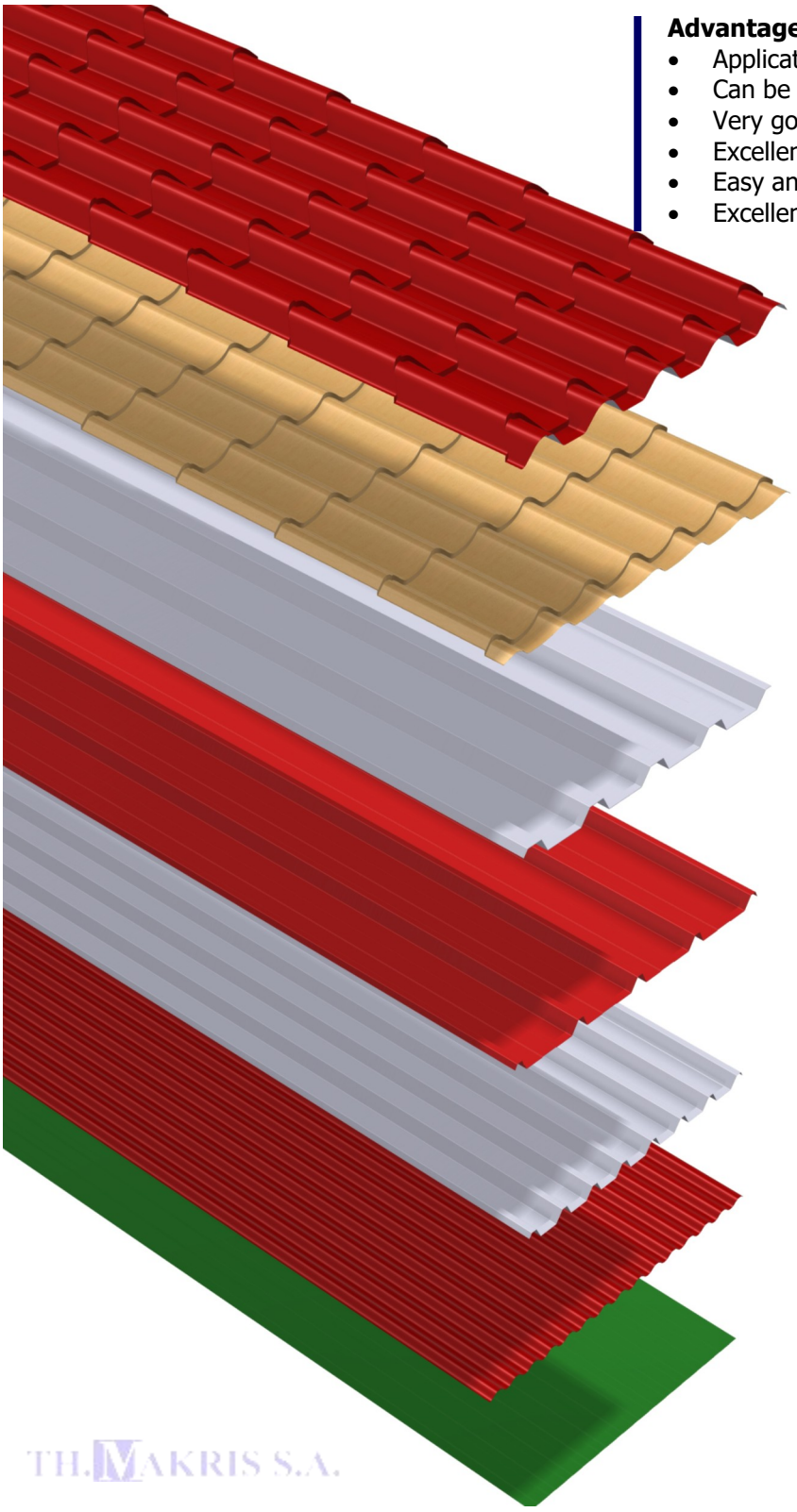
Product Data Sheet

Metal profiles A S I
Roof & Wall Cladding

Self-supporting metal profiles, galvanized or pre-painted, for roof and wall cladding.



Advantages

- Application in all types of buildings
- Can be used as external and internal cladding
- Very good load bearing capacity
- Excellent weather and corrosion resistance
- Easy and fast standard mounting
- Excellent water flow due to the profile grooves

♦ **Roman tile profile**
Cover width **912mm**.
Length from 0,49 with pitch of 350mm & maximum length up to **6,09 m**.

♦ **Holland tile profile**
Cover width **1100mm**.
Length from 0,49 with pitch of 350mm & maximum length up to **6,09 m**.

♦ **Trapezoidal 42/250**
Cover width **1000mm**.
Length up to **12 m**.

♦ **Trapezoidal 39/128**
Cover width **768mm** & **896mm**.
Length up to **12 m**.

♦ **Sinusoidal 19/76**
Cover width **760mm, 836mm, 912mm** & **1064mm**.
Length up to **12 m**.

♦ **Box 75**
Cover width **900mm, 980mm, 1060mm** & **1210mm**.
Length up to **6 m**.

Metal profiles A S I - Roof & wall cladding

Profile selection

The architectural profile **roman tile** was designed as a roof cladding of buildings, simulating the Roman tile. The specific design of the joint for a perfect fit and the deep groove profile, offer excellent water tightness of the profile and high rain water flow. Alternatively, it is possible to be produced as **sinusoidal 59/228** profile, without the use of press.

The architectural profile **holland tile** was designed as a roof cladding of buildings, a light weight profile, suitable for highly concern seismic regions. The specific design of the joint and the groove profile offer excellent water tightness and high rain water flow. Alternatively, it is possible to be produced as **sinusoidal** profile without the use of press.

The profile **trapezoidal 42/250** was designed as a roof and, sometimes, as a wall cladding of buildings. The design of the profile offers the ideal weight / strength combination and the design of the joint provides excellent water tightness. Alternatively, it is possible to be produced as **curved** trapezoidal 42/250 profile with a radius R> 700mm, in order avoid corners on buildings.

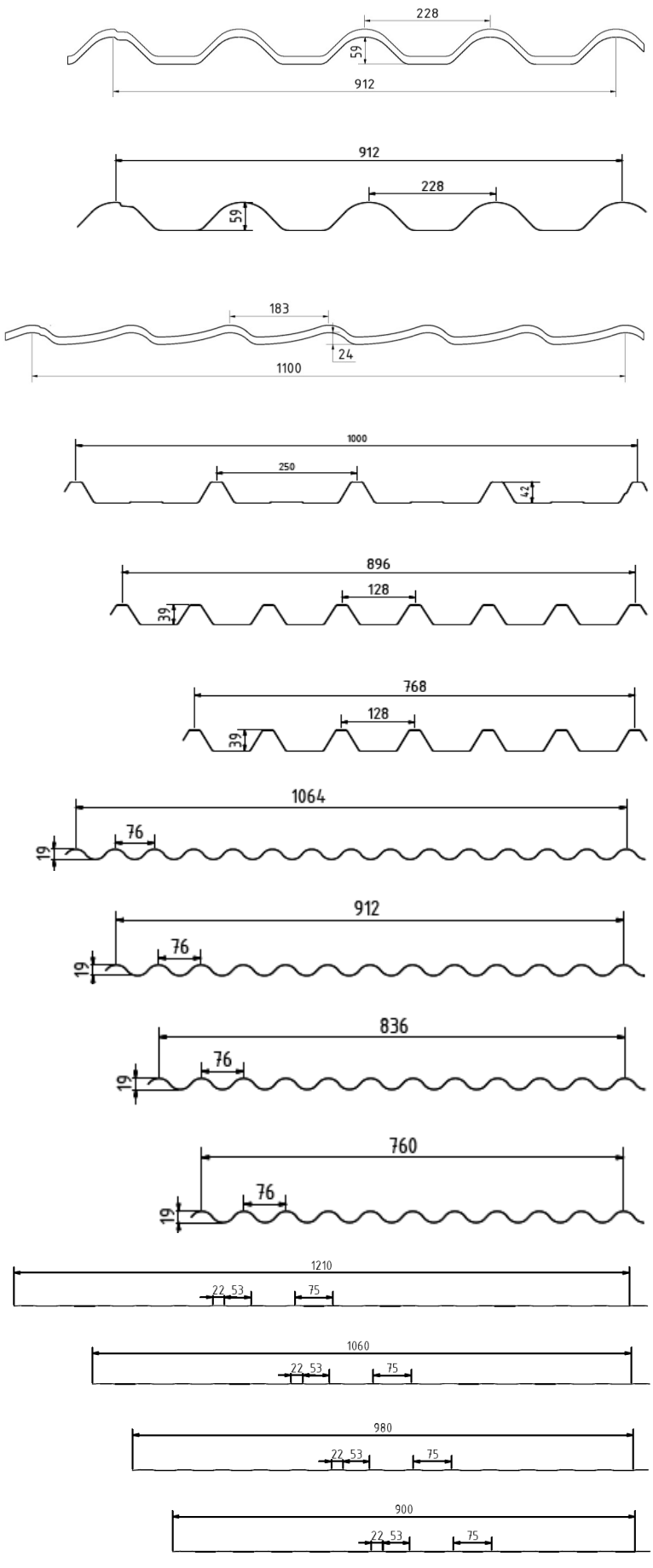
The profile **trapezoidal 39/128** was designed as a roof and wall cladding of buildings and also, for door cover. It is the most commercial cladding profile on the Greek market. Due to its dense ribs it is ideal for structures with high load-bearing requirement. The design of the joint provides excellent water tightness.

The profile **sinusoidal 19/76** is the oldest and most well known cladding profile that is used for roof, wall cladding and door cover of buildings. Due to its flexibility in the transverse direction, it is easily curved, while its design of the joint provides very good water tightness.

The profile **box 75** was designed as a wall cladding of buildings and for door cover. It is a light profile and due to its high flexibility it cannot handle loads.

The company can supply translucent polycarbonate and polyester sheets, that can be combined with the profiles 42/250 and 39/128 in different lengths.

Translucent sheets contribute to the enhancement of natural lighting and heating (solar radiation) of the building.



Metal profiles A S I - Roof & wall cladding

Metal sheet options

Steel, with galvanized protection, produced according to EN 10346 and EN 10143.
- Metal grade DX51D up to S350GD
- Hot-dip zinc coating, Z70 to Z275 gr/m^2
- AluZinc protection, AZ70 to AZ265 gr/m^2
- Nominal thickness from 0,40 mm **to 1,0mm**

Steel pre-painted, with galvanized protection, produced according to EN 10346 and EN 10143.
- Metal grade DX51D up to S350GD
- Hot-dip zinc coating, Z70 to Z275 gr/m^2
- AluZinc protection, AZ70 to AZ265 gr/m^2
- Nominal thickness from 0,35 mm **to 1,0mm**
- Polyester color coating with min 20μm thickness

Aluminum uncoated with aluzinc protection or pre-painted, produced according to EN485, EN573, EN546, EN1396, EN602, ASTM-B209
- Aluminum alloy of series 1xxx, 3xxx ή 5xxx
- Hardness degree H14, H24 ή H44
- AluZinc protection from AZ70 gr/m^2
- Nominal thickness from 0,35 mm **to 1,0mm**
- Polyester color coating with min 20μm thickness

Stainless Steel, according to EN10346, EN10088-1
- Metal grade AISI 304 2B ή AISI 316 L
- Nominal thickness from 0,35 mm **to 1,0mm**
- Mat or gloss color coating

Color coating options

Typical Polyester coating

Polyester paints are the most common and the most economical coatings. They are suitable for both external and internal surfaces. With a nominal thickness > 15μm, it has a very good resistance to external environmental conditions.

Durable Plastisol coating

Plastisol coating is very durable to external environmental conditions. It is suitable for outdoor applications where the durable requirements are high. The nominal coating thickness is up to 200μm.

High req PVDF coating

PVDF coating is suitable for buildings of architectural applications where the texture and color conservation are important. Also its reaction to fire is excellent because it has limited production of smoke, **class S1.** The nominal thickness is > 50mm.

High Hygiene requirements PVC coating

PVC coating is suitable for high hygiene requirement constructions, where the profile may be in contact with food. The coating thickness of 50μm offers antibacterial protection.

Profile Weight

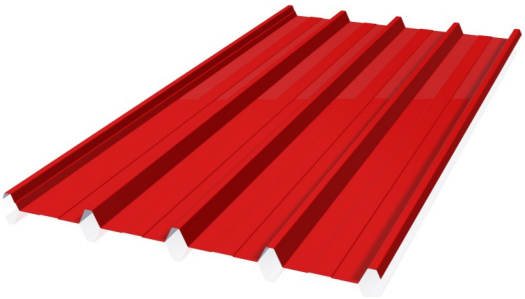
Type of profile (length 1000mm)	Cover width [mm]	Development [mm]	Weight/length Steel [kg/m]*	Weight/length Aluminum [kg/m]*
Roman tile 912 (1190mm)	912	1250	5,84	2,05
Sinusoidal 912	912	1250	4,91	1,72
Holland 1100 (1190mm)	1100	1250	5,84	2,05
Trapezoidal 42/250	1000	1250	4,91	1,72
Trapezoidal 39/128	896	1250	4,91	1,72
Trapezoidal 39/128	768	1100	4,32	1,51
Sinusoidal 19/76	1064	1250	4,91	1,72
Sinusoidal 19/76	912	1100	4,32	1,51
Sinusoidal 19/76	836	1000	3,93	1,38
Sinusoidal 19/76	760	920	3,61	1,27
Box 75	1210	1250	4,91	1,72
Box 75	1060	1100	4,32	1,51
Box 75	980	1000	3,93	1,38
Box 75	900	920	3,61	1,27

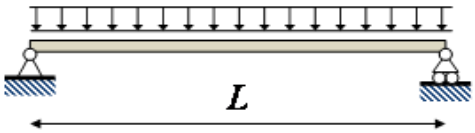
*Weight per unit length was calculated taking into account the nominal thickness **0,50mm** of metal sheets and the specific weight of steel = 7850 kg/m^3 and aluminum = 2750 kg/m^3

Metal profiles A S I - Roof & wall cladding

Trapezoidal 42/250

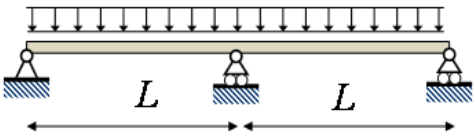
Nominal thickness	**mm**	**0,50**	**0,60**	**0,80**	**1,00**	**1,25**
Weight of profile	Kg/m^2	4,91	5,89	7,85	9,81	12,27
Moment of inertia Ix	cm^4/m	12,72	15,27	20,36	25,44	31,80
Yield strength min limit	N/mm^2	275	EN 10346:2013			





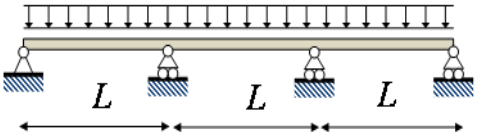
Single span static system
Max Load bearing capacity Q in **kN/m²**
Steel grade DX51D+Z
Maximum span length L [m]
Minimum support width 50mm

Nominal thickness t [mm]	1 Span [m]								
	1,00	**1,25**	**1,50**	**1,75**	**2,00**	**2,25**	**2,50**	**2,75**	**3,00**
0,50	4,38	2,79	1,92	1,40	0,98	0,68	0,50	0,38	0,29
0,60	5,82	3,70	2,55	1,77	1,18	0,83	0,61	0,45	0,35
0,80	8,26	5,26	3,63	2,36	1,59	1,11	0,81	0,61	0,47
1,00	10,2	6,54	4,51	2,95	1,97	1,38	1,01	0,76	0,58
1,25	11,7	7,50	5,17	3,68	2,47	1,74	1,26	0,95	0,73



Two spans static system
Max Load bearing capacity Q in **kN/m²**
Steel grade DX51D+Z
Maximum span length L [m]
Minimum support width 50mm

Nominal thickness t [mm]	2 Spans [m]								
	1,00	**1,25**	**1,50**	**1,75**	**2,00**	**2,25**	**2,50**	**2,75**	**3,00**
0,50	4,59	2,92	2,01	1,47	1,11	0,87	0,70	0,57	0,47
0,60	5,60	3,57	2,46	1,79	1,36	1,06	0,85	0,69	0,57
0,80	7,66	4,88	3,37	2,45	1,86	1,46	1,17	0,95	0,79
1,00	9,73	6,19	4,27	3,12	2,37	1,85	1,48	1,21	1,00
1,25	12,3	7,85	5,42	3,95	3,00	2,35	1,88	1,53	1,27



Three or more spans static system
Max Load bearing capacity Q in **kN/m²**
Steel grade DX51D+Z
Maximum span length L [m]
Minimum support width 50mm

Nominal thickness t [mm]	Multi Span [m]								
	1,00	**1,25**	**1,50**	**1,75**	**2,00**	**2,25**	**2,50**	**2,75**	**3,00**
0,50	5,74	3,66	2,53	1,85	1,40	1,10	0,88	0,70	0,55
0,60	7,03	4,48	3,09	2,26	1,72	1,35	1,08	0,86	0,66
0,80	9,60	6,12	4,23	3,09	2,35	1,84	1,48	1,15	0,88
1,00	12,1	7,76	5,36	3,92	2,98	2,33	1,87	1,44	1,11
1,25	15,4	9,84	6,80	4,96	3,78	2,96	2,38	1,79	1,38

* Ultimate limit state according to Eurocode 3, EN 1993-1-3 and EN 1993-1-5, for positive moment, negative moment and vertical shear.

* For serviceability limit state is considered safety factor G permanent + Q mobile loads = 1,00. The permitted immersion of each panel determined < L/200 for G+Q and L/250 only for Q, where L is the span.

* For limit state failure is considered safety factor S = 1,1 for load equal to 1,35 G + 1,50 Q

Manufacturers of Cladding Products for the Construction Industry

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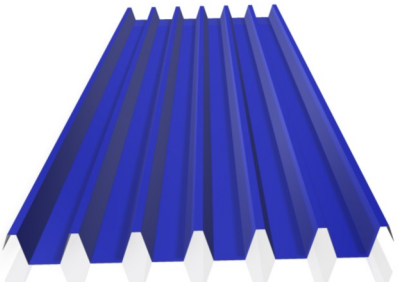
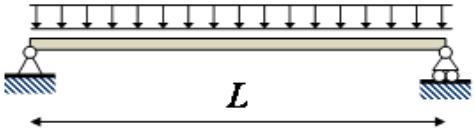
Metal profiles A S I - Roof & wall cladding

Trapezoidal 39/128 (896mm)

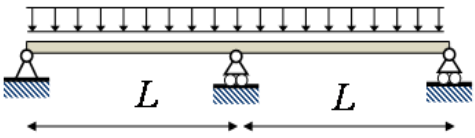
Nominal thickness	mm	0,45	0,50	0,60	0,80	0,90	1,00
Weight of profile	Kg/m^2	4,93	5,48	6,57	8,76	9,86	10,95
Moment of inertia Ix	cm^4/m	13,49	14,99	17,99	23,98	26,98	29,98
Yield strength min limit	N/mm^2	275	EN 10346:2013				





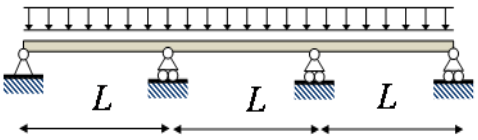
Single span static system
Max Load bearing capacity Q in **kN/m^2** for positive and negative moments and vertical shear
Steel grade DX51D+Z
Maximum span length L [m]
Minimum support width 50mm

thickness t [mm]	1 Span [m]								
	1,00	**1,25**	**1,50**	**1,75**	**2,00**	**2,25**	**2,50**	**2,75**	**3,00**
0,45	6,54	4,17	2,56	1,61	1,07	0,75	0,54	0,41	0,31
0,50	7,80	4,92	2,84	1,79	1,19	0,84	0,61	0,45	0,35
0,60	9,57	5,91	3,42	2,15	1,44	1,00	0,73	0,55	0,42
0,80	12,7	7,88	4,56	2,87	1,92	1,34	0,98	0,73	0,57
0,90	14,3	8,87	5,13	3,23	2,16	1,51	1,10	0,82	0,64
1,00	15,9	9,85	5,70	3,58	2,40	1,68	1,22	0,92	0,71



Two spans static system
Max Load bearing capacity Q in **kN/m^2** for positive and negative moments and vertical shear
Steel grade DX51D+Z
Maximum span length L [m]
Minimum support width 50mm

thickness t [mm]	2 Spans [m]								
	1,00	**1,25**	**1,50**	**1,75**	**2,00**	**2,25**	**2,50**	**2,75**	**3,00**
0,45	6,15	3,92	2,71	1,98	1,50	1,18	0,95	0,77	0,62
0,50	6,96	4,44	3,07	2,24	1,70	1,34	1,07	0,88	0,70
0,60	8,54	5,45	3,76	2,75	2,09	1,64	1,32	1,08	0,90
0,80	11,7	7,50	5,18	3,79	2,88	2,26	1,82	1,49	1,24
0,90	13,3	8,48	5,86	4,28	3,26	2,56	2,05	1,68	1,40
1,00	15,1	9,61	6,64	4,85	3,69	2,90	2,33	1,91	1,59



Three or more spans static system
Max Load bearing capacity Q in **kN/m^2** for positive and negative moments and vertical shear
Steel grade DX51D+Z
Maximum span length L [m]
Minimum support width 50mm

thickness t [mm]	Multi Span [m]								
	1,00	**1,25**	**1,50**	**1,75**	**2,00**	**2,25**	**2,50**	**2,75**	**3,00**
0,45	7,70	4,91	3,4	2,48	1,89	1,43	1,04	0,78	0,60
0,50	8,72	5,56	3,85	2,81	2,14	1,60	1,16	0,87	0,67
0,60	10,6	6,82	4,72	3,45	2,63	1,91	1,39	1,04	0,80
0,80	14,7	9,39	6,50	4,75	3,62	2,55	1,86	1,39	1,07
0,90	16,6	10,6	7,35	5,37	4,08	2,87	2,09	1,57	1,21
1,00	18,8	12,1	8,33	6,09	4,53	3,19	2,32	1,74	1,34

* Ultimate limit state according to Eurocode 3, EN 1993-1-3 and EN 1993-1-5, for positive moment, negative moment and vertical shear.

* For serviceability limit state is considered safety factor G permanent + Q mobile loads = 1,00. The permitted immersion of each panel determined < L/200 for G+Q and L/250 only for Q, where L is the span.

* For limit state failure is considered safety factor S = 1,1 for load equal to 1,35 G + 1,50 Q

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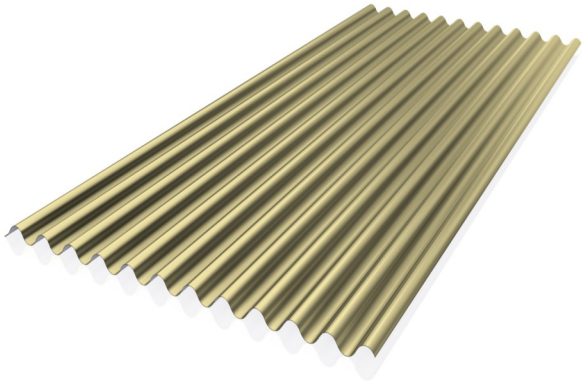
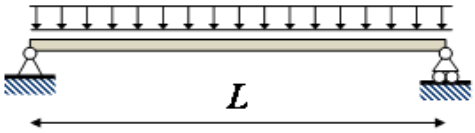
Metal profiles A S I - Roof & wall cladding

Sinusoidal 19/76 (912mm)

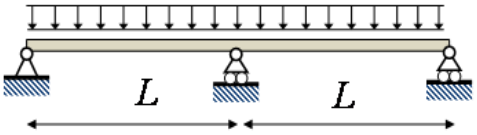
Nominal thickness	mm	0,50	0,60	0,80	AL 0.60	AL 0.80
Weight of profile	Kg/m^2	4,73	5,68	7,57	1,99	2,65
Moment of inertia Ix	cm^4/m	2,88	3,91	5,99	3,91	5,99
Yield strength min limit	N/mm^2	275	EN10346:2013		150	EN508-2





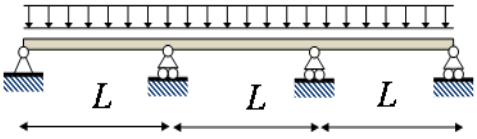
Single span static system
Max Load bearing capacity Q in **kN/m^2** for positive and negative moments and vertical shear
Steel grade DX51D+Z
Maximum span length L [m]
Minimum support width 50mm

thickness t [mm]	1 Span [m]								
	1,00	**1,25**	**1,50**	**1,75**	**2,00**	**2,25**	**2,50**	**2,75**	**3,00**
0,50	1,96	1,06	0,61	0,41	0,29	0,20	0,14	0,10	0,06
0,60	2,60	1,40	0,81	0,52	0,35	0,25	0,18	0,12	0,08
0,80	3,69	1,99	1,15	0,70	0,47	0,33	0,23	0,16	0,10
AL 0.60	0,69	0,36	0,21	0,13	0,09	0,06	0,04	0,03	0,02
AL 0.80	0,94	0,48	0,28	0,17	0,12	0,08	0,06	0,04	0,02



Two spans static system
Max Load bearing capacity Q in **kN/m^2** for positive and negative moments and vertical shear
Steel grade DX51D+Z
Maximum span length L [m]
Minimum support width 50mm

thickness t [mm]	2 Spans [m]								
	1,00	**1,25**	**1,50**	**1,75**	**2,00**	**2,25**	**2,50**	**2,75**	**3,00**
0,50	2,28	1,44	1,00	0,74	0,56	0,44	0,35	0,26	0,19
0,60	2,79	1,76	1,22	0,90	0,69	0,54	0,43	0,32	0,23
0,80	3,81	2,41	1,68	1,23	0,94	0,74	0,59	0,43	0,31
AL 0.60	0,90	0,47	0,27	0,17	0,11	0,08	0,06	0,04	0,02
AL 0.80	1,22	0,63	0,36	0,23	0,15	0,11	0,08	0,05	0,03



Three or more spans static system
Max Load bearing capacity Q in **kN/m^2** for positive and negative moments and vertical shear
Steel grade DX51D+Z
Maximum span length L [m]
Minimum support width 50mm

thickness t [mm]	Multi Span [m]								
	1,00	**1,25**	**1,50**	**1,75**	**2,00**	**2,25**	**2,50**	**2,75**	**3,00**
0,50	2,80	1,78	1,24	0,92	0,68	0,53	0,42	0,39	0,22
0,60	3,43	2,18	1,52	1,12	0,83	0,65	0,51	0,47	0,27
0,80	4,69	2,97	2,08	1,53	1,14	0,89	0,70	0,63	0,36
AL 0.60	1,17	0,61	0,35	0,22	0,15	0,10	0,07	0,05	0,03
AL 0.80	1,58	0,82	0,47	0,30	0,20	0,14	0,10	0,06	0,04

* Ultimate limit state according to Eurocode 3, EN 1993-1-3 and EN 1993-1-5, for positive moment, negative moment and vertical shear.

* For serviceability limit state is considered safety factor G permanent + Q mobile loads = 1,00. The permitted immersion of each panel determined < L/200 for G+Q and L/250 only for Q, where L is the span.

* For limit state failure is considered safety factor S = 1,1 for load equal to 1,35 G + 1,50 Q

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Metal profiles A S I - Roof & wall cladding

Dimensional Tolerances (according to the norm EN 1090 and Norm EN 508)

		Trapezoidal without stiffeners	Trapezoidal with stiffeners	Sinusoidal	Tile profiles
Sheet Thickness	t	According to norm EN 10143 for steel and According to norm EN 485-4 for aluminium			
Depth of profile	h	± 1,0 mm, h ≤ 50 mm ± 1,5 mm, 50 < h ≤ 100 mm ± 2,0 mm, h > 100 mm			± 2,0 mm
Pitch of profile	p	± 2,0 mm, h ≤ 50 mm ± 3,0 mm, 50 < h ≤ 100 mm ± 4,0 mm, h > 100 mm		± 3,0 mm	± 1,5 mm, h ≤ 75 mm ± 2%*h mm, h > 75 mm
Width of crown and valleys	b	-1,0 mm ~ +2,0 mm	-1,0 mm ~ +4,0 mm		± 1,0 mm
Cover width	w1,2,3	± 5,0 mm, h ≤ 50 mm ± 0,1*h ≤ 15 mm, h > 50 mm		± 0.01*w	± 0.005*w
Radius of bends	r	0 mm ~ +2 mm	± 2,0 mm	± 10%	± 1,5 mm
Deviation from straightness	δ	≤ 2,0 mm/m & ≤ 10 mm			≤ 2,0 mm/m & ≤ 9 mm
Deviation from squareness	S	S ≤ 0.005*w	Χωρίς απαίτηση	S ≤ 0.005*w	± 6,0 mm
Length of the profile	ℓ	-5 mm ~ +10 mm, L ≤ 3000 mm -5 mm ~ +20 mm, L > 3000 mm			± 2,0 mm, ανά βήμα ± 6,0 mm, ολικό
Deviation of side lap	D	± 2.0 mm, l < 500 mm			± 2.0 mm, l < 500 mm
Depth of stiffeners	hr vs		-1,0 mm ~ +3,0 mm -0,15*v ~ +2,0 mm		
Position of stiffeners	ha,b,k		± 3,0 mm		
Longitudinal edge upstand	s	-2,0 mm ~ +5,0 mm & s ≥ 10,0 mm			
Longitudinal edge width	buf	bu/2 + 5,0 ≤ buf ≤ bu-5, bu ≤ 30,0 mm 20,0 ≤ buf ≤ bu-5, bu > 30,0 mm			
Crown curvature	he	± 3.0 mm			
Hole diameter	dn	± 0,2 mm, Φ ≤ 5,0 mm -0,2 mm ~ +0,4 mm, Φ > 5,0 mm			
Hole pitch	ux	- 1,0 mm ~ +2,0 mm,			
Offset	v	± 2.0 mm			
Row spacing	uy	± 2.0 mm			
Total number of lines		± 3.0 %, completely perforated sheets			
Total number of columns		± 3.0 %, completely perforated sheets			

Concerns, steel sheets of thickness >0,6mm, aluminium sheets of thickness >0,7mm & stainless steel sheets of thickness >0,7mm.
For technical drawings of dimension tolerances please contact with the company's technical department or in Annex D of EN508.

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