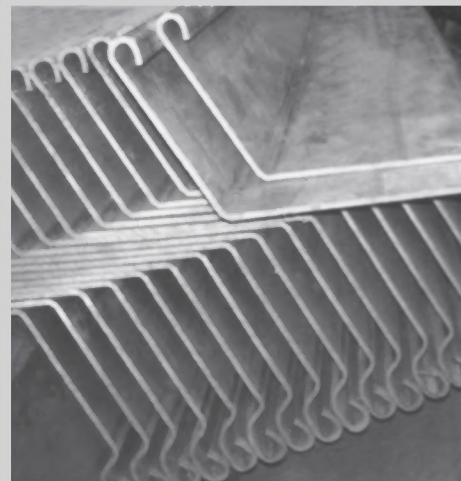
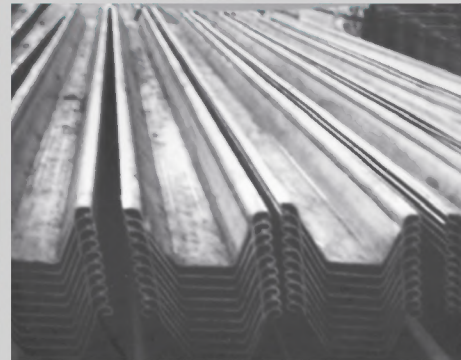


# Pennar Sheet Piling



Catalyzing  
Construction

#### SHEET PILE APPLICATIONS

- River Embankments, Cofferdams
- Ground Water Diversion / Control
- Retaining / Containment Walls
- Ports and harbour: embankments, break waters
- Flood / Coastal protection
- Weir Walls, Slope stabilization
- Earth retaining works, Tunnels etc



Pennar Industries Limited  
Engineering Excellence

# Engineering India

Pennar Industries is a multi-product, multi-location enterprise manufacturing a wide range of value-added sheet metal products which include:

- Cold roll formed steel profiles • Engineered components
- Fabricated steel products • Precision tubes • Cold-rolled strips
- Pennar Pre Engineered Buildings • Sheet piles

These products are made from diverse raw materials such as stainless steel, corten steel, pre-galvanized / galvalume / pre-colour coated steel, mild steel, and structural steel in St-42/52 grades.

The products find application in diverse industries such as:

- Railways • Automobiles • Building & Construction • Pollution Control Equipment • Infrastructure • Road Safety Systems • General Engineering
- Construction

Pennar along with its subsidiary, Pennar Engineered Building Systems, plans to achieve a sales turnover exceeding ₹ 1200 crores in FY '11.

## OUR VISION

Our vision is to be a globally reputed engineered metal products company. We endeavour to have a strong and enduring relationship with our customers based on quality and service.



Cold Rolled Coils



Railway Products



Automobile Products



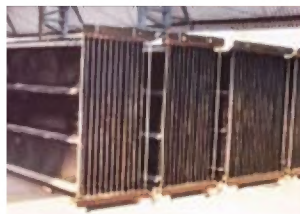
Road Safety Systems



Precision ERW & CDW Tubes



Heavy Engineering Fabrications



ESP Electrodes



Pressed Components



Building Products



# QUALITY POLICY

We, at Pennar, are committed to producing steel based products and associated service for customers all over the world.

We strive to achieve excellence in the quality of products we manufacture and the service we provide to our customers.

It is our endeavour to create a working environment where motivated employees communicate freely and where innovation is encouraged to enable continual improvement in all areas.

We work together to achieve "Complete Customer Satisfaction through Total Quality Management."



# Pile and Specifications

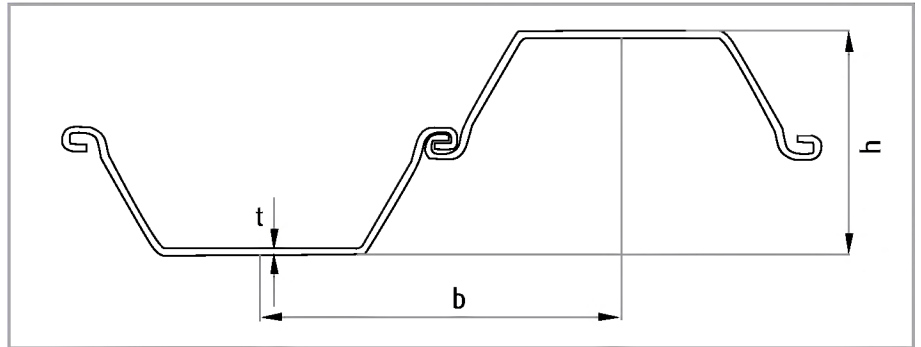
We are the first Indian company to produce cold formed sheet piles. The current production capacity is 100 tons per day, covering almost all popular sizes in the world market, making sure of timely delivery.

This catalogue includes over 21 different sizes of 'U' type sheet pile and 13 different sizes of 'Z' type of sheet pile covering almost all popular sizes, which means conventional contractors can always find solutions here. The standard profile PRU8 (750\*, 320\* 6) and PRZ18 (635\*, 380\* 8) can be supplied on order and other profiles with 6 months' lead time on confirmation of order.

The inter-locked cold-formed steel sheet piles can be divided into three main types:

- The S-type sheet piles have the same applications with L-type. Due to the wider cross section and higher strength, this type is favored to promote speedy construction.
- The Z-type sheet piles can be used to bear the heavy weight of independent pile wall. It has higher modulus of section. It is suitable to applied Z-type sheet piles in bad soil condition or for repeatable usage soil condition.
- The U-type sheet piles are the best choice for support usage. It has equal cross section, which is convenient for piling. Besides, it has wide piles back and enough strength per pile. It uses the curing side of sheet piles to fix joints.

## Profile of U-Pile



## PRU Sheet Piles

Type	Width/b (mm)	Height/h (mm)	Thickness (mm)	Sectional Area (cm <sup>2</sup> /m)	Weight per pile (Kg/m)	Weight per wall (Kg/m <sup>2</sup> )	Moment of Inertia (cm <sup>4</sup> /m)	Modulus of Section (cm <sup>3</sup> /m)
PRU7	750	320	5	71.3	42.0	56.0	10725	670
PRU8	750	320	6	86.7	51.0	68.1	13169	823
PRU9	750	320	7	101.4	59.7	79.6	15251	953
PRU10-450	450	360	8	148.6	52.5	116.7	18268	1015
PRU11-450	450	360	9	165.9	58.6	130.2	20375	1132
PRU12-450	450	360	10	182.9	64.7	143.8	22444	1247
PRU11-575	575	360	8	133.8	60.4	105.1	19685	1094
PRU12-575	575	360	9	149.5	67.5	117.4	21793	1221
PRU13-575	575	360	10	165.0	74.5	129.5	24224	1348
PRU11-600	600	360	8	131.4	61.9	103.2	19897	1105
PRU12-600	600	360	9	149.5	67.5	117.4	21973	1221
PRU13-600	600	360	10	182.4	76.5	127.5	24491	1361
PRU16-650	650	480	8	138.5	71.3	109.6	39864	1661
PRU18-650	650	480	9	156.1	79.5	122.3	44521	1855
PRU20-650	650	540	8	153.7	78.1	120.2	56002	2074
PRU23-650	650	540	9	169.4	87.3	133.0	61084	2318
PRU26-650	650	540	10	187.4	96.2	146.9	69093	2559
PRU30-700	700	558	11	217.1	119.3	170.5	83139	2980
PRU32-700	700	560	12	236.2	129.8	185.4	90880	3246
PRU32-750	750	598	11	215.9	127.1	169.5	97362	3256
PRU35-750	750	600	12	234.9	138.3	184.4	109416	3547

# PRZ Sheet Piles

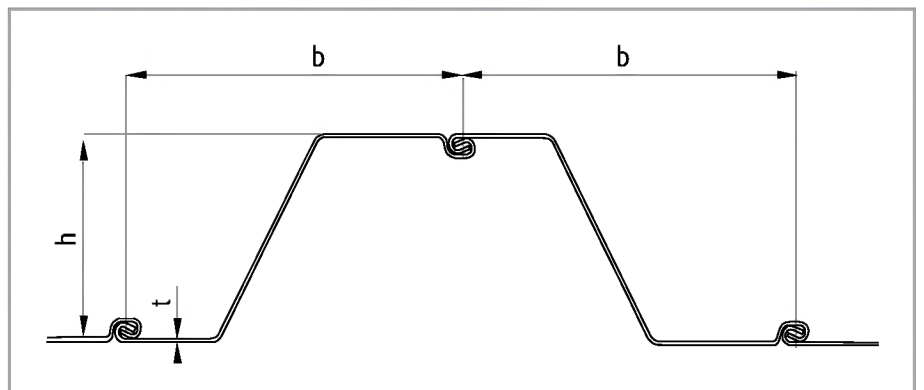
Type	Width (mm)	Height (mm)	Thickness (mm)	Sectional Area (cm <sup>2</sup> /m)	Weight per pile (kg/m)	Weight per wall (kg/m <sup>2</sup> )	Moment of Inertia (cm <sup>4</sup> /m)	Modulus of Section (cm <sup>3</sup> /m)
PRZ16-635	635	379	7	123.4	61.5	96.9	30502	1610
PRZ18-635	635	380	8	140.6	70.1	110.3	34717	1827
PRZ28-635	635	419	11	209.0	104.2	164.1	28785	2805
PRZ30-635	635	420	12	227.3	113.3	178.4	63889	3042
PRZ12-650	650	319	7	113.2	57.8	88.9	19603	1229
PRZ14-650	650	320	8	128.9	85.9	101.2	22312	1305
PRZ14-700	700	419	7	111.9	61.5	87.8	30824	1471
PRZ16-700	700	420	8	127.5	70.0	100.0	35074	1670
PRZ22-700	700	419	9	158.6	87.1	124.5	47058	2246
PRZ25-700	700	420	10	175.6	96.5	137.9	52095	2491
PRZ30-700	700	449	11	203.4	111.8	159.7	67025	2986
PRZ32-700	700	450	12	221.3	121.6	173.7	72863	3238
PRZ36-700	700	500	12	227.8	125.2	178.9	91788	3672

## Optional Materials

Type	CHEMICAL COMPOSITION %					Yield (Mpa)	Tensile (Mpa)	Mechanical Feature	
	C	Si	Mn	P	S			Elongation	Impact Energy - I
Fe360	0.12 - 0.20	≤ 0.30	0.30 - 0.70	≤ 0.045	≤ 0.045	235	375 - 460	38.0	27
Fe510	≤ 0.20	≤ 0.55	1.00 - 1.70	≤ 0.040	≤ 0.040	≥ 345	470 - 630	≥ 21	≥ 34
BSK46	≤ 0.20	≤ 0.50	≤ 1.5	≤ 0.025	≤ 0.020	≥ 380	480 - 640	≥ 21	≥ 60



## Profile of Z-Pile



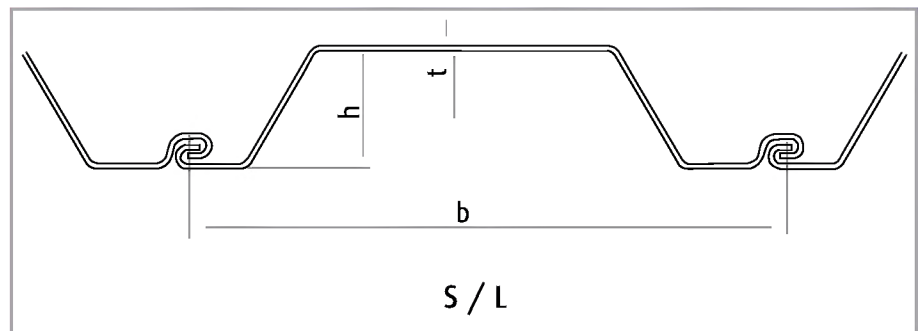
### CUSTOMER SERVICES

- Random Length
- Optional Materials
- Corner Piles
- Supervision



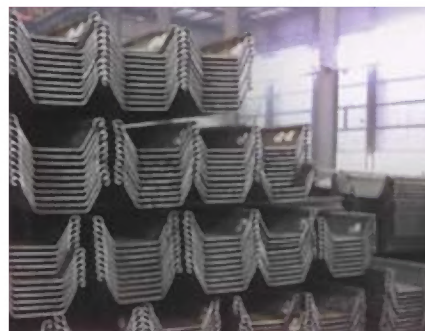
# PRL Sheet Piles

Type	Width/b (mm)	Height/h (mm)	Thickness (mm)	Sectional Area (cm <sup>2</sup> /m)	Weight per pile (kg/m)	Weight per wall (kg/m <sup>2</sup> )	Moment of Inertia (cm <sup>4</sup> /m)	Modulus of Section (cm <sup>3</sup> /m)
PRL 1.5	700	100	3.0	39.0	21.4	30.6	724	145
PRL 2	700	150	3.0	41.7	22.9	32.7	1674	223
PRL 3	700	150	4.5	63.7	35.0	50.0	2469	329
PRL 4	700	180	5.0	73.5	40.4	57.7	3979	442
PRL 5	700	180	6.5	95.9	52.7	75.3	5094	566
PRL 6	700	180	7.0	103.9	57.1	81.6	5458	606



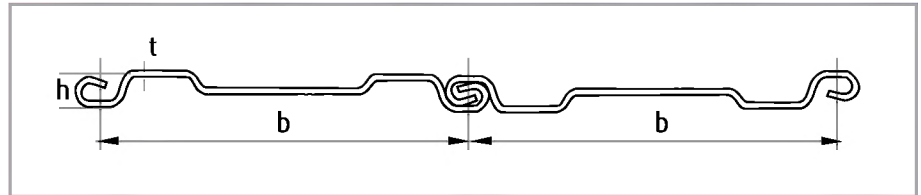
# PRS Sheet Piles

Type	Width/b (mm)	Height/h (mm)	Thickness (mm)	Sectional Area (cm <sup>2</sup> /m)	Weight per pile (kg/m)	Weight per wall (kg/m <sup>2</sup> )	Moment of Inertia (cm <sup>4</sup> /m)	Modulus of Section (cm <sup>3</sup> /m)
PRS 4	600	260	3.5	53.1	31.2	41.7	5528	425
PRS 5	600	260	4.0	62.2	36.6	48.8	6703	516
PRS 6	600	260	5.0	76.9	45.3	57.7	7899	608
PRS 8	750	320	5.5	90.0	53.0	70.7	12987	812
PRS 9	750	320	6.5	106.3	62.6	83.4	15225	952
PRL 6	700	180	7.0	103.9	57.1	81.6	5458	606



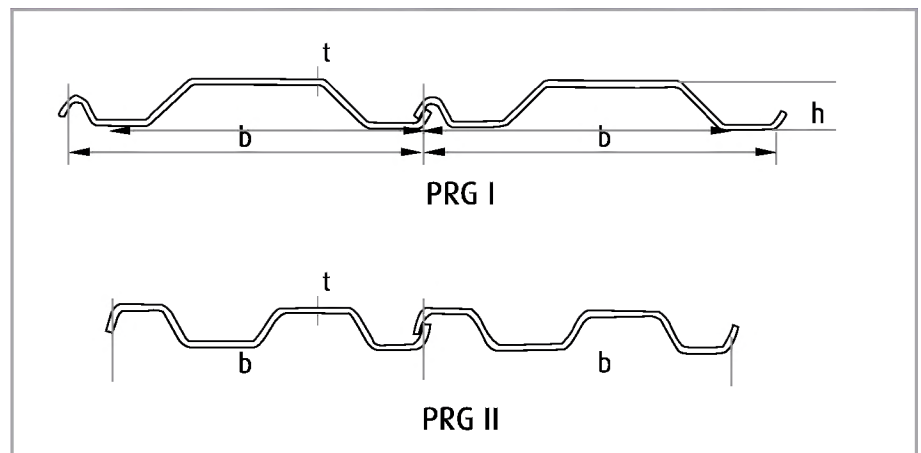
# Straight Web Piles

Type	Width/b (mm)	Height/h (mm)	Thickness (mm)	Sectional Area (cm <sup>2</sup> /m)	Weight per pile (kg/m)	Weight per wall (kg/m <sup>2</sup> )	Moment of Inertia (cm <sup>4</sup> /m)	Modulus of Section (cm <sup>3</sup> /m)
PRX 600-10	600	60	10.0	144.8	68.2	113.6	396	132
PRX 600-11	600	61	11.0	158.5	74.7	124.4	435	143
PRX 600-12	600	62	12.0	172.1	81.1	135.1	474	153



# Trench

Type	Width/b (mm)	Height/h (mm)	Thickness (mm)	Sectional Area (cm <sup>2</sup> /m)	Weight per pile (kg/m)	Weight per wall (kg/m <sup>2</sup> )	Moment of Inertia (cm <sup>4</sup> /m)	Modulus of Section (cm <sup>3</sup> /m)	Radius of Gyration (cm)
PRG I-1	750	95	6.0	72.1	42.4	56.6	975	202	3.7
PRG I-2	750	95	7.0	84.2	49.6	66.1	1139	234	3.7
PRG I-3	750	97	8.0	96.4	56.8	75.7	1304	266	3.7
PRG II-1	650	80	6.0	79.5	40.5	62.4	758	190	3.1
PRG II-2	650	82	8.0	105.7	53.9	83.0	1013	247	3.1





Patancheru (Andhra Pradesh)



Isnapur (Andhra Pradesh)



Sadashivpet (Andhra Pradesh)



Chennai (Tamil Nadu)



Tarapur (Maharashtra)

# Manufacturing facilities

Pennar has six manufacturing facilities all over India giving it a pan India presence. The facilities include laser cutting, plasma cutting, transfer presses and CNC machines that enable it to make products of very high quality.

Pennar endeavors to achieve 'total customer satisfaction through total quality management' and is committed to producing and providing steel-based products and associated services of the highest quality to customers all over the world. To enable continual improvement in operations, it promotes a working environment that motivates the employees to communicate freely and innovate.

Pennar has a dedicated team of well qualified engineers who employ stringent quality control measures at every stage of the manufacturing process. The end-products are subjected to a battery of quality tests on various parameters in order to meet stringent customer specifications. All the plants are ISO 9000 certified.



*Pennar*

## Pennar Industries Limited

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Hyderabad : 040-27766781  
Indore : 0731-4207171  
Kolkata : 033-24417325  
Mumbai : 022-25375493  
Pune : 020-25548660