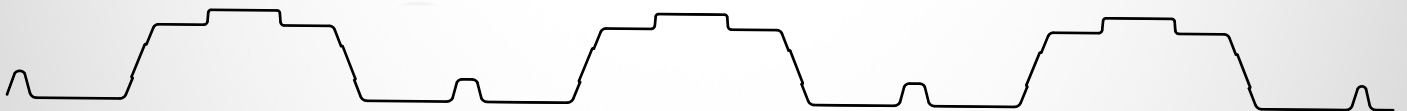


حديد العبدو ALABUO STEEL

Your First Choice for Industrial Steel and Construction



location



SHFloor® Composite Floor Deck Range

- The most extensive cost-effective and efficient range of composite floor deck profiles in Saudi Arabia.
- Three standard thicknesses enable effective and efficient design 0.7mm, 0.9mm, 1.2mm and 1.5mm.
- Fast build time provided by quick installation and prop free concrete floors.
- High levels of fire resistance from all SHFloor® slabs with zero soffit protection.
- Pre-finished steel soffits offer significant extra protection and corrosion resistance.
- Factory produced with the backing of a robust Quality Management and Environmental Management standards.
- Our SHFloor® range of profiles offer quick, safer installation, and are fully nested for transportation purpose.
- Full traceability of all components.
- Health and Safety built in.

Maximum sheet lengths

Up to 12m & 15m

Reinforcement Mesh

Applicable with wide range of prefabricated and on-site reinforcement meshes.

Spans

Measured center to center of supports.

Shear studs

Applicable with shear studs welding as per composite beams design.

Construction Stage Deflection

Where additional loads due to ponding of wet concrete are ignored when determining the loading, a more onerous deflection limit is used to check the decking at serviceability. In these cases, the mid-span deflection should be limited to the lesser of the effective span/180 and 20mm. Where additional loads due to ponding of wet concrete are included, the mid-span deflection should be limited to the lesser of effective span/130 and 30mm. Normal Stage Deflection In the composite normal stage, the total deflection should not exceed $L/240$.

Concrete grade

The concrete is assumed to be Normal Concrete (NC) Grade C30/37 with a maximum aggregate size of 20mm. The wet and dry weights for normal concrete are taken as 25 and 24 kN/m³ respectively.

For lightweight aggregate concrete (LWAC), wet and dry weights are taken as 20 and 19 kN/m³ respectively. The modular ratio is 10 for normal concrete and 15 for lightweight aggregate concrete.

Construction load

The construction loads (Q_c) during the casting of concrete are specified in BS EN 1991-1-6 Clause 4.11.2. The general load across the deck is 0.75 kN/m², with an additional of 10% of the slab weight or 0.75 kN/m², whichever is greater, over a 3m × 3m working area. This area should be treated as a moveable patch load that should be applied to cause maximum effect. Further guidance is given in SCI Publication AD 346.

Applied load

The total applied loads stated in the Eurocode tables covers an allowable unfactored total load of either 5.00, 7.50 or 10.00kN/m², which represents three typical cases, as specified in the table below. The total load combination is made up of an imposed live load, ceilings and services, finishes and partition loads. However, the dead load of the slab itself has already been taken into account and need not be considered as part of the applied load. The three typical load cases of 5.00, 7.50 or 10.00kN/m² have been given the imposed load categories of A, B and C, with their corresponding psi factors given in Table A1.1 of BS EN 1990:2002+A1.



Category	A	B	C
Imposed	3.00	4.00	7.50
C&S	0.50	1.00	1.00
Finishes	0.50	1.50	1.50
Partitions	1.00	1.00	0.00
Total	5.00	7.50	10.00

The minimum slab thickness indicated in each table, for each fire rating satisfies the fire insulation requirements of Tables 7.1 and 7.2 of SCI Publication P359 'Composite Design of Steel Framed Buildings'.

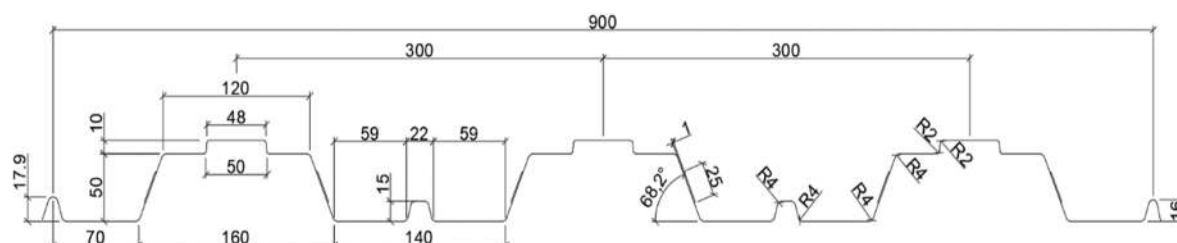
Slab span to depth ratios for simply supported, end span, internal span and cantilevers are limited to 20, 26, 30 and 8 in accordance with BS EN 1992-1-1, 7.4, for lightly stressed concrete.

As a minimum requirement where the control of crack width is of no interest, BS EN 1994-1-1, 9.8.1(2) recommends that where continuous slabs are designed as simply-supported in accordance with BS EN 1994-1-1, 9.4.2(5), the cross-sectional area of the anti-crack reinforcement above the ribs should be not less than 0.2% of the cross-sectional area of the concrete above the ribs for unpropped construction, and 0.4% of this cross-sectional area for propped construction. The mesh shown in these quick reference tables, complies with this clause.

Where used, bar reinforcement is placed at one bar per profile trough. The axis distance of bar reinforcement defines the distance from the bottom of the ribs to the center of the bar, which has a minimum value of 25mm, and a maximum value of the profile height.

The tables are designed to optimize the span in the construction stage, with the minimum amount of reinforcement needed to achieve the relevant imposed loading and fire resistance. However, in certain conditions where slender slabs are subjected to the higher imposed loads (and depending on whether mesh or bottom bar only is selected for fire resistance), then the limiting design mechanism becomes associated with the normal stage slab bending and/or vertical shear capacity, and not construction stage.

SHFloor® SH 60/300 trapezoidal profile is applicable for floor deck applications used for mezzanine floor system, and is commonly known as a Composite Deck.

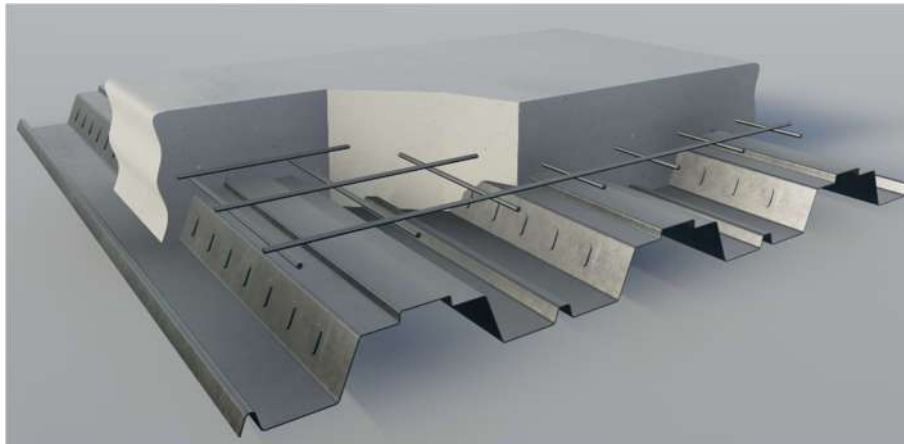


SH-60/300 - Material and Product Specifications

Usage	Floor Deck	
Material Type	G.I (Galvanized Steel as per ASTM A653M SS Grade 50)	
Material Thickness	0.7mm - 0.9mm - 1.2mm - 1.5mm	
Dimensions (mm)	Covering Width: 900mm	Profile Pitch: 300mm
	Crown: 120mm	Profile Depth: 60mm
	Valley: 140mm	Rib Width: 160mm
Colors	Standard RAL Colors or Special Colors on Request	
Coating/Finish	G90 (275 grams/m ² Zinc Coating) Mill Finish	

Dimensions & Section Properties (Per Meter Width):

Thickness (mm)	Cover Width (mm)	Nominal Weight (kg/m ²)	Area (cm ²)	Full Sec. I _x (cm ⁴)	Elastic Modulus E (kN/cm ²)	Top in Compression				Bottom in Compression			
						I _{xeb} (cm ⁴)	S _{x-Top} (cm ³)	S _{x-Bot} (cm ³)	M _{a bx} (kNm)	I _{xeb} (cm ⁴)	S _{x-Top} (cm ³)	S _{x-Bot} (cm ³)	M _{a bx} (kNm)
0.7	900	7.47	9.74	52.37	20300	50.22	14.06	19.96	2.90	45.39	14.22	15.66	2.93
0.9	900	9.58	12.49	67.15	20300	64.39	18.03	25.59	3.72	58.2	18.23	20.08	3.76
1.20	900	12.77	16.64	90.22	20300	90.22	25.46	34.45	5.25	85.79	25.00	31.43	5.16



Allowable Uniform Loads (kN/m²)

Nominal Thickness (T)(mm)	No. of Spans	Load Case	Span (m)											
			1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75
0.70	1	BENDING	23.21	14.86	10.31	7.58	5.80	-	-	-	-	-	-	-
		DEFLECTION	40.83	20.90	12.09	7.62	5.10	-	-	-	-	-	-	-
	2	BENDING	23.46	15.01	10.42	7.65	5.86	-	-	-	-	-	-	-
		DEFLECTION	98.436	50.40	29.16	18.36	12.30	-	-	-	-	-	-	-
	3	BENDING	25.07	16.04	11.13	8.18	6.26	-	-	-	-	-	-	-
		DEFLECTION	77.04	39.44	22.83	14.36	9.62	-	-	-	-	-	-	-
0.90	1	BENDING	29.76	19.05	13.23	9.72	7.44	5.88	4.76	3.94	3.31	2.82	2.43	2.12
		DEFLECTION	52.35	26.80	15.51	9.77	6.54	4.59	3.35	2.52	1.94	1.53	1.22	0.99
	2	BENDING	30.08	19.25	13.37	9.82	7.52	5.94	4.81	3.98	3.34	2.85	2.46	2.14
		DEFLECTION	126.20	64.62	37.39	23.54	15.77	11.07	8.08	6.07	4.67	3.68	2.94	2.38
	3	BENDING	32.14	20.57	14.28	10.49	8.03	6.35	5.14	4.25	3.57	3.04	2.62	2.29
		DEFLECTION	98.77	50.57	29.27	18.42	12.34	8.66	6.32	4.75	3.65	2.88	2.31	1.87
1.20	1	BENDING	42.00	26.88	18.67	13.71	10.50	8.30	6.72	5.55	4.67	3.98	3.43	2.99
		DEFLECTION	70.33	36.01	20.84	13.12	8.79	6.17	4.50	3.38	2.60	2.05	1.64	1.33
	2	BENDING	41.28	26.42	18.35	13.48	10.32	8.15	6.60	5.46	4.59	3.91	3.37	2.94
		DEFLECTION	169.56	86.82	50.24	31.63	21.19	14.87	10.85	8.15	6.27	4.94	3.95	3.20
	3	BENDING	44.10	28.23	19.60	14.40	11.03	8.71	7.06	5.83	4.90	4.18	3.60	3.14
		DEFLECTION	132.71	67.95	39.32	24.75	16.58	11.64	8.49	6.38	4.90	3.87	3.10	2.51

Design Notes

- Design of decking is based on AISI-2007 (ASD-Allowable Stress Design).
- Top Values are based on bending and bottom values are based on deflection of span/200.
- For deflection limits of span/240, divide by 1.2.
- Material specifications – ASTM A653-SS-Grade 50/1 Min. Yield Strength – 345 MPa.
- Nominal thickness refers to base metal thickness.
- Minimum construction live load of 1.0 kN/m² must be considered
- Coating – Zinc coating G90 (275 gms/m²) to ASTM A653M

Fire Rating Properties (hrs)

Span	Fire Rating	Slab Depth (mm)	Mesh	Maximum Span (m) Deck Thickness (mm)								
				0.9			1.2			1.5		
				Total Applied Load (kN/m²)								
				3.50	5.00	10.00	3.50	5.00	10.00	3.50	5.00	10.00
Single Span Slab & Deck	1 hr	130	A142	3.5	3.2	2.3	3.9	3.4	2.5	4.9	4.3	3.1
		130	A252	3.5	3.5	2.6	3.9	3.9	2.8	4.9	4.9	3.5
		160	A252	3.2	3.2	2.9	3.6	3.6	3.1	4.5	4.5	3.9
	1.5 hrs	140	A193	3.4	2.9	2.1	3.7	3.1	2.3	4.6	3.9	2.9
		170	A252	3.1	3.1	2.4	3.5	3.5	2.6	4.4	4.4	3.3
	2 hrs	150	A193	2.9	2.5	1.9	3.0	2.6	1.9	3.8	3.3	2.4
		180	A252	3.1	3.0	2.1	3.5	3.0	2.2	4.4	3.8	2.8
	Double Span Slab & Deck	1 hr	130	A142	3.6	3.6	2.7	4.5	3.9	2.9	5.6	4.9
130			A252	3.6	3.6	3.2	4.5	4.5	3.3	5.6	5.6	4.1
160			A252	3.3	3.3	3.3	4.2	4.2	3.8	5.3	5.3	4.8
1.5 hrs		140	A193	3.5	3.5	2.6	4.1	4.1	3.3	5.1	5.1	4.1
		170	A252	3.2	3.2	3.2	4.1	4.1	3.3	5.1	5.1	4.1
2 hrs		150	A193	3.4	3.0	2.3	3.5	3.1	2.4	4.4	3.9	3.0
		180	A252	3.1	3.1	2.8	4.1	3.9	2.9	5.1	4.9	3.6

Single Skin Corrugated Sheets

Product Range & Technical Information

What We Offer

ALABUO Steel provides custom cut-to-length services and painting to official standards and specifications. We also supply and install shear studs through a specialized team across the Kingdom and the GCC.

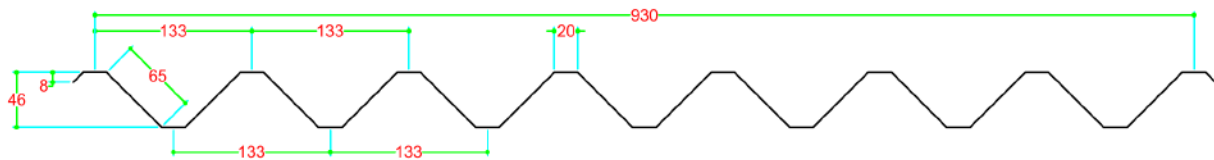
Manufacturing & Services Scope

- Materials Supply
- Manufacturing
- Primer & Finish Coating (Inside & Outside)
- Powder Coating
- Sandblasting
- Hot-Dip Galvanizing
- Plastic Packaging & Shipping
- Installation & Civil Works
- Electromechanical Works
- Testing & Commissioning (Factory & Site, with MTC)

ASCO-46

Corrugated Steel Sheets for Decking, Roofing, Cladding & Architectural Applications

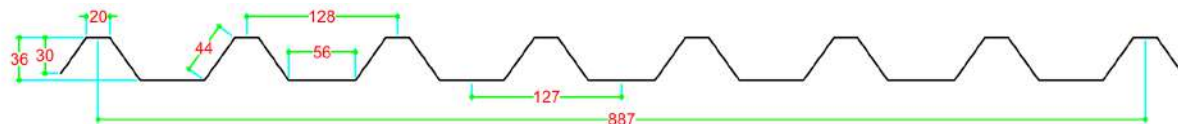
Available in thickness range from 0.25 mm to 1.5 mm. Galvanized Steel, Pre-Painted Steel, Aluminum & Stainless Steel.



ASCO-36

Corrugated Steel Sheets for Decking, Roofing, Cladding & Architectural Applications

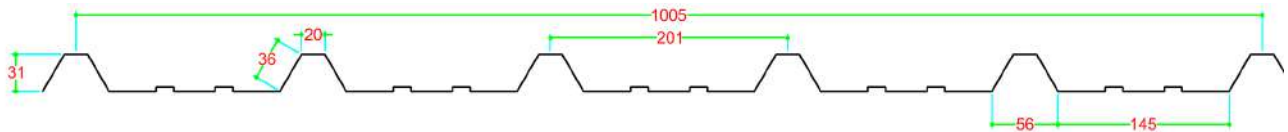
Available in thickness range from 0.25 mm to 1.5 mm. Galvanized Steel, Pre-Painted Steel, Aluminum & Stainless Steel.



ASCO-32

Corrugated Steel Sheets for Roofing, Cladding & Architectural Applications

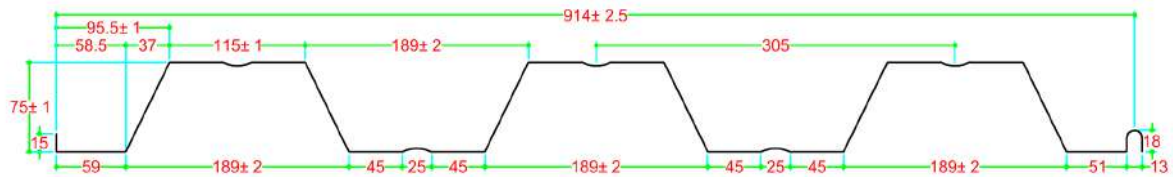
Available in thickness range from 0.25 mm to 1.0 mm. Galvanized Steel, Pre-Painted Steel, Aluminum & Stainless Steel.



ASCO-65/75

Corrugated Steel Sheets for Metal Decking

Available in thickness range from 0.25 mm to 1.2 mm. Galvanized Steel, Pre-Painted Steel, Aluminum & Stainless Steel.



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