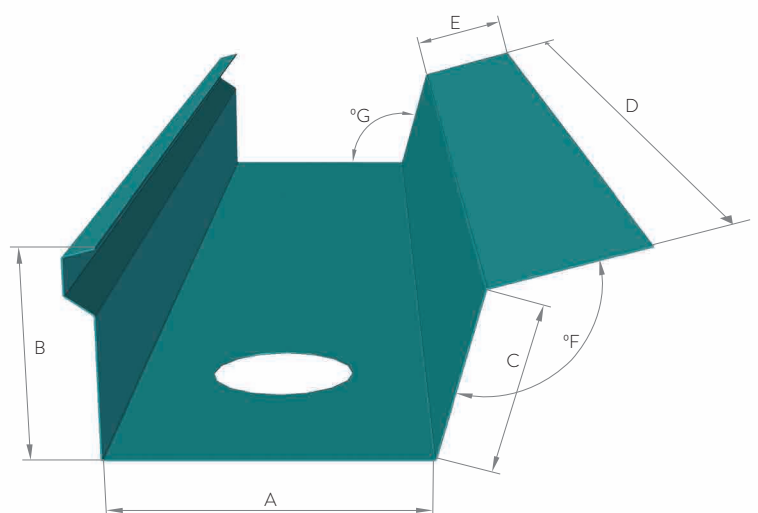
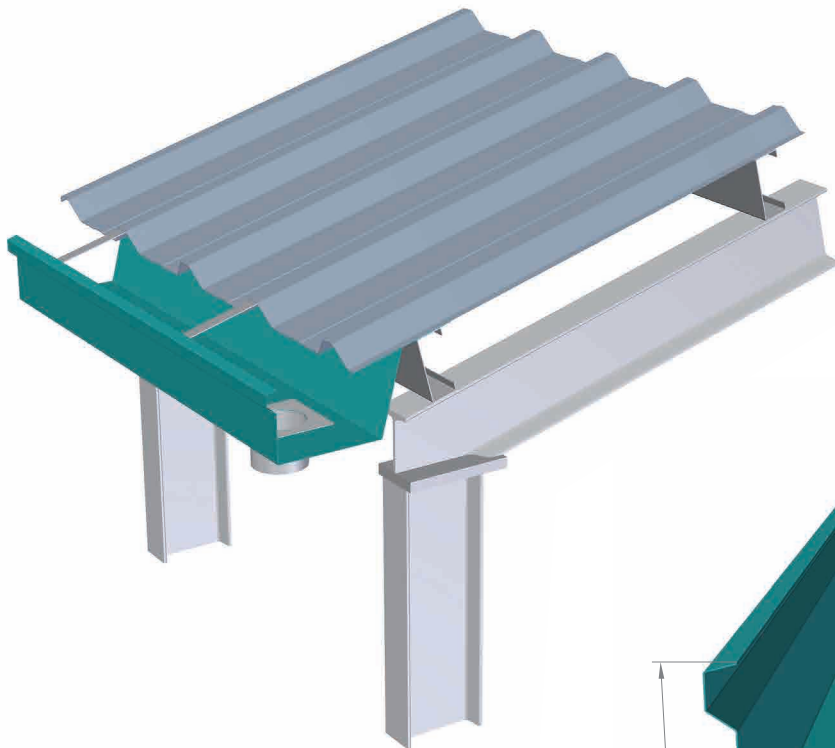


INTERIOR GUTTERING ON CONCRETE WALLS:

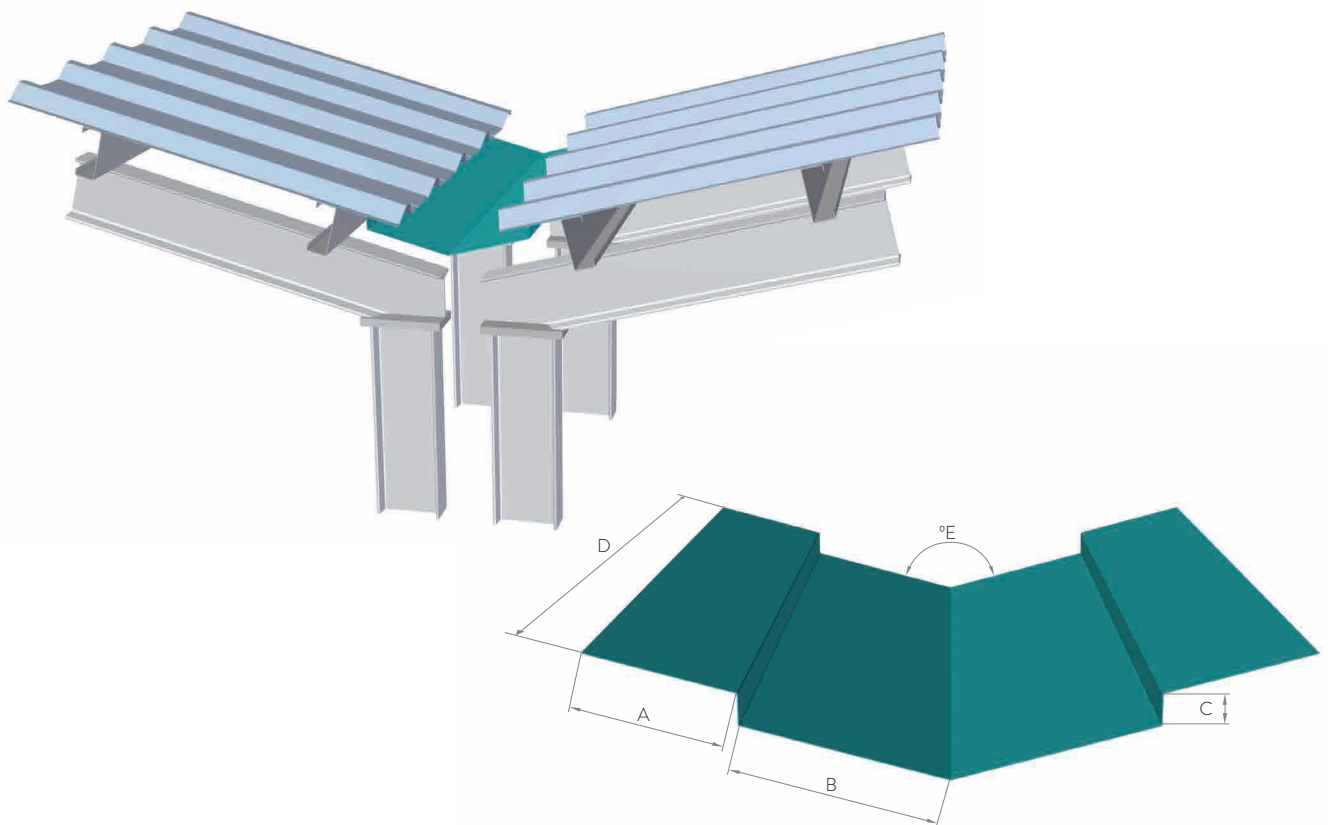




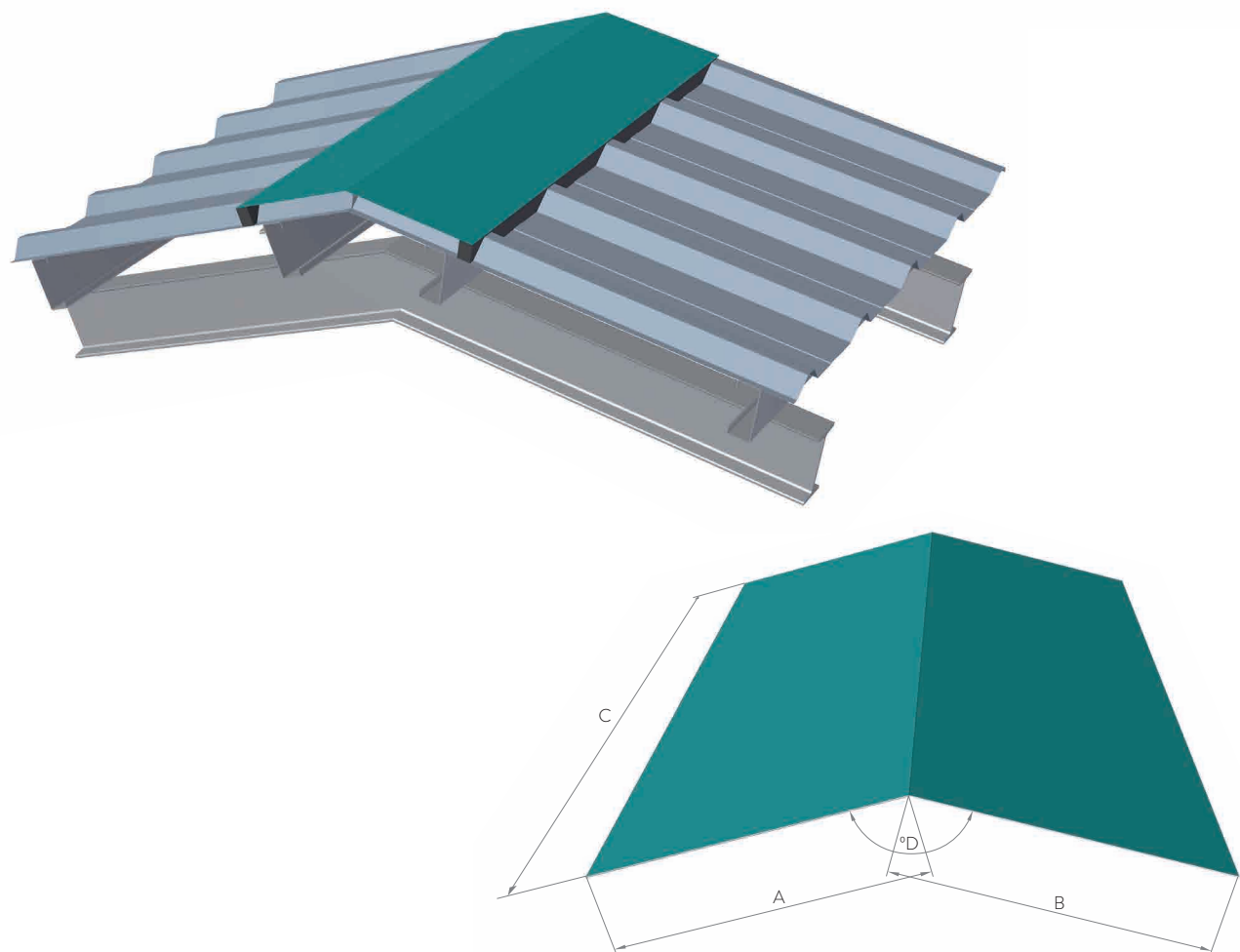
EXTERIOR GUTTERING

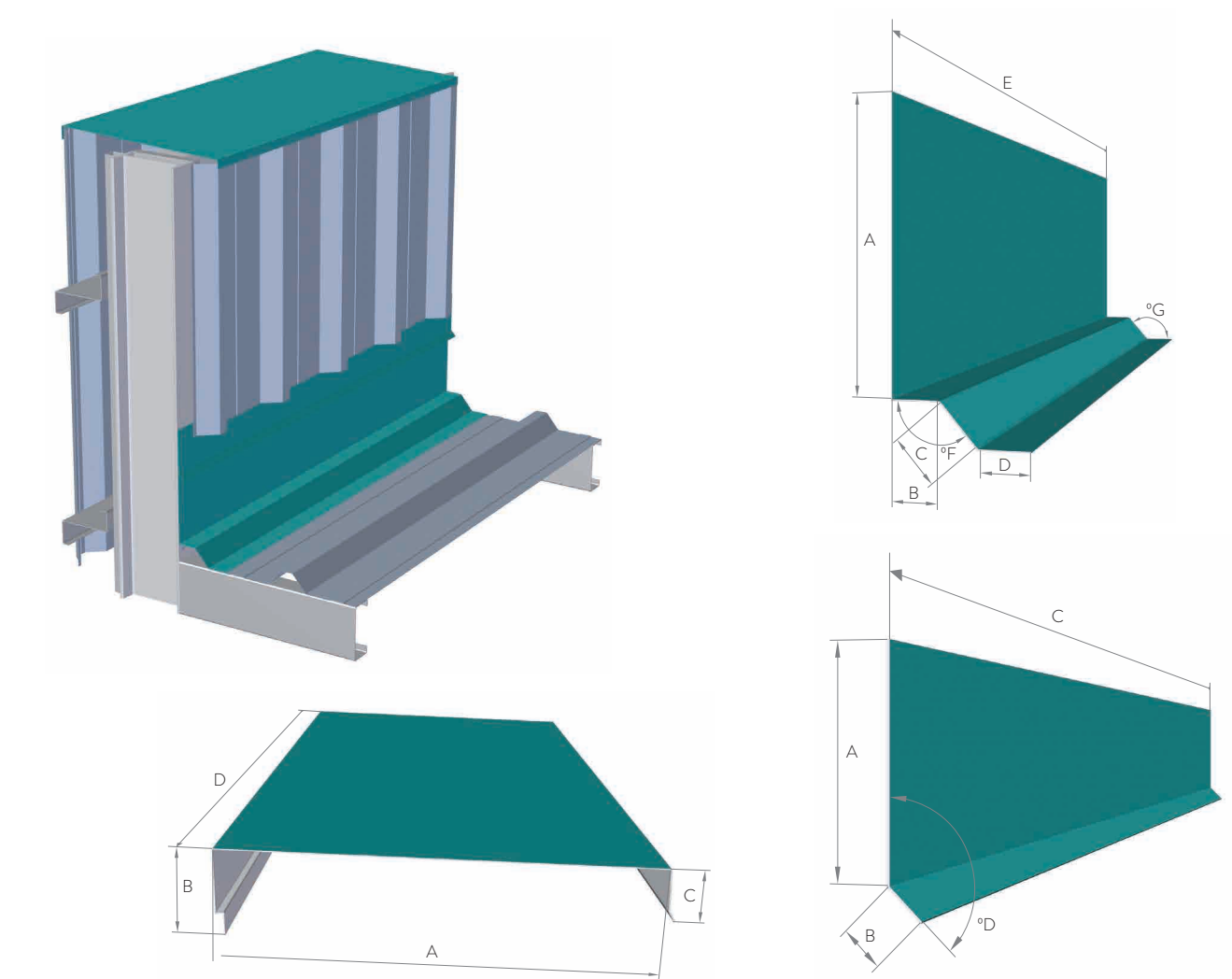
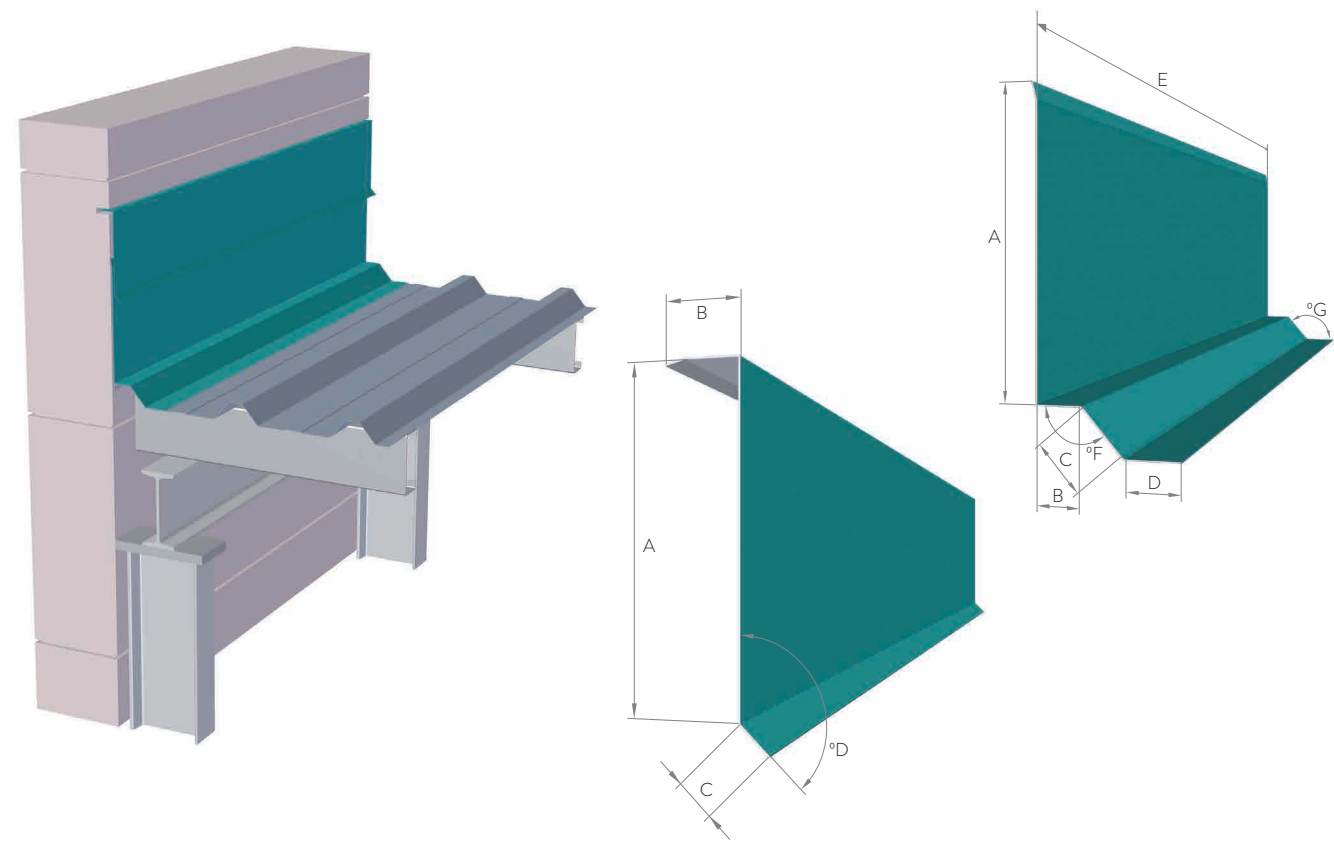


VALLEY GUTTER

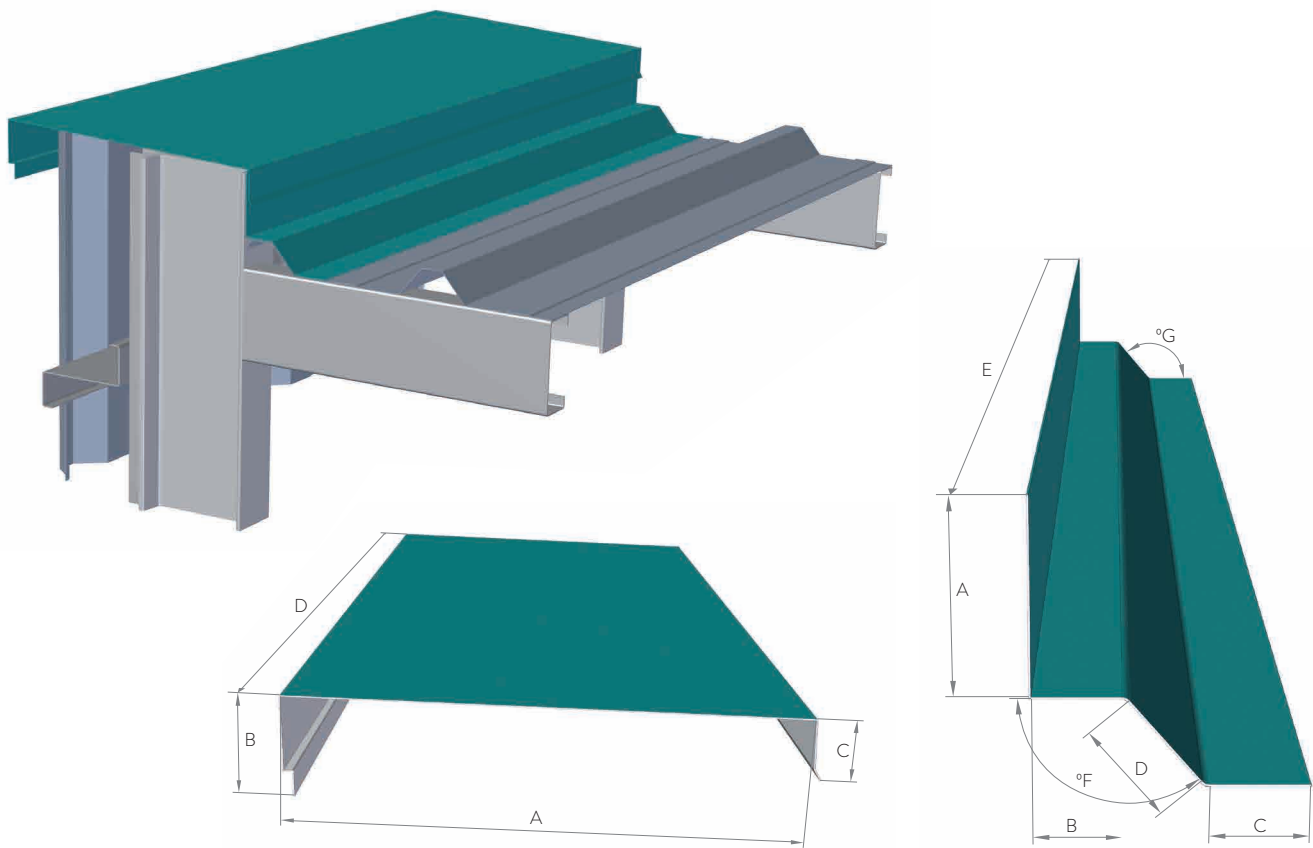


RIDGE CAP

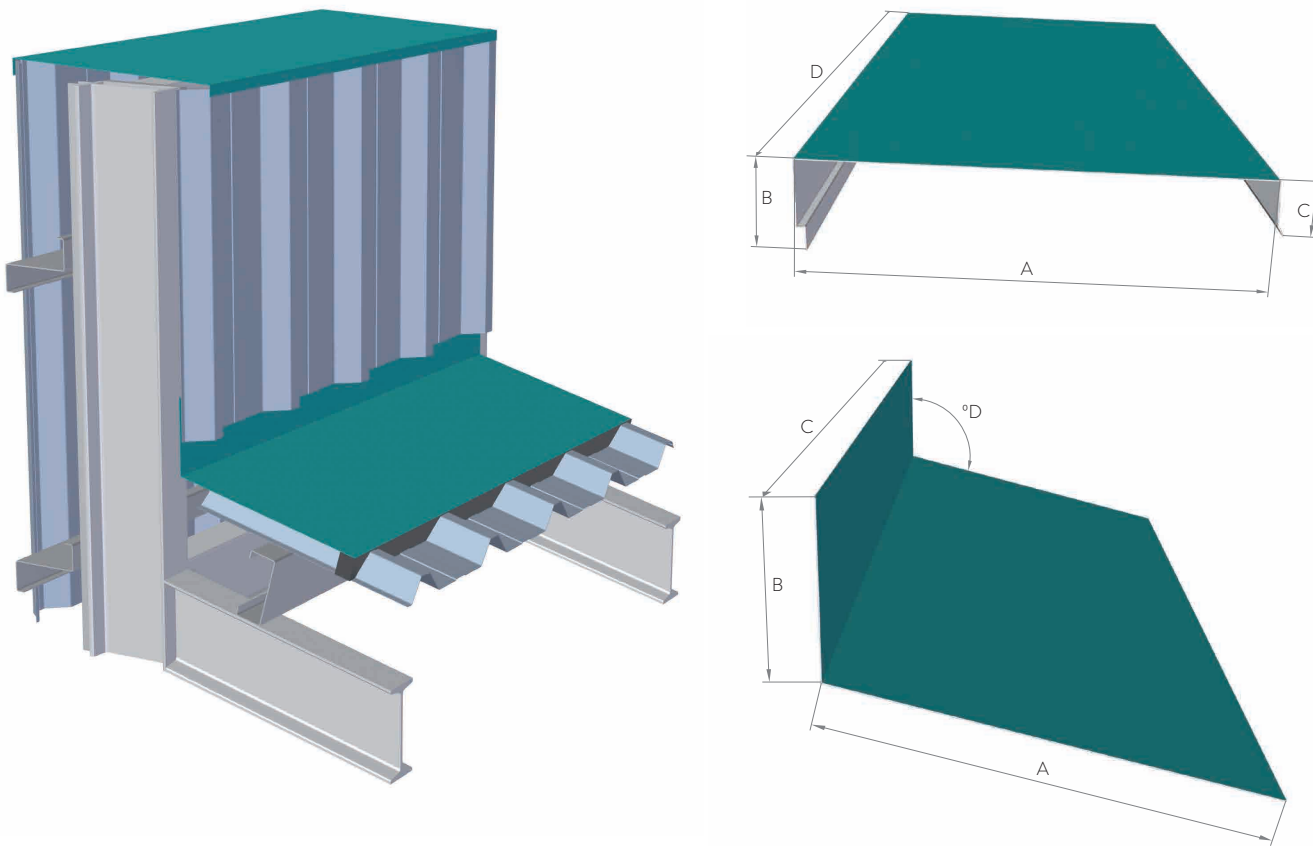


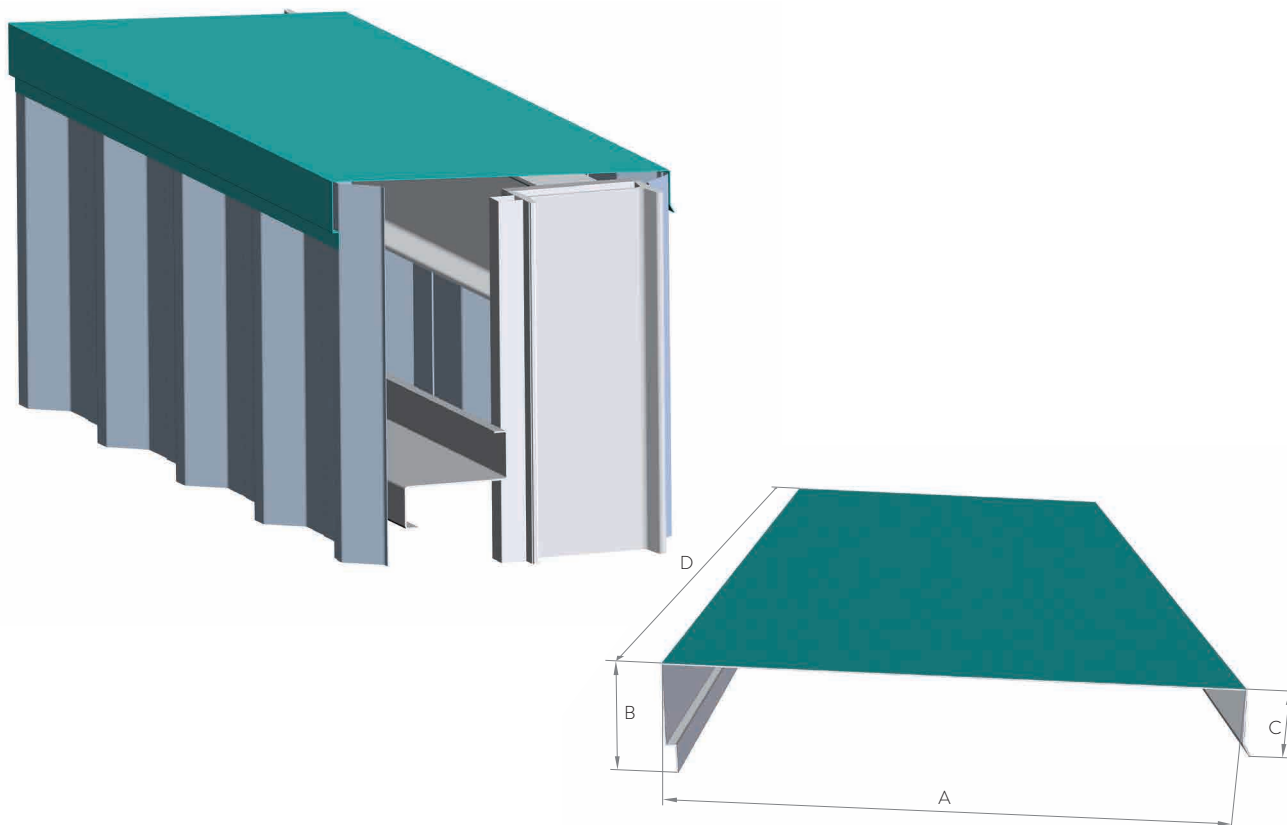


SIDE SLOPE:

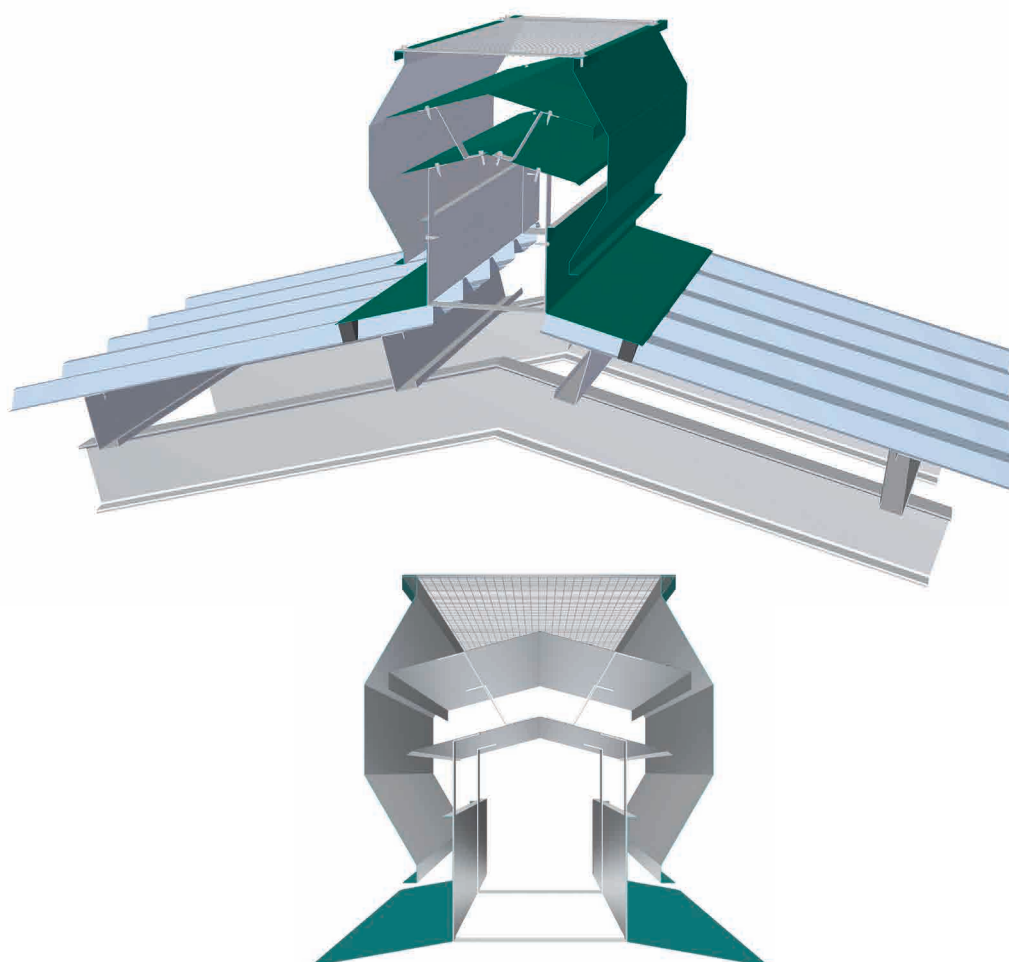


TOP OF SLOPE TO WALL

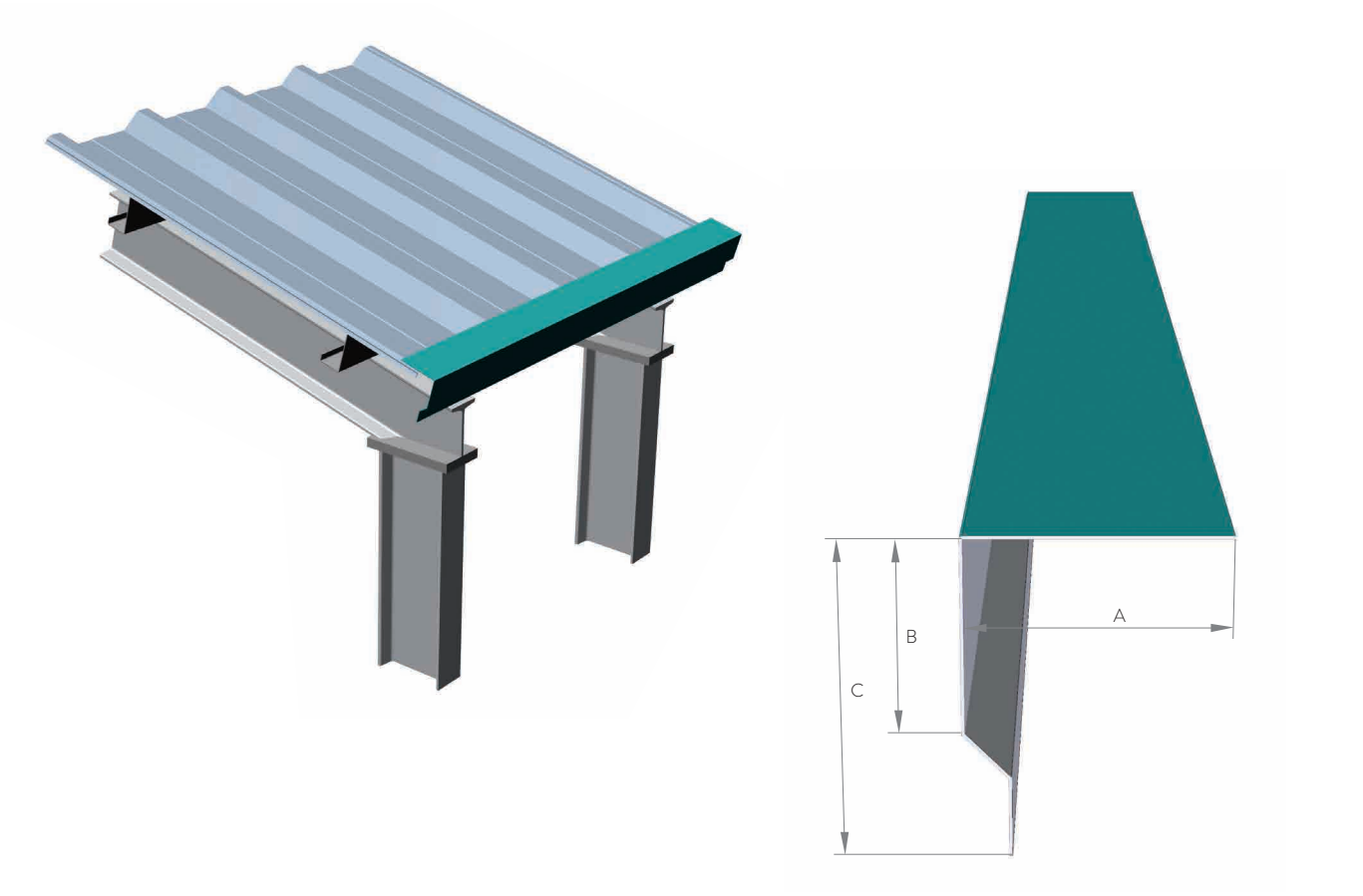




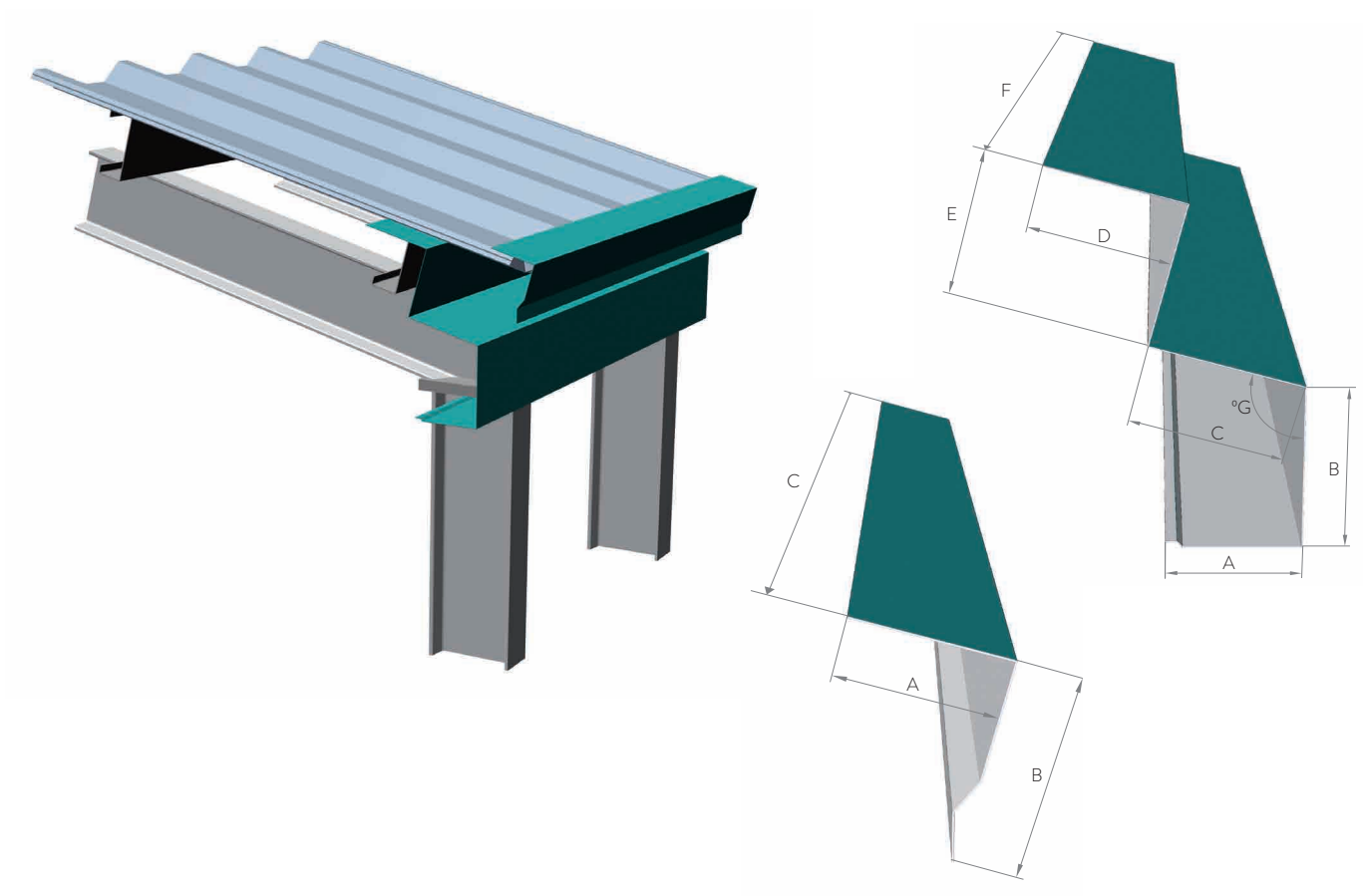
VENTRIDGE

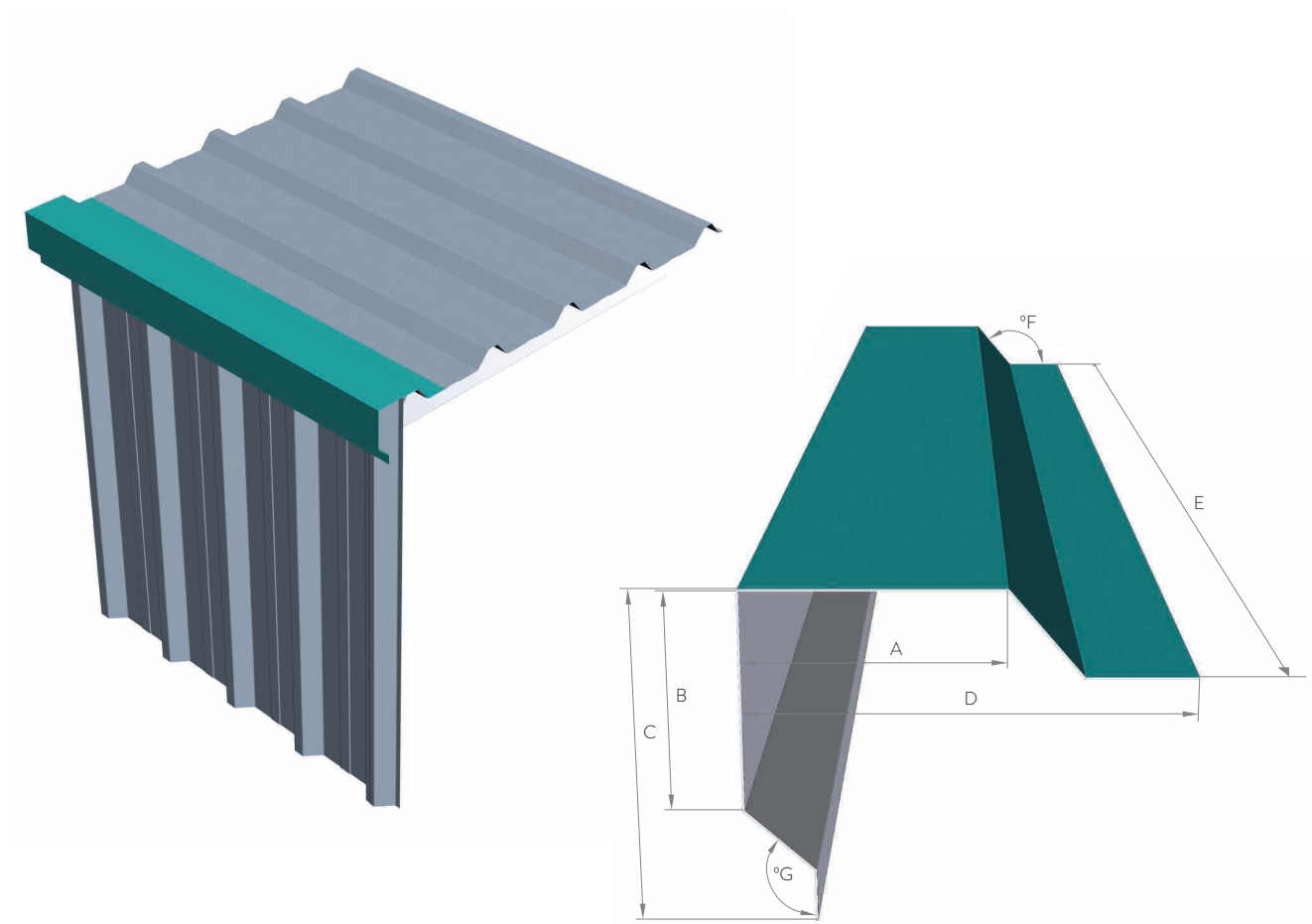


FRONT DRIP EDGE:

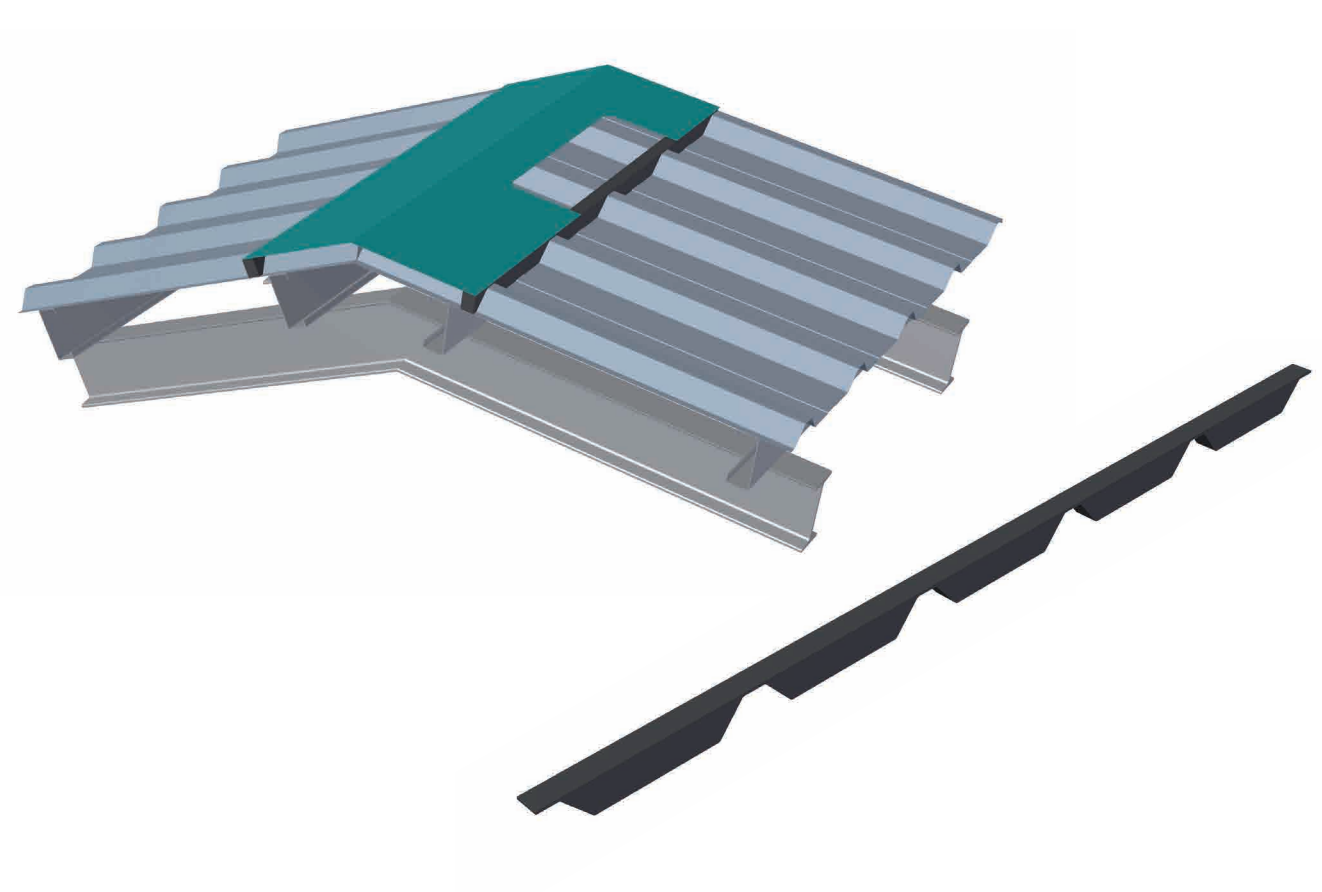


EAVE DRIP TO CEILING:





FOAM CLOSURE PROFILE



AGRICULTURAL SECTOR



AGRICULTURAL SECTOR

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Our manufacturing system allows you to choose your own layouts of fixing holes and their position. It is thus possible to manufacture a wide range of combinations of holes in order to suit the needs of our customers.

Holes in offset position: this hole pattern has sets of holes facing each other with the second set offset 50 mm. from the first.

Holes in parallel position: this layout has sets of holes facing each other from either side of the post in a parallel pattern, i.e. a mirror image layout.

Holes in mixed positions: in choosing this option for the layout of the holes, we are specifying that there will be sets of holes that face their opposite sets in a parallel pattern, with other sets in the offset pattern.

Four different punched holes can be manufactured.

We can manufacture with a single type of hole per post, or combinable on request, subject to a minimum order.

Central punching may be available on request.

Available punched holes (T)



“H”
punched hole



“N”
punched hole



“U” punched
hole



Arrowhead
punched hole

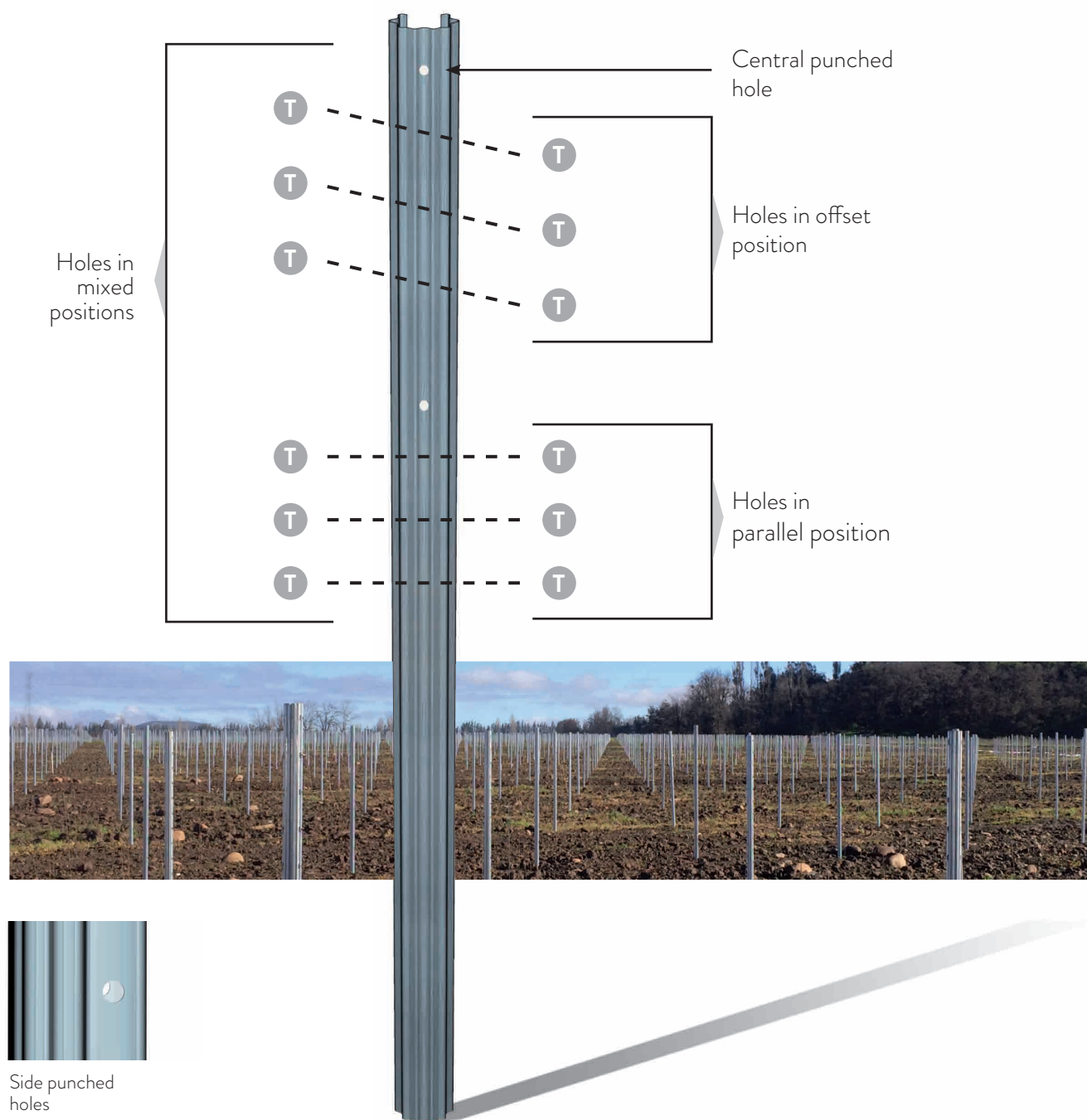


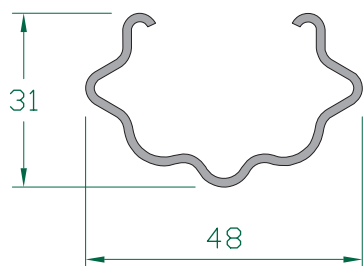
Hooks



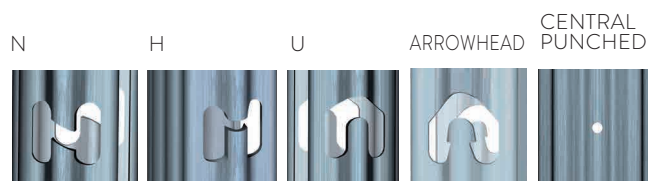
Central
punched hole







PUNCHED HOLES:



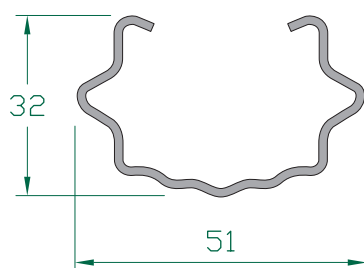
BOTH OFFSET AND PARALLEL

MG 31E

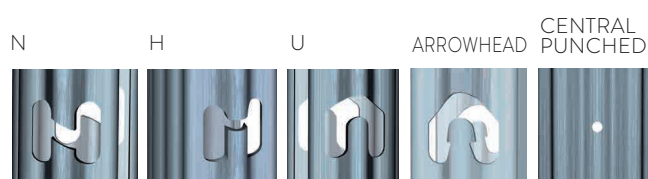
- **Steel quality and coating:** S250GD + Z275.
- **Other coatings:** Magnelis, Corten.
- **Dimensions:** height 31mm / width: 48mm.
- **Possible thicknesses:** 1.2mm and 1.5mm.
- **Typical lengths:** 1800mm and 2000mm. Other lengths available on request.
- **Distance between holes:** 100mm.
- **Standard packaging:** 200 units with nylon strap and slings.
- **Manufacturing standards:** 10143: 2007 and 10346: 2015.
- **Most common use:** vineyards and superintensive olive groves.

BENEFITS:

It is a light and economical post but it also provides sturdy support for when heavy loads or great heights are not involved.



PUNCHED HOLES:



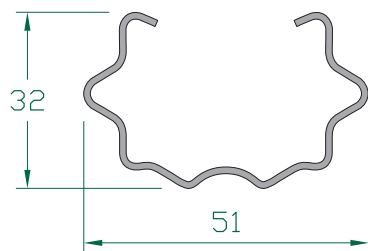
BOTH OFFSET AND PARALLEL

MG 32A

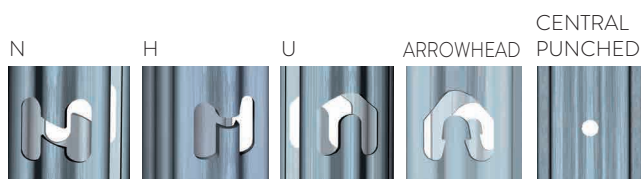
- **Steel quality and coating:** S250GD + Z275.
- **Other coatings:** Magnelis, Corten.
- **Dimensions:** height: 32mm / width: 51mm.
- **Possible thicknesses:** 1.2mm, 1.5mm and 1.8mm.
- **Common lengths:** 1800mm, 2000mm and 2200mm. Other lengths available on request.
- **Distance between holes:** 100mm.
- **Standard packaging:** 200 units with nylon straps and nylon slings.
- **Manufacturing standards:** 10143: 2007 and 10346: 2015.
- **Most common use:** vineyards.

BENEFITS:

It is a mid-level post with a good weight-to-strength ratio. Ideal for medium loads.



PUNCHED HOLES:



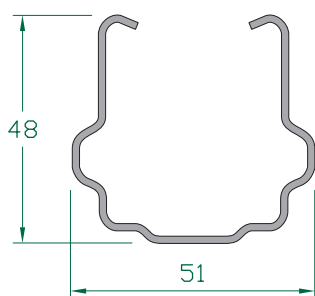
BOTH OFFSET AND PARALLEL

MG 32R

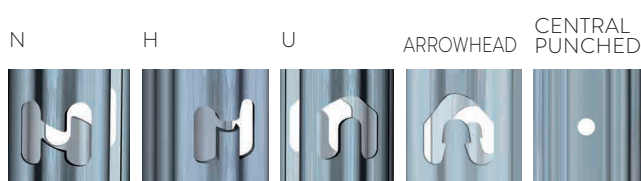
- **Steel quality and coating:** S250GD + Z275.
- **Other coatings:** Magnelis, Corten.
- **Dimensions:** height: 32mm / width: 51mm.
- **Possible thicknesses:** 1.2mm, 1.5mm and 1.8mm.
- **Typical lengths:** 1800mm, 2000mm and 2200mm. Other lengths on request.
- **Distance between holes:** 100mm.
- **Standard packaging:** 200 units with nylon strap and slings.
- **Manufacturing standards:** 10143: 2007 and 10346: 2015.
- **Most common use:** vineyards, olive groves and fruit orchards.

VIRTUES:

It is our post with the best weight-to-strength ratio, and it has a pronounced ribbing that makes it ideal for medium loads. Numerous agricultural operations utilize it.



PUNCHED HOLES:



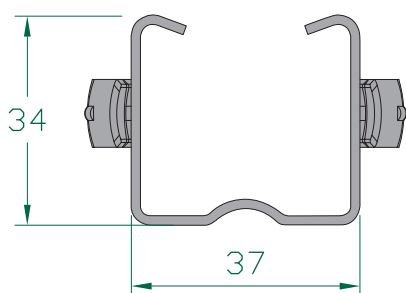
BOTH OFFSET AND PARALLEL

MG 48M

- **Steel quality and coating:** S250GD + Z275.
- **Other coatings:** Magnelis, Corten.
- **Dimensions:** height: 48mm / width: 51mm.
- **Possible thicknesses:** 1.2mm, 1.5mm, 1.8mm and 2.0mm.
- **Typical lengths:** 2000mm, 2200mm and 2400mm. Other lengths on request.
- **Distance between punched holes:** 100mm.
- **Standard packaging:** 100-150 units with nylon straps and disposable slings.
- **Manufacturing standards:** 10143: 2007 and 10346: 2015.
- **Most common use:** vineyards and fruit orchards.

BENEFITS:

The MG 48m is possibly the most durable intermediate post on the Spanish market due to its substantial width and the possibility of making it 2mm thick. It is especially suitable for large loads of fruit and in windy climates or at high altitudes.

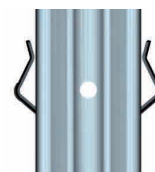


PUNCHED HOLES:

SIDE HOOK PUNCH



CENTRAL PUNCHED

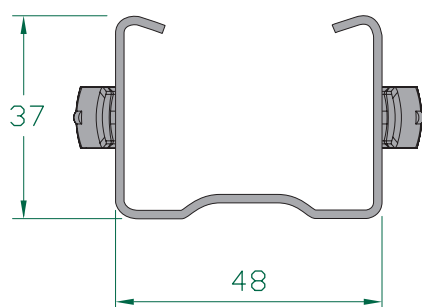


MG 34L

- **Steel quality and coating:** S250GD + Z275.
- **Other coatings:** Magnelis, Corten.
- **Dimensions:** high: 34mm / width: 37mm.
- **Possible thicknesses:** 1.2mm, 1.5mm and 1.8mm.
- **Typical lengths:** 1800mm, 2000mm and 2200mm. Other lengths on request.
- **Distance between holes:** 100mm.
- **Standard packaging:** 200 units with nylon straps and nylon slings.
- **Manufacturing standards:** 10143: 2007 and 10346: 2015.
- **Most common use:** vineyard and superintensive olive groves.

BENEFITS:

Intermediate post ideal for medium loads; specially designed to make for easy installation on any type of terrain, with external tabs that facilitate changing the height of the wires.

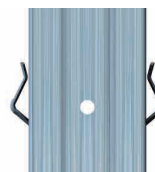


PUNCHED HOLES:

SIDE HOOK PUNCH



CENTRAL PUNCHED

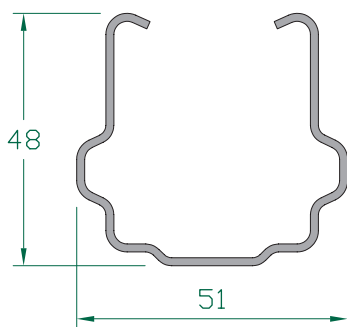


MG 37L

- **Steel quality and coating:** S250GD + Z275.
- **Other coatings:** Magnelis, Corten.
- **Dimensions:** height: 37mm / width: 48mm.
- **Possible thicknesses:** 1.2mm, 1.5mm and 1.8mm.
- **Typical lengths:** 2000mm, 2200mm and 2400mm. Other lengths on request.
- **Distance between holes:** 100mm.
- **Standard packaging:** 200 units with nylon strap and slings.
- **Manufacturing standards:** 10143: 2007 and 10346: 2015.
- **Most common use:** vineyards and superintensive olive groves.

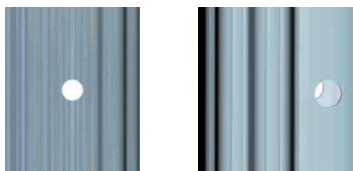
VIRTUES:

An intermediate post ideal for large loads, specially designed to make for easy installation in any type of terrain, with external tabs that facilitate changing the height of the wires.



PUNCHED HOLES:

CENTRAL AND SIDE PUNCHED

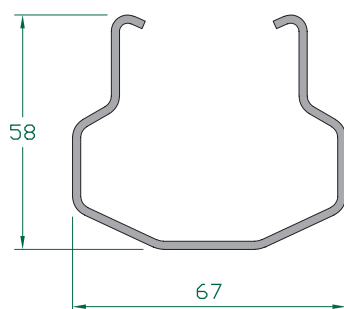


MG 48

- **Steel quality and coating:** S250GD + Z275.
- **Other coatings:** Magnelis, Corten.
- **Dimensions:** height: 48mm / width: 51mm.
- **Possible thicknesses:** 1.8mm and 2.0mm.
- **Typical lengths:** 2000mm, 2200mm and 2400mm. Other lengths on request.
- **Distance between holes:** 100mm.
- **Standard packaging:** 100 units with nylon straps and disposable slings.
- **Manufacturing standards:** 10143: 2007 and 10346: 2015.
- **Most common use:** vineyards, super-intensive olive groves and fruit orchards.

VIRTUES:

End post ideal for medium loads specially designed to facilitate installation in any type of terrain. It is one of the most commonly used posts due to its strength and versatility.



PUNCHED HOLES:

CENTRAL AND SIDE PUNCHED HOLES



MG 58

- **Steel quality and coating:** S250GD + Z275.
- **Other coatings:** Magnelis, Corten.
- **Dimensions:** height: 58mm / width: 67mm.
- **Possible thicknesses:** 1.8mm and 2.0mm.
- **Typical lengths:** 2000mm, 2200mm and 2400mm. Other lengths available on request.
- **Distance between holes:** 100mm.
- **Standard packaging:** 100 units with nylon strap and disposable slings.
- **Manufacturing standards:** 10143: 2007 and 10346: 2015.
- **Most common use:** vineyards and fruit orchards.

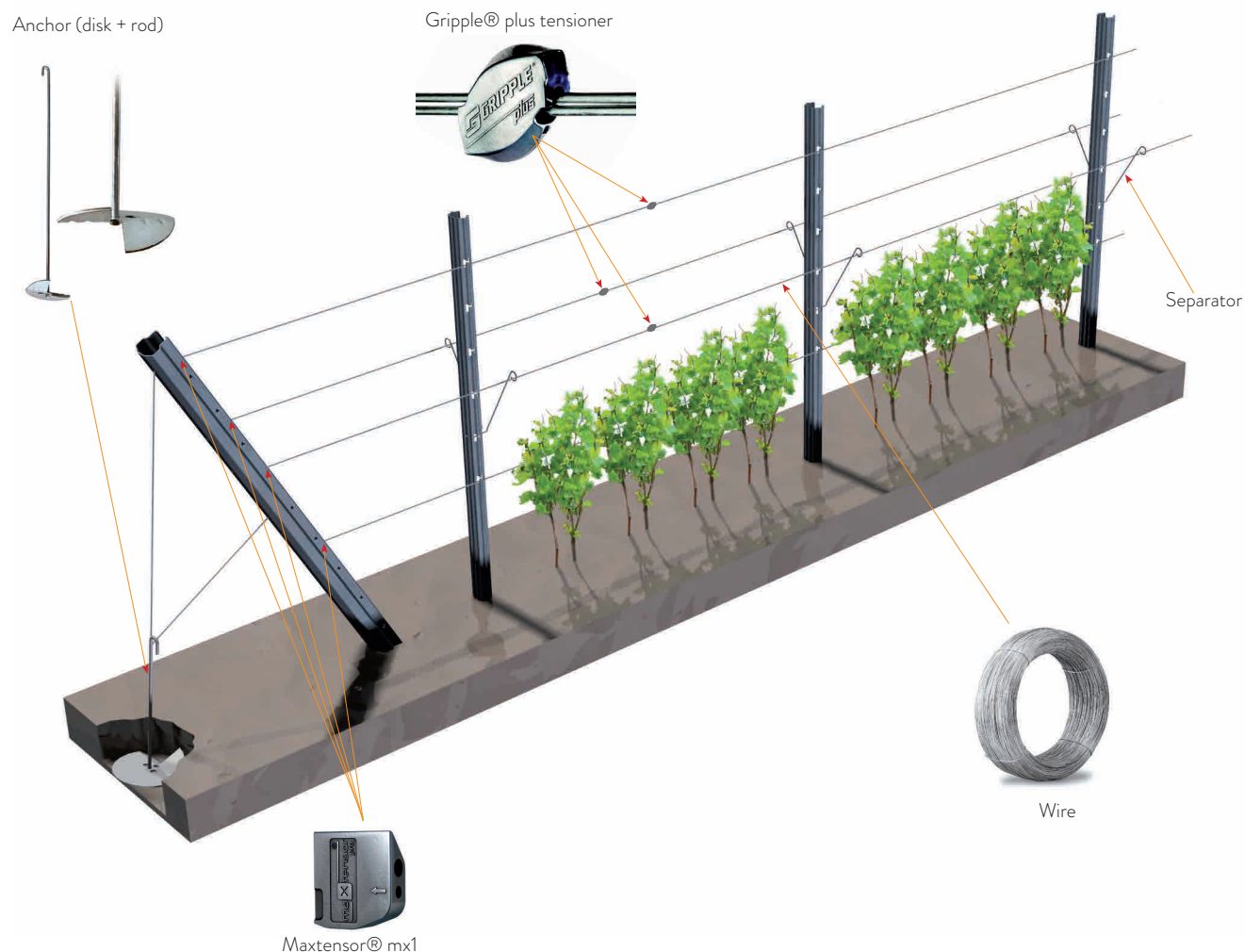
BENEFITS:

An end post ideal for large loads specially designed to facilitate installation in any type of terrain. Due to its substantial width, it provides strong support both for vineyards and fruit orchards.

This anchoring system is specially designed for use on medium-hard terrain.

The base reinforcement guarantees optimum support.

The fixing rod may have a looped disk end or a button disk end.



HELICAL ANCHORS

BUTTON



LOOP



- **Disc thickness:** 2.5 and 3 mm.
- **Disc diameter:** 107 mm / 125 mm / 150 mm.
- **Rod thickness:** 7mm.
- **Rod lengths:** 600 mm / 800 mm / 1000 mm.
- **Rod ending:** ribbon.

TENSIONERS

These products, from the Gripple® and Maxtensor® brands, are easy and quick to use, and they allow the user to join or tension wires from 2 to 3 mm. High load retention.

They also allow adjustment and loosening to raise the crops each season. Easy to maintain and excellent resistance to corrosion.

GRIPPLE® PLUS MEDIUM

Wire diameter: 2.00 - 3.25 mm.

Load in kg: 400 Kg.



MAX TENSOR® PRO MX1

Wire diameter: 1.8 and 3.0 mm.

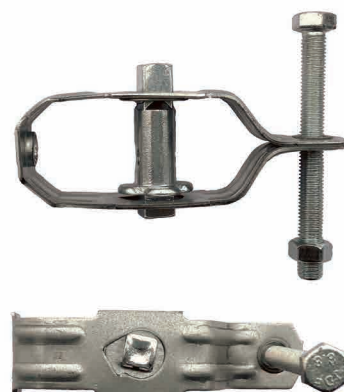
Load in kg: 400 Kg.



RATCHET TENSIONER

Wire diameter: 2.00 and 3.25 mm.

Load in kg: 400 Kg.



DELTEX® WIRE, FIXATIVE AND THREAD

WIRE

Characteristics: Triple galvanized wire.

Diameters: 2.0 , 2.2, 2.4, 2.7mm.



CLIP

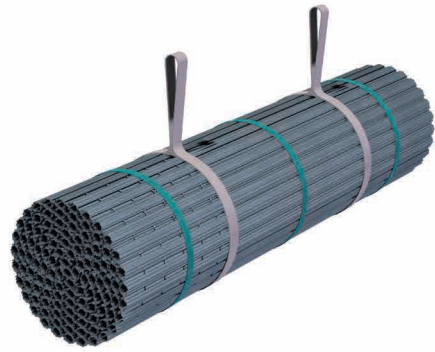
Exclusive clip for our posts, which allows the Deltex® wire to be placed and easily adjusted each season.



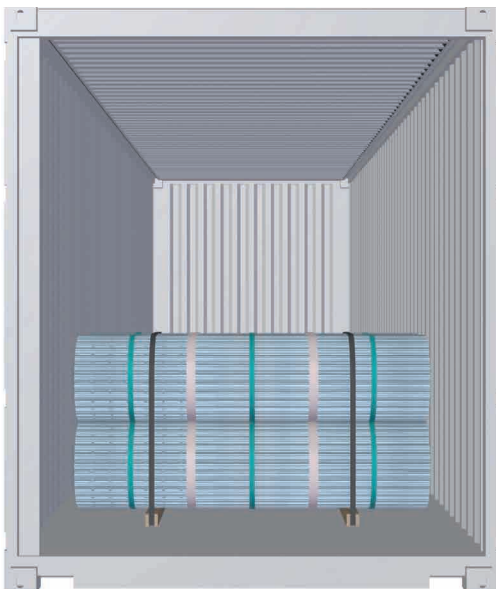
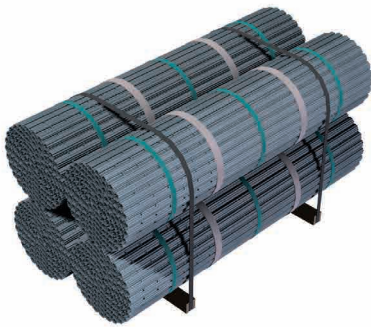
PACKAGING:

Domestic packaging:

3 nylon straps + 2 nylon slings for each bundle.

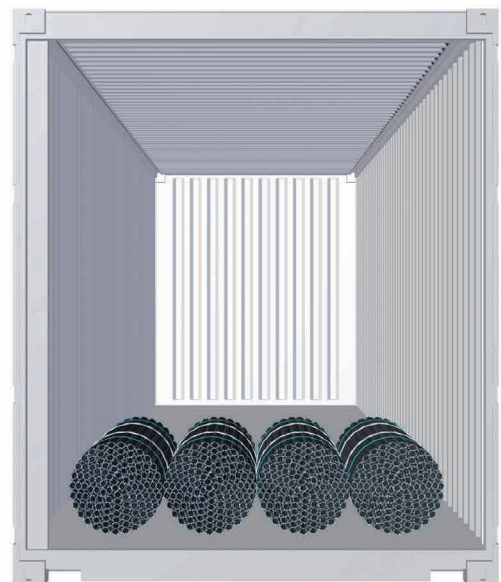
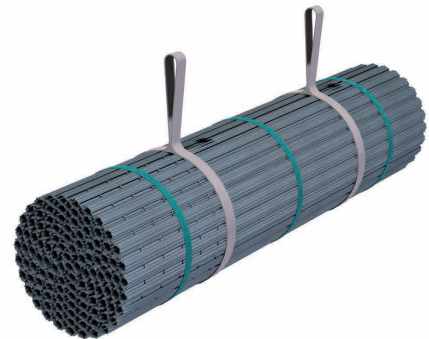


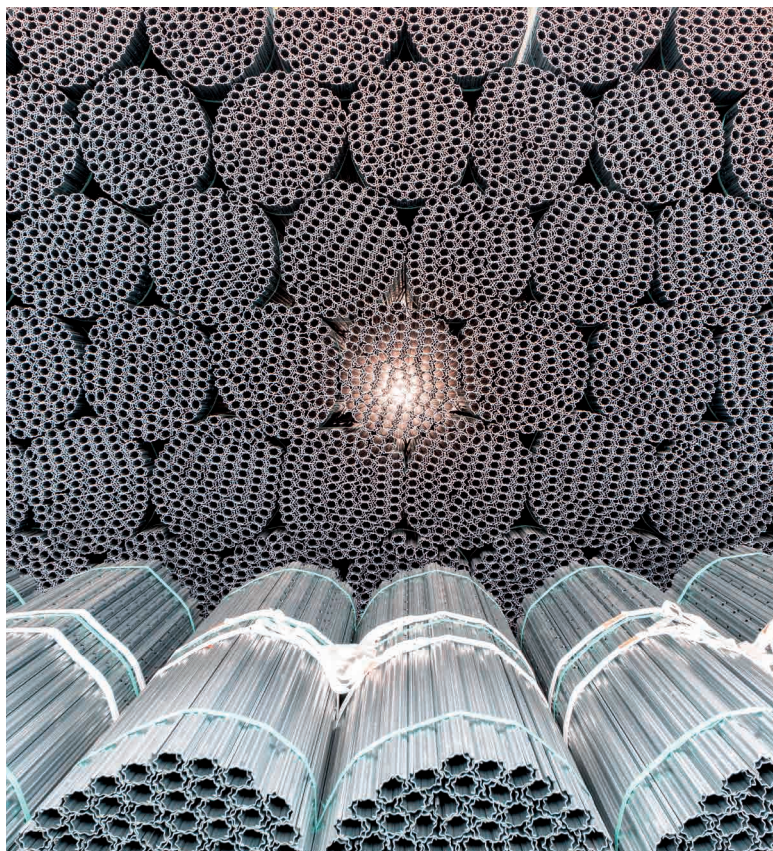
Export packaging. (lengths less than 2350mm):
3 nylon straps + 2 nylon slings for each bundle.
Each group of 4 bundles is held together by metal straps and supported by grooved and treated wooden sticks.



Export packaging. (lengths greater than 2350mm):

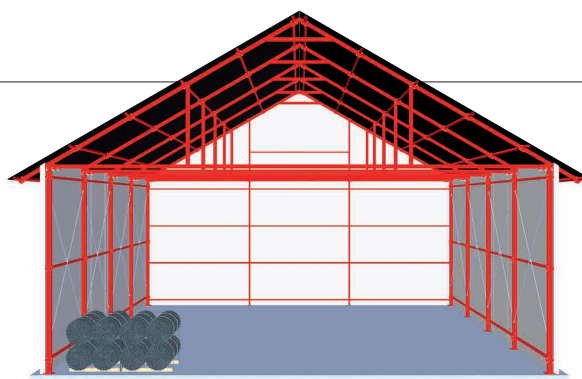
3 nylon straps + 2 nylon slings for each bundle.





STORAGE:

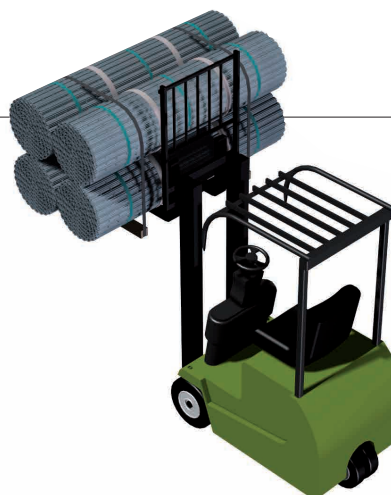
We recommend storing the bundles in a dry and covered place, avoiding contact with water or humidity while they are still strapped. If the bundle gets wet by accident, it is advisable to undo it and separate the posts to dry.



HANDLING:

The bundles must only be handled by supporting them by the nylon slings enabled for this purpose. For safety reasons, under no circumstances should the bundles be supported by the tie straps.

In the Export packaging at $< 2350\text{mm}$, each set of 4 bundles must be handled by forklift until all 4 bundles are separated.



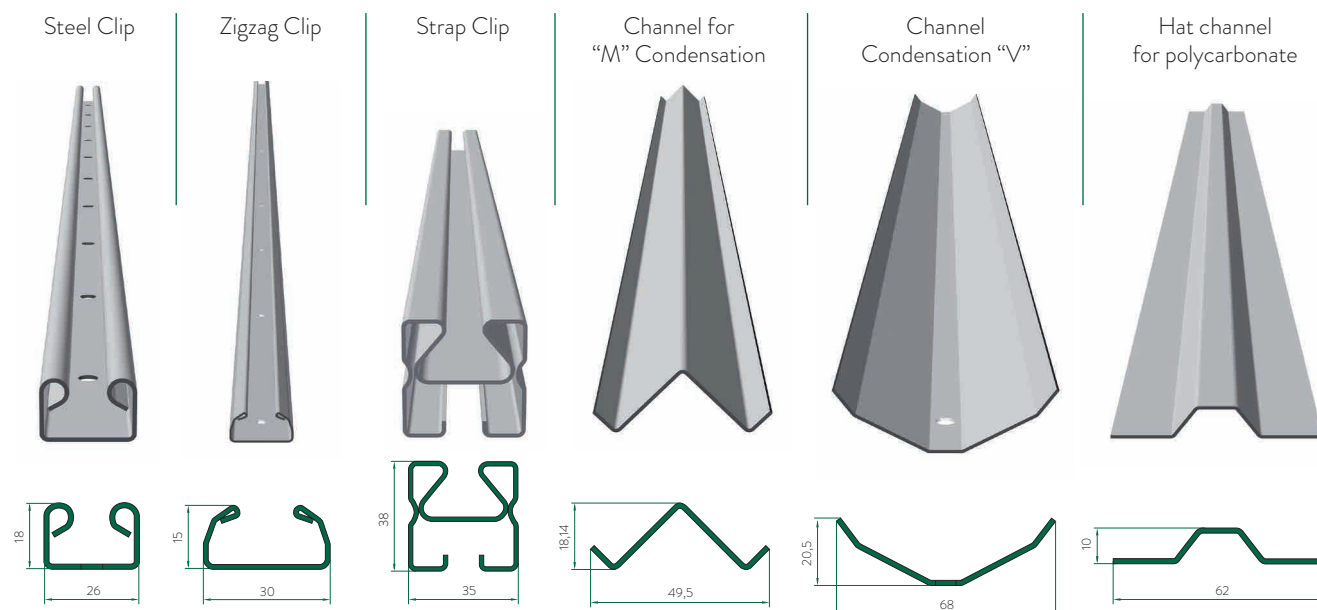
AGRICULTURAL SECTOR:
GREENHOUSE PROFILES

GREENHOUSE PROFILES



www.magon.es

We manufacture a wide range of high-quality steel profiles for the construction of any type of greenhouse. These profiles facilitate fitting plastic, mesh and / or polycarbonate enclosures, in addition to acting as reinforcements for the primary structure.

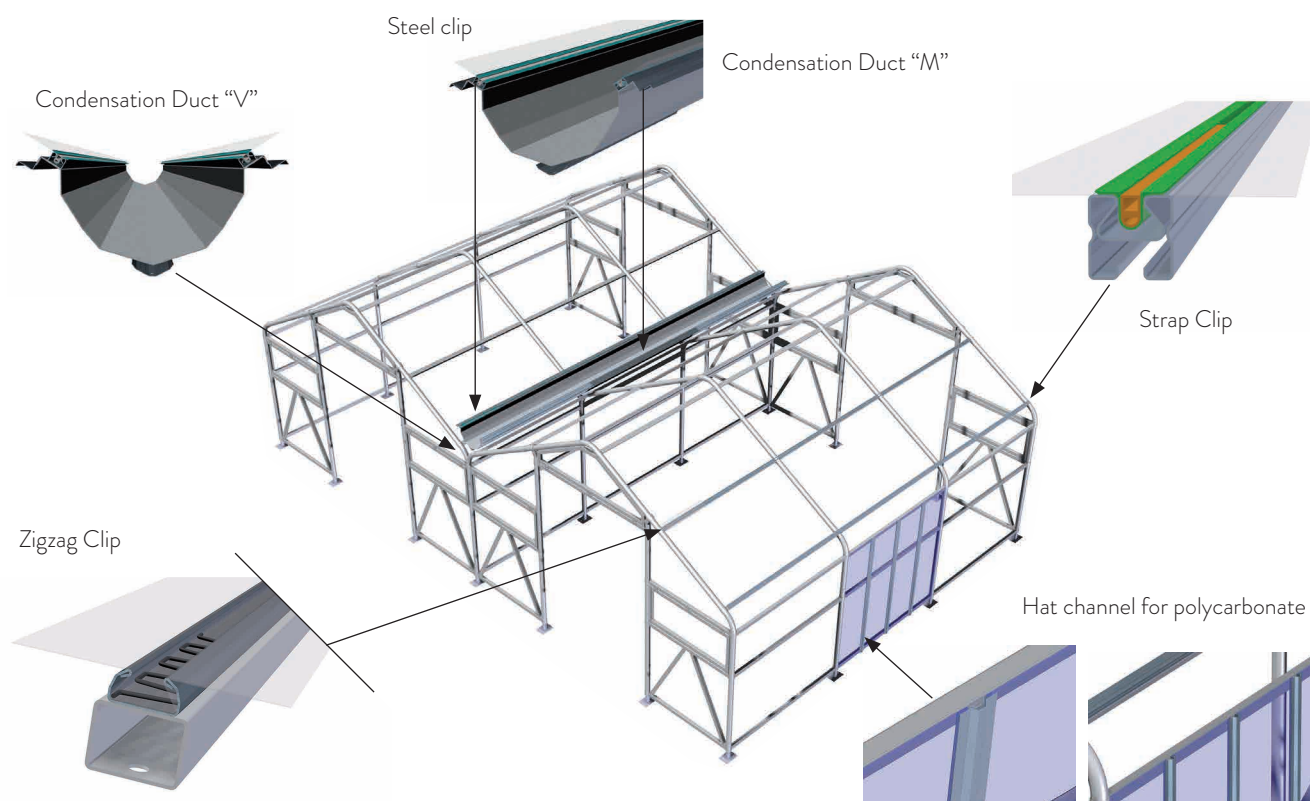


TECHNICAL FEATURES

- **End use:** Greenhouses
- **Type of steel:** Galvanized steel S250GD (other types of steel on request)
- **Length:** 5 metres (other measurements on request)

	Thickness (mm)		
	1.0	1.2	1.5
Steel Clip		x	
Zigzag Clip	x		
Strap Clip		x	x
Condensation Duct "M"	x		
Condensation Duct "V"	x		
Hat channel for polycarbonate		x	

SCHEME OF USE:



RENEWABLE ENERGY SECTOR



RENEWABLE ENERGY SECTOR

○ PRODUCTS

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○ TECHNICAL SUPPORT

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Steel profiles specially designed as structural support for panels in land-based solar parks, as well as photovoltaic solar installations on roofs of residential or industrial buildings, and solar thermal installations.

MAGON ACEROS solar profiles are adapted to the special conditions of each project (terrain, design regulations, weather conditions, etc.). They are manufactured in cold rolled steel and coated with Zinc or Zinc-Aluminum-Magnesium. We carry out an exhaustive review of the traceability of each order, which allows us to guarantee perfect quality control, especially in large volume projects.

The advantages of MAGON ACEROS solar profiles are:

- High structural performance, provided by cold-formed high quality structural steel sheet (S220GD / S250GD / S280GD / S320GD / S350GD).
- Great durability, thanks to galvanized and Magnelis® coatings, designed for applications in outdoor and / or harsh environments (guarantees of up to 25 years).
- Great manufacturing versatility. We offer a wide range of structural profiles with a variety of perforation options, which allow you to customize the profiles in order to adapt them to each project.



Specifications:

Steel type: S220GD / S250GD / S280GD / S320GD / S350GD structural steel. We also have hot rolled steels (uncoated). On request it is possible for us to manufacture with other grades of steel.

Coatings:

- **Galvanized:** From Z275 to Z600. On request, other options may be available. Zinc coating with a zinc content greater than 99%. The zinc coating creates a sacrificial anode that protects the surface and edge.
- **Magnelis®:** From ZM140 to ZM620. Zinc-aluminum-magnesium coating composed of 93.5% zinc, 3.5% aluminum and 3% magnesium. The 3% magnesium content creates a stable and durable coating on the entire metal surface that provides up to ten times more protection against atmospheric corrosion on the surface and edge than that of standard galvanized steel, even in the harshest environments.



Applicable regulations

UNE-EN 10162: 2005	Cold formed steel profiles. Technical delivery conditions. Dimensional and cross-sectional tolerances.
UNE-EN 10346:2015	Continuously hot-dip coated steel flat products for cold forming. Technical delivery conditions.
UNE-EN 1090-1: 2011 + A1: 2012	Execution of steel structures and aluminium structures. Part 1: Requirements for conformity assessment of structural components.
UNE-EN 1090-2:2019	Execution of steel and aluminum structures. Part 2: Technical requirements for steel structures. Execution of steel structures and aluminium structures.
UNE-EN 1090-4: 2019 Part 4:	Technical requirements for cold-formed structural steel elements and cold-formed structures for roof, ceiling, floor and wall applications.



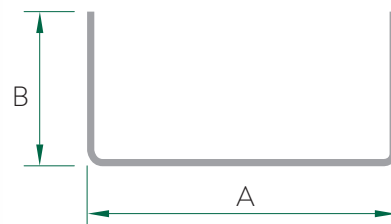
Photos courtesy of Soltec

Supporting structure for photovoltaic panels in solar parks.

Vertical installation as a pillar or piling in both fixed solar structures and mobile 'tracker' type structures.

Horizontal installation as a primary structure in fixed solar structures and as a primary support for solar panels in mobile structures or 'trackers'.

Support structure for solar installations on roofs or facades of industrial buildings.



MG U		
A (mm)	B (mm)	E (mm)
20	10	1.00
27	18	1.20
30	13	1.20
35	13	1.20
40	20	1.50
60	40	1.20-3.00
60	50	1.20-3.00
70	40	1.20-3.00
70	50	1.20-3.00

MG U		
A (mm)	B (mm)	E (mm)
80	40	1.20-3.00
80	50	1.20-3.00
90	40	1.20-3.00
90	50	1.20-3.00
100	40	1.20-3.00
100	50	1.20-3.00
100	60	1.20-3.00
110	40	1.20-3.00
110	50	1.20-3.00

MG U		
A (mm)	B (mm)	E (mm)
110	60	1.20-3.00
120	40	1.20-3.00
120	50	1.20-3.00
120	60	1.20-3.00
125	50	1.50-3.00
130	50	1.20-3.00
130	60	1.20-3.00
140	50	1.20-3.00
140	60	1.20-3.00

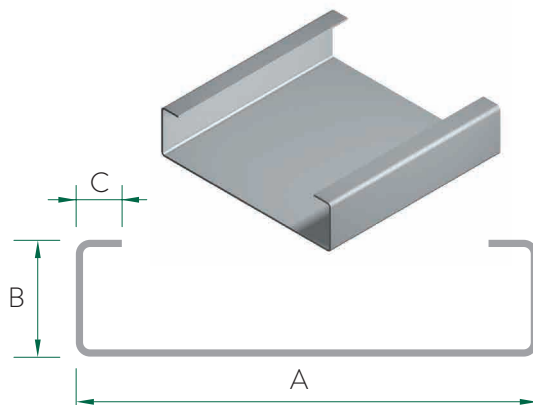
MG U		
A (mm)	B (mm)	E (mm)
150	50	1.20-3.00
150	60	1.20-3.00
175	50	1.50-3.00
200	70	1.50-3.00
225	70	1.50-3.00
250	70	1.50-3.00
275	70	1.50-3.00
300	70	1.50-3.00

Supporting structure for photovoltaic panels in solar parks.

Vertical installation as a pillar or support on both fixed solar structures and mobile 'tracker' type structures.

Horizontal installation as a primary structure in fixed solar structures and as a primary support for solar panels in mobile 'tracker' type solar structures.

Support structure for solar installations on roofs or wall panels of industrial buildings.



MG C			
A (mm)	B (mm)	C (mm)	E (mm)
20	10	4.75	1.00
27	18	7.25	1.20
30	13	8.50	1.20
35	13	9.75	1.20
40	20	7.50	1.50
60	40	10-15	1.20-3.00
60	50	13-20	1.20-3.00
70	40	10-15	1.20-3.00
70	50	13-20	1.20-3.00
80	40	10-15	1.20-3.00
80	50	13-20	1.20-3.00
90	40	10-15	1.20-3.00

MG C			
A (mm)	B (mm)	C (mm)	E (mm)
90	50	13-20	1.20-3.00
100	40	10-15	1.20-3.00
100	50	13-20	1.20-3.00
100	60	13-22	1.20-3.00
110	40	10-15	1.20-3.00
110	50	13-20	1.20-3.00
110	60	13-22	1.20-3.00
120	40	10-15	1.20-3.00
120	50	13-20	1.20-3.00
120	60	13-22	1.20-3.00
125	50	16	1.50-3.00
130	50	13-20	1.20-3.00

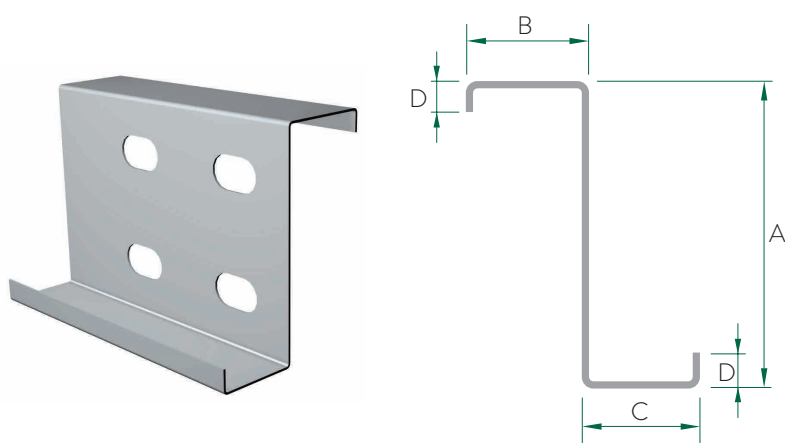
MG C			
A (mm)	B (mm)	C (mm)	E (mm)
130	60	13-22	1.20-3.00
140	50	13-20	1.20-3.00
140	60	13-22	1.20-3.00
150	50	13-20	1.20-3.00
150	60	13-22	1.20-3.00
175	50	16	1.50-3.00
200	70	20	1.50-3.00
225	70	20	1.50-3.00
250	70	20	1.50-3.00
275	70	20	1.50-3.00
300	70	20	1.50-3.00

Supporting structure for photovoltaic panels in solar parks.

Vertical installation as a pillar or support in both fixed solar structures and mobile 'tracker' type structures.

Horizontal installation as a primary structure in fixed solar structures and as a primary support for solar panels in mobile 'tracker' type solar structures.

Support structure for solar installations on roofs or wall panels of industrial buildings.

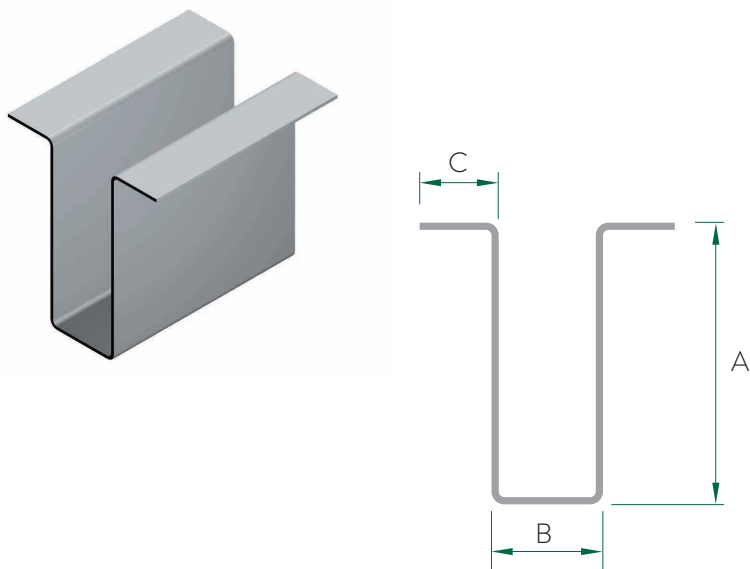


MG Z				
TO (mm)	B (mm)	C (mm)	D (mm)	E (mm)
125	57	50	16	1.50-3.00
150	57	50	16	1.50-3.00
175	57	50	16	1.50-3.00
200	80	70	20	1.50-3.00
225	80	70	20	1.50-3.00
250	80	70	20	1.50-3.00
275	80	70	20	1.50-3.00
300	80	70	20	1.50-3.00

Secondary element in fixed solar structures.

Support of photovoltaic panels both in fixed structures and in mobile structures or 'trackers'.

Support structure for solar installations on roofs or wall panels of industrial buildings.



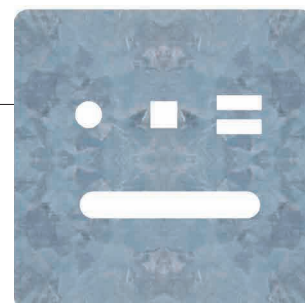
MG HAT CHANNELS			
A (mm)	B (mm)	C (mm)	E (mm)
60	30	15-30	1.20-2.00
60	35	15-30	1.20-2.00
70	30	15-30	1.20-2.00
70	35	15-30	1.20-2.00
80	30	15-30	1.20-2.00
80	35	15-30	1.20-2.00
80	40	15-30	1.20-2.00
90	30	15-30	1.20-2.00
90	35	15-30	1.20-2.00
90	40	15-30	1.20-2.00
100	30	15-30	1.20-2.00
100	35	15-30	1.20-2.00
100	40	15-30	1.20-2.00
110	30	15-30	1.20-2.00
110	35	15-30	1.20-2.00
110	40	15-30	1.20-2.00

PUNCHED HOLES:

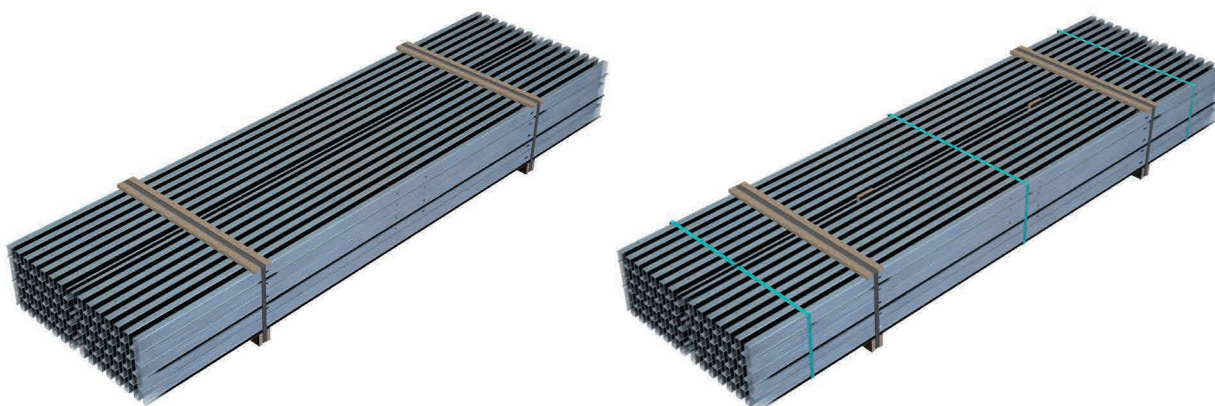
The profiles can have holes punched in them, thus facilitating their installation and optimizing assembly time.

These holes are available in different sizes.

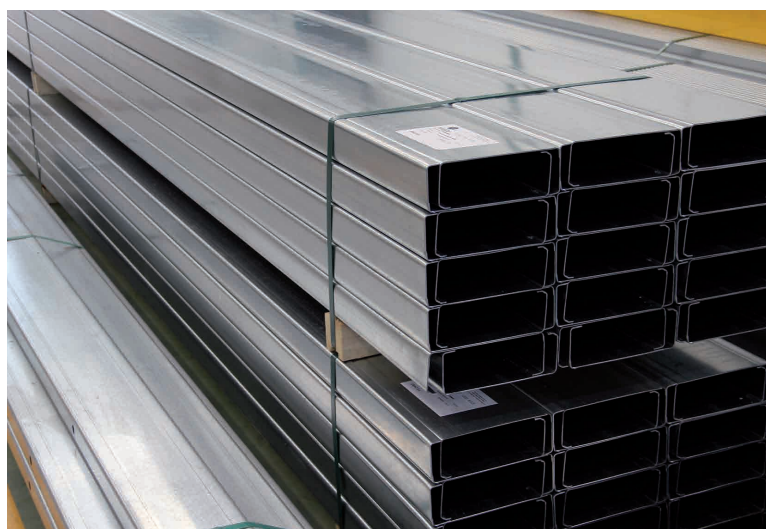
For holes other than those offered, please contact us.

**PACKAGING:**

Standard packing: 2 metal straps per package, with the possibility of dividing into two packages using nylon straps.



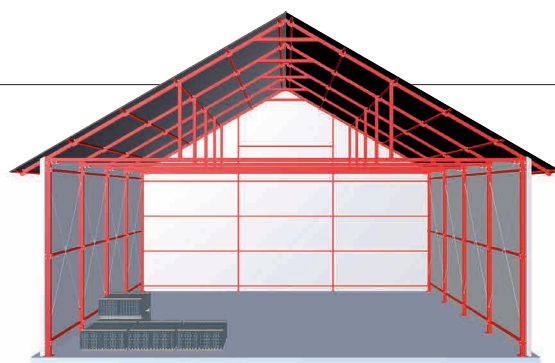
Other types of packaging are also possible at the customer's request, upon prior consultation.





STORAGE:

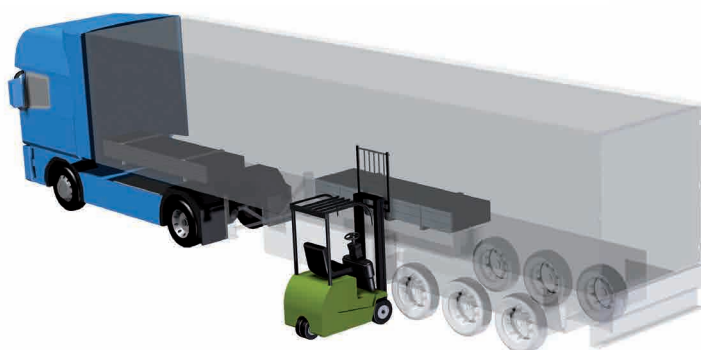
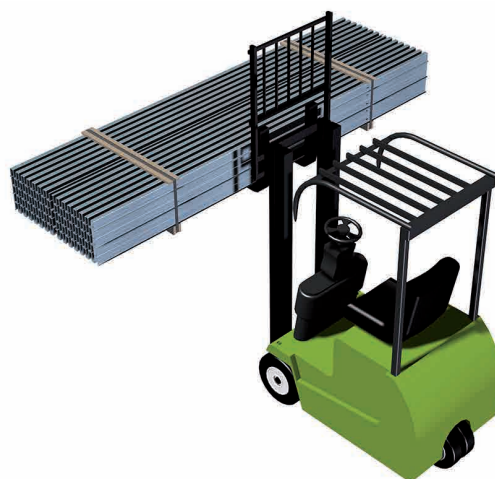
We recommended storing the packages in a dry and covered place, avoiding contact with water or humidity while they are still strapped. If the package gets wet by accident, it is advisable to undo it and separate the profiles to dry.



HANDLING:

For your safety, under no circumstances should the packages be lifted by the straps.

Examples of standard handling: other types of handling are also possible upon customer request, subject to consultation.





C/ Persiles y Segismunda, s/n • 45221 Esquivias / Toledo / Spain
Phone: +34 925 520 035
www.magon.es
magonaceros@magon.es

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