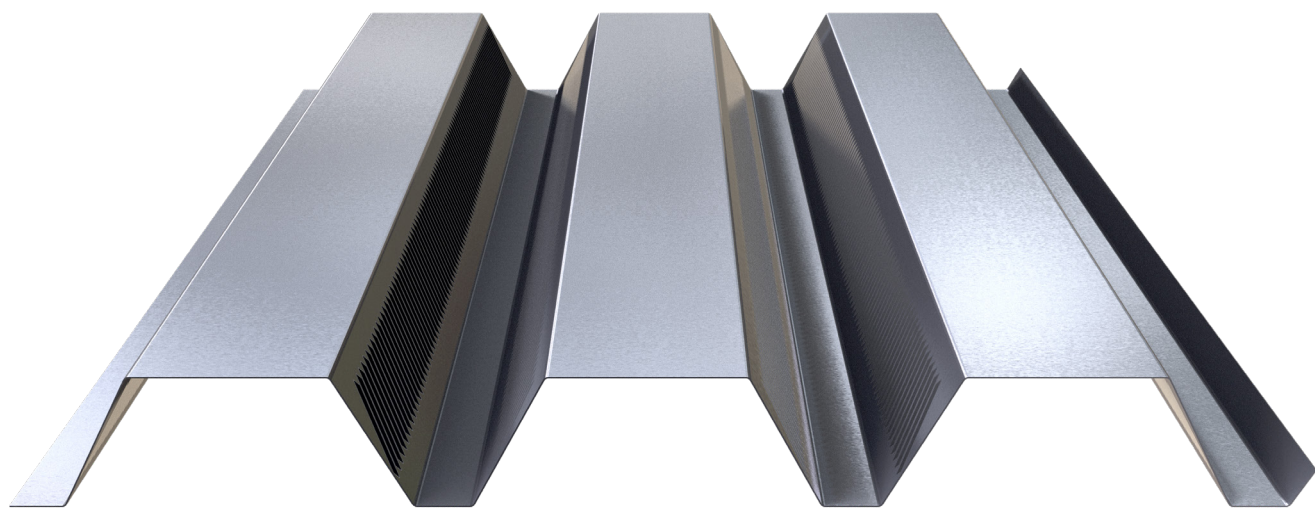




MetaLite Amalga 98/280

Standard metal decking sheets with a 98/280 profile, used as load-bearing elements for supporting concrete in floor systems of all types of buildings

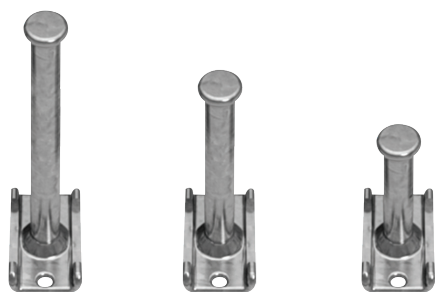


Available in

Effective cover width 840mm | Nominal thickness from 0,80mm, 1,00mm, 1,25mm and 1,50mm

Bespoke lengths up to 14 m, depending on project requirements

Shear Studs



For the anchoring of composite slabs (metal deck with concrete), the use of composite construction studs is recommended. Small indentations on the smooth surface of the metal formwork increase adhesion, but are not sufficient. It is recommended to use studs that are certified and do not require heavy and expensive on-site equipment. For a 98/280 metal deck, a stud with H = 125 mm is recommended.

Technical Characteristics

Section	M.M.	98/280
Effective width	mm	840
Development	mm	1250
Weight /m* 0,80	Kg/m	7,85
Weight /m* 1,00	Kg/m	9,81
Weight /m* 1,25	Kg/m	12,27
Weight /m* 1,50	Kg/m	14,72

Weight per running metre is calculated based on:

- Steel density 7850 kg/m³
- Leakage limit 320 MPa

Dimensional Tolerances

(according to the standard EN 14509)

Steel sheet with galvanised coating, thickness > 0.6 mm

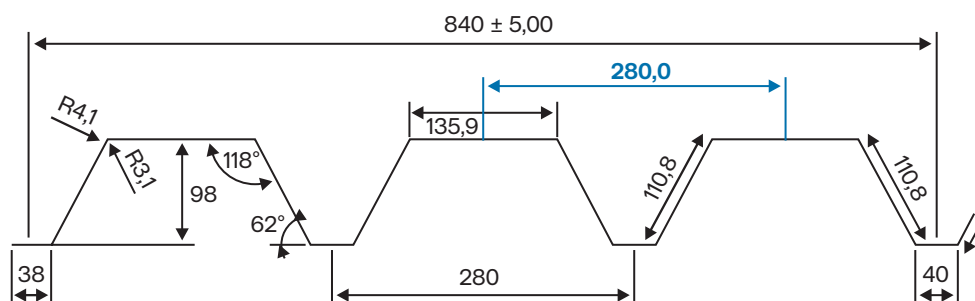
Aluminium sheet, thickness > 0.7 mm

Stainless steel sheet, thickness > 0.7 mm

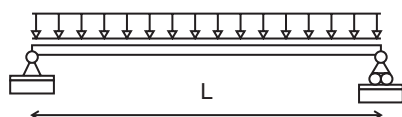
		Trapezoidal sheets without ribs	Trapezoidal sheets with ribs
Sheet Thickness	t	Steel Standard: EN 10143 Aluminum Standard: EN 485-4	
Profile Depth	h	$\pm 1,0 \text{ mm}$, $h \leq 50 \text{ mm}$, $\pm 1,5 \text{ mm}$, $50 \sim 100 \text{ mm}$, $\pm 2,0 \text{ mm}$, $h > 100 \text{ mm}$	
Profile Pitch	p	$\pm 2,0 \text{ mm}$, $h \leq 50 \text{ mm}$, $\pm 3,0 \text{ mm}$, $50 \sim 100 \text{ mm}$, $\pm 4,0 \text{ mm}$, $h > 100 \text{ mm}$	
Crest and Trough Widths	b	-1,0 mm ~ +2,0 mm	-1,0 mm ~ +4,0 mm
Effective Width	w _{1,2,3}	$\pm 5,0 \text{ mm}$, $h \leq 50 \text{ mm}$ or $\pm 0,1 \cdot h \leq 15 \text{ mm}$, $h > 50 \text{ mm}$	
Internal Radius	r	0 mm ~ +2 mm	$\pm 2,0 \text{ mm}$
Straightness Deviation	δ	$\leq 2,0 \text{ mm/m}$ & $\leq 10 \text{ mm}$	
Squareness Deviation	S	$S \leq 0.005 \cdot w$	No requirement
Sheet Length	l	-5 mm ~ +10 mm, $L \leq 3000 \text{ mm}$	-5 mm ~ +20 mm, $L > 3000 \text{ mm}$
Side Lap Deviation	D	$\pm 2.0 \text{ mm}$, $l < 500 \text{ mm}$	
Rib Depth	hr vs	-	-1,0 mm ~ +3,0 mm -0,15*v ~ +2,0 mm
Rib Position	ha,b,k	-	$\pm 3,0 \text{ mm}$
Flange Width	bs	$\pm 0,2 \text{ mm}$, $h \leq 100 \text{ mm}$ -1,0 mm ~ +2,0 mm, $h > 100 \text{ mm}$	$D \leq 100 \text{ mm}$ / $D > 100 \text{ mm}$
Flange Deformation	fs	$\leq l/300 \text{ mm}$ & $\leq 20 \text{ mm}$	
Flange / Frame Angle	ϕ	$\pm 3.0^\circ$	
Transverse Curvature	f _q	$-0.01 \cdot b < 10 \text{ mm} \sim +0.02 \cdot b < 10 \text{ mm}$	
Longitudinal Curvature	f _w	$\pm 2.0 \text{ mm}$, $b=400 \text{ mm}$ $\pm 3.0 \text{ mm}$, $b=500 \text{ mm}$ $\pm 5.0 \text{ mm}$, $b=600 \text{ mm}$	
Female Longitudinal Edge	s	$-2,0 \text{ mm} \sim +5,0 \text{ mm}$ & $s \geq 10,0 \text{ mm}$	
Male Longitudinal Edge	buf	$bu/2 + 5,0 \leq buf \leq bu-5$, $bu \leq 30,0 \text{ mm}$ $20,0 \leq buf \leq bu-5$, $bu > 30,0 \text{ mm}$	
Crest Curvature	he	$\pm 3.0 \text{ mm}$	
Hole Diameter	dn	$\pm 0,2 \text{ mm}$, $\varnothing \leq 5,0 \text{ mm}$ -0,2 mm ~ +0,4 mm, $\varnothing > 5,0 \text{ mm}$	
Hole Pitch	ux	$-1,0 \text{ mm} \sim +2,0 \text{ mm}$	
Row Spacing	v	$\pm 2.0 \text{ mm}$	
Column Spacing	uy	$\pm 2.0 \text{ mm}$	
Number of Rows	-	$\pm 3.0 \%$, full perforation	
Number of Columns	-	$\pm 3.0 \%$, full perforation	

Metal DMC profiles, Metal decks & composite slabs

Metal type 98/280



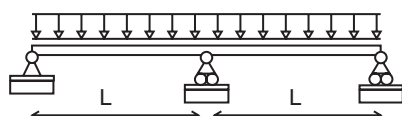
Nominal Thickness	mm	0,80	1,00	1,25	1,50
Section Weight G	Kg/m2	9,35	11,68	14,60	17,52
Section Area A	cm2/m	11,37	14,21	17,76	21,32
Moment of Inertia (Ix)	cm4/m	155,57	194,46	243,08	291,65



Maximum length of a single span, L [m]									
1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00	

Maximum effective load $Q \text{ σε kN/m}^2$

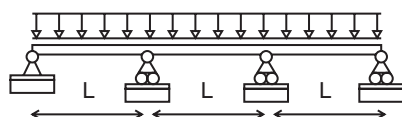
Nominal Thickness t [mm]	0,80	1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00
0,80	28,55	18,25	12,65	9,27	7,08	5,58	4,50	3,71	3,10	
1,00	42,28	27,02	18,73	13,74	10,49	8,27	6,68	5,50	4,61	
1,25	54,38	34,76	24,10	17,67	13,50	10,64	8,60	7,08	5,81	
1,50	66,75	42,66	29,58	21,69	16,57	13,06	10,55	8,70	6,97	



Maximum length of two spans, L [m]									
1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00	

Maximum effective load $Q \text{ σε kN/m}^2$

Nominal Thickness t [mm]	0,80	1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00
0,80	27,70	17,70	12,27	8,99	6,87	5,41	4,36	3,59	3,01	
1,00	40,70	26,01	18,03	13,22	10,10	7,96	6,43	5,29	4,43	
1,25	58,61	37,46	25,98	19,05	14,56	11,48	9,27	7,64	6,40	
1,50	71,59	45,76	31,73	23,27	17,78	14,02	11,33	9,34	7,82	



Maximum length of multiple spans, L [m]									
1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00	

Maximum effective load $Q \text{ σε kN/m}^2$

Nominal Thickness t [mm]	0,80	1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00
0,80	27,70	17,70	12,27	8,99	6,87	5,41	4,36	3,59	3,01	
1,00	40,70	26,01	18,03	13,22	10,10	7,96	6,43	5,29	4,43	
1,25	58,61	37,46	25,98	19,05	14,56	11,48	9,27	7,64	6,40	
1,50	71,59	45,76	31,73	23,27	17,78	14,02	11,33	9,34	7,82	

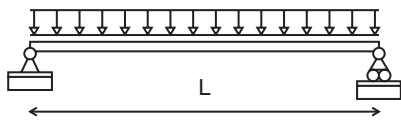
Metal DMC profiles, Metal decks & composite slabs

- Steel Grade: S320GD+Z, with minimum yield strength 320 N/mm² (Standard EN 10346:2013)
- Concrete Quality: C 20/25
- Reinforcement Steel Grade (longitudinal): B500C
- Minimum width of continuous support: 100 mm

Reinforcement at support locations – negative moments

Slab thickness, h_c [m]

0,14	0,15	0,16	0,17	0,18	0,19	0,20
Reinforcement ratio: [mm/cm]						
Ø8/20	Ø8/15	Ø8/15	Ø10/20	Ø10/20	Ø10/15	Ø10/15



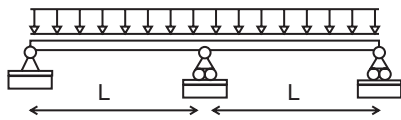
Maximum length of a single span, L [m]

1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00
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Maximum effective load Q σε kN/m²

Nominal Thickness
Slab $h_c = 0.20$ m
Nominal Sheet
Thickness: t [mm]

0,80	65,60	51,81	42,62	36,05	31,13	27,30	24,24	21,73	19,64
1,00	70,85	56,01	46,12	39,05	33,75	29,62	26,33	23,63	21,38
1,25	74,67	59,06	48,66	41,22	35,65	31,31	27,84	25,00	22,64
1,50	74,65	59,04	48,63	41,20	35,63	31,29	27,82	24,98	22,62



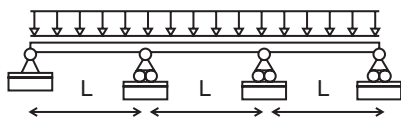
Maximum length of two spans, L [m]

1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00
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Maximum effective load Q σε kN/m²

Nominal Thickness
Slab $h_c = 0.20$ m
Nominal Sheet
Thickness: t [mm]

0,80	51,81	40,78	33,43	28,18	24,24	21,17	18,72	16,71	14,84
1,00	56,01	44,14	36,22	30,57	26,33	23,03	20,39	18,23	14,82
1,25	59,06	46,57	38,25	32,30	27,84	24,37	21,60	18,25	14,80
1,50	59,04	56,55	38,23	32,28	27,82	24,35	21,58	18,23	14,78



Maximum length of multiple spans, L [m]

1,00	1,25	1,50	1,75	2,00	2,25	2,50	2,75	3,00
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Maximum effective load Q σε kN/m²

Nominal Thickness
Slab $h_c = 0.20$ m
Nominal Sheet
Thickness: t [mm]

0,80	54,11	52,62	34,96	29,59	25,38	22,19	19,64	17,55	15,81
1,00	58,48	46,12	37,87	31,98	27,56	24,13	21,38	19,13	17,26
1,25	61,66	48,66	39,98	33,79	29,14	25,53	22,64	20,27	18,30
1,50	61,64	48,63	39,96	33,77	29,12	25,51	22,62	20,25	18,28

Ultimate Limit State (ULS): According to Eurocode 3 (Standards EN 1993-1-3 and EN 1993-1-5)

Serviceability Limit State (SLS): Safety factor for permanent and variable loads: $G + Q = 1.00$

Maximum allowable deflection per span: $L/200$ for $G + Q$ $L/250$ for Q only, where L = span length

Ultimate Limit State (ULS) Safety Factor: $S = 1.1$ for loading of $1.35 G + 1.50 Q$