

STEEL SHEET PILES

Chemical & Mechanical Properties	88
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STEEL SHEET PILES - TO JIS A5528

1. APPLICABLE STANDARDS

Grades of steels

CHEMICAL COMPOSITION

Notation	C	Si	Mn	P	S	Cu
SY 295	---	---	---	0.040 max.	0.040 max.	0.25 min.
SY 390	---	---	---	0.040 max.	0.040 max.	0.25 min.

MECHANICAL PROPERTIES

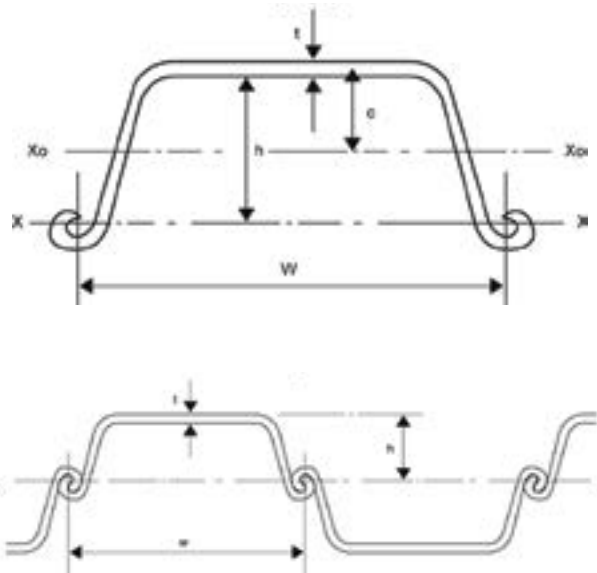
Notation	Tensile Strength N/mm ²	Yield Point N/mm ²	Elongation %
SY 295	490 min.	295 min.	17 min.
SY 390	540 min.	390 min.	15 min.

2. DIMENSIONAL TOLERANCES

Description	Tolerance	
Width	+ 10mm - 5mm	
Height	± 4%	
Thickness	Under 10mm	± 1.0mm
	10mm & over to 16mm, excl	± 1.2mm
	16mm & over	± 1.5mm

STEEL SHEET PILES

U TYPE



Designation	Dimension			Sectional Area		Surface Area		Centre of Gravity	Weight		Moment of Inertia		Radius of Gyration	Section Modulus	
	W	h	t	per pile	per wall width	per pile	per wall width	C	per pile	per wall width	per pile	per wall width	per pile	per pile	per wall width
	mm	mm	mm	cm ²	cm ² /m	m ² /m	m ² /m ²	cm	kg / m	kg / m ²	cm ⁴	cm ⁴ /m	cm	cm ³	cm ³ /m
YSP II	400	100	10.5	61.18	153.0	1.24	1.55	3.62	48	120	986	8690	4.01	121	869
FSP II	400	100	10.5	61.18	153.0	1.33	1.66	4.04	48	120	1240	8740	4.5	152	874
YSP III	400	125	13.0	76.42	191.0	1.33	1.66	4.72	60	150	1920	16400	5.01	196	1310
FSP III	400	125	13.0	76.42	191.0	1.44	1.80	4.9	60	150	2220	16800	5.39	223	1340
FSP IIIA	400	150	13.1	74.40	186.0	1.44	1.80	5.84	58.4	146	2790	22800	6.12	250	1520
YSP IV	400	155	15.5	96.99	242.5	1.47	1.84	5.85	76.1	190	3690	31900	6.15	311	2060
FSP IV	400	170	15.5	96.99	242.5	1.61	2.01	6.45	76.1	190	4670	38600	6.94	362	2270
YSP V	420	175	22.0	134.0	319.0	1.59	1.99	6.15	105	250	5950	55200	6.67	433	3150
FAP VL	500	200	24.3	133.8	267.6	1.75	1.75	6.94	105	210	7960	63000	7.71	520	3150
FSP VIL	500	225	27.6	153.0	306.0	1.83	1.83	8.09	120	240	11400	86000	8.63	680	3820

Remark

- 1) Weight per linear meter of wall is calculated using the formula given below and rounded off in accordance to JIS Z8401.

$$\frac{\text{Weight per pile} \times 1000}{W \text{ (effective width)}}$$

- 2) Surface area per pile includes both sides of the pile.
- 3) Values of the surface area per linear meter of wall are for one side of a pile into position.
- 4) Section modulus per pile is about the neutral $X_0 - X_0$ of each individual pile before assembly into a wall.
- 5) Section modulus per linear meter of wall is about the neutral axis $X - X$ of piles assembled into a wall.