



COMPOSITE FLOOR DECKING
FOR FASTER CONSTRUCTION

DECKING PROFILES



PENNAR INDUSTRIES LIMITED
(An ISO 9001:2000 Certified Company)



INTRODUCTION

PENNAR INDUSTRIES LIMITED, an ISO 9001:2000 accredited company having four manufacturing plants located at Patancheru, Isnapur (both near Hyderabad), Chennai and Tarapur. PENNAR manufactures different steel products like Cold Rolled Steel Strips, Cold Roll Formed Steel Sections, Engineering components, Metal Crash barriers for Road safety and ERW Tubes.

Cold Roll Formed Sections (CRFS) Division manufactures Products for Construction / Steel buildings / EPC industry (Metal decking, Purlins & Runners, Roofing sheets, etc), Special sections & Panels for Automobile & Engineering industries, Long profiled steel sheets such as Collecting and Discharge Electrodes for ESP, Stringer channels for Material Handling industry, Trough floor & other sections for Railway wagons and coaches.

METAL DECKING

Composite Floor Deck is a steel deck with a ribbed profile, which binds with concrete slab and together forms a part of the floor structure. This interlocking between the concrete and the floor deck is brought about through a system of embossment and ribs which are built into the deck, creating a reinforced concrete slab that serves the dual purpose of permanent form and positive reinforcement. Composite decking is one of the most effective method of constructing floors in steel building and very useful in high rise RCC / Steel Buildings.

Started in 1988, PENNAR specializes in metal decking and has supplied to many industries like construction, cement, metals & mining, automobile, power, etc. and has more than 1000 successful implementations all over India. PENNAR has standard profiles which can be supplied within a short time and also develop customized decks suitable for specific requirements.

Metal decking can be effectively used in Multi-storey buildings (Industrial / Residential), Shopping malls, Super markets, SEZs, Silos, Storage facilities, mezzanines, bridges, walkways, platforms, etc.

SOME OF OUR INSTALLATIONS

Customer	Project	Application
L&T – ECC	Ultratech Cement, Tadipatri GMR Hyderabad Intl. Airport, Mumbai International Airport TNEB Mettur Power Plant	Silo Terminal Building, Ramp Turbo Generator Building
Lloyd Insulations	LANCO Amarkantak Power Plant, Korba Hyundai Motors, Pune Metro Cash & Carry India	TG Building Assembly and Paint Shop Hyper Mart
Nuclear Power Corporation	Kaiga Nuclear Power Station Kudankulam Atomic Power Project	Central Stores - Mezzanine Floor Main Plant Structures
Unity Infra Projects Ltd	Balewadi Sports Complex, Pune	5-Star Hotel Building
Lloyd (Mecon)	Neyveli Lignite Corporation	Power Plant Buildings
Ultratech Cements	Hirmi Cement Works	Roofing and Cladding of Plant Buildings
Vijay Nirman	GMR Villupuram-ULunderpet	Road overbridge
NCC	Nalco Power Plant, Angul Satyam Computer Services	TG Building Office Building
Lanco Group	Lanco Hills Technology Park	SEZ Project Building
Vasavadatta Cements	Sedam Cement Plant	Silo & Main Plant
Build Korp	ETL Infrastructure Ltd	Commercial Complex
Reliance Petroleum	Jamnagar SEZ	Plant Building
Essar Steel	Hazira Integrated Steel Plant	Plant buildings & Conveyor Galleries
Gannon Dunkerly & Co	Bhatinda Thermal Power Plant, HAL Koraput	Plant Buildings
Ford India Ltd	Chennai Plant	Plant Buildings

TECHNICAL SPECIFICATIONS

PENNAR METAL DECKING is available in 44mm, 52mm and 75mm depth profiles with thickness range of 0.80mm to 2mm.

Profiles : 44/130 (44mm depth x 956mm width)
75/230 (75mm depth x 718mm width)
52/271 (52mm depth x 845mm width)

Thickness : 0.80 to 2mm

Length : upto 12000mm

Material : CR Steel as per IS:513 D-Quality / HR Steel as per IS:1079 / Galvanized Steel (as per IS:277)

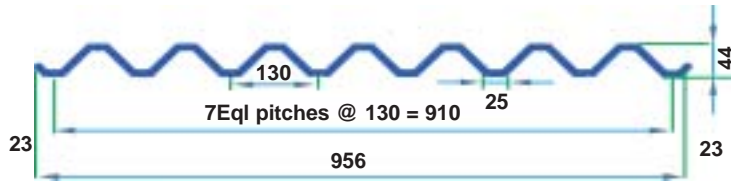
Type : Bare, Primer coated, Galvanized, Pre-Painted

We supply suitable size of decking with optional feature of dimpling, shear connectors and ribs, as per customer's specifications / drawings, for easy erection and also to avoid any wastage / rework at site.

BENEFITS OF PENNAR METAL DECKING

- Light weight and doesn't require any support, which considerably reduces the use of concrete & slab thickness.
- Acts as composite member and as permanent shuttering.
- No major reinforcement required.
- Deck can be used as working platform during construction.
- Speedy construction enables faster completion of a project.
- Metal deck can also be used as roofing and cladding sheet in cement, power plants and bulk material handling plants.
- Decking reduces the construction time, hence the total cost.

TRAPEZOIDAL DECKING PROFILE - PIL 44 / 130



GEOMETRICAL PROPERTIES

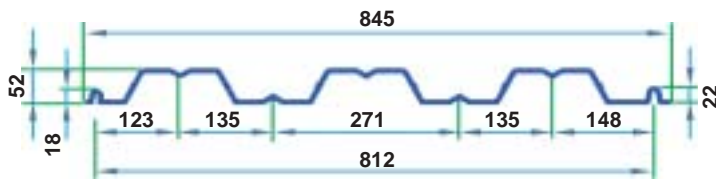
(Yield strength of material – 210 Mpa)

Sl. No.	Thickness mm	Unit Weight kg/m ²	Moment of Inertia cm ⁴	Section Modulus cm ³
1	0.80	8.16	26.70	12.14
2	1.00	10.20	33.38	15.17
3	1.25	12.75	41.72	18.97
4	1.60	16.32	53.41	24.28
5	2.00	20.40	66.77	30.35

ALLOWABLE LOADS IN kg/m²

Sl. No.	Thickness mm	SPAN IN METRES										
		1.00	1.20	1.40	1.50	1.60	1.70	2.00	2.50	3.00	3.50	4.00
1	0.80	1517	1054	774	674	593	525	379	243	169	124	95
2	1.00	1898	1317	966	843	741	656	474	303	211	155	119
3	1.25	2371	1646	1210	1054	926	820	593	379	263	194	148
4	1.60	3035	2107	1548	1348	1185	1050	759	486	337	248	190
5	2.00	3794	2635	1936	1686	1482	1313	948	607	422	310	237

DECKING PROFILE - PIL 52 / 271



GEOMETRICAL PROPERTIES

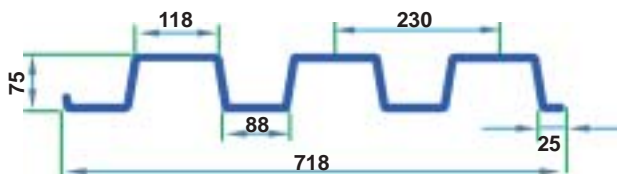
(Yield strength of material – 250 Mpa)

Sl. No.	Thickness mm	Unit Weight kg/m ²	Moment of Inertia cm ⁴	Section Modulus cm ³
1	0.80	8.27	48.91	18.91
2	1.00	10.33	61.13	23.51
3	1.25	12.92	76.40	29.38

ALLOWABLE LOADS IN kg/m²

Sl. No.	Thickness mm	SPAN IN METRES					
		1.00	1.20	1.40	1.60	1.80	2.00
1	0.80	2836	1970	1447	1108	875	709
2	1.00	3526	2449	1799	1377	1088	881
3	1.25	4407	3060	2248	1721	1360	1101

DECKING PROFILE - PIL 75 / 230



GEOMETRICAL PROPERTIES

(Yield strength of material – 250 Mpa)

Sl. No.	Thickness mm	Moment of Inertia cm ⁴	Section Modulus (Min) cm ³	Unit Weight kg/m ²
1	0.80	118.78	29.24	9.59
2	1.00	147.30	36.26	11.96
3	1.25	182.35	44.89	14.90
4	1.50	216.57	53.31	17.98

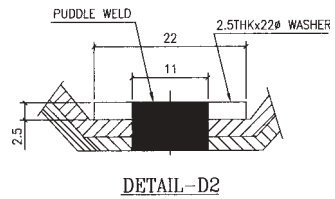
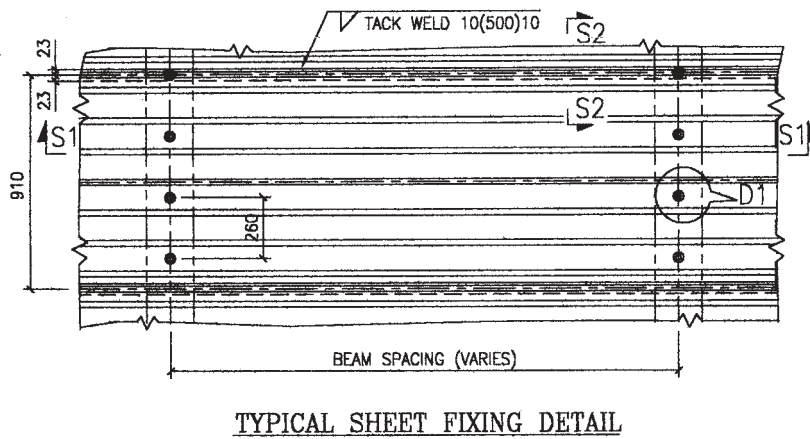
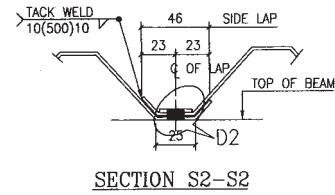
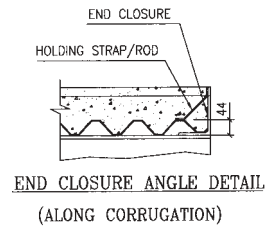
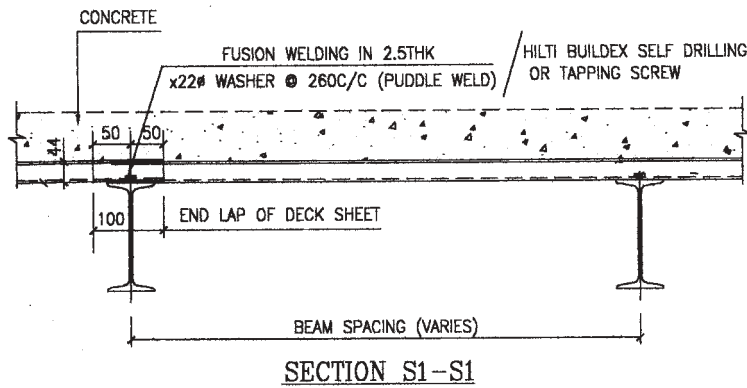
ALLOWABLE LOADS IN kg/m²

Sl. No.	Thickness mm	SPAN IN METRES									
		1.00	1.25	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50
1	0.80	4386	2807	1949	1432	1096	702	487	358	274	217
2	1.00	5439	3481	2417	1776	1360	870	604	444	340	268
3	1.25	6733	4309	2993	2199	1683	1077	748	550	421	332
4	1.50	7996	5118	3554	2611	1999	1279	889	652	499	395

Notes (Common to all Deck Profiles)

1. The properties given are for one meter width of the Profile.
2. Limiting deflection is taken as span / 150.
3. Allowable loads are applicable for sheets spanning over a minimum of four supports and for permanent shuttering only.
4. Allowable loads may be multiplied by a factor of 0.80 for sheets spanning over 2 or 3 supports.
5. Shear Connectors / Ribs are optional.

TYPICAL FIXING ARRANGEMENT DETAILS



PENNAR INDUSTRIES LIMITED

(An ISO 9001:2000 Certified Company)

**A leading manufacturer & supplier of
'Cold Roll Formed Sections, Pressed Components,
ERW Precision Tubes & Cold Rolled Steel Strips'**

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