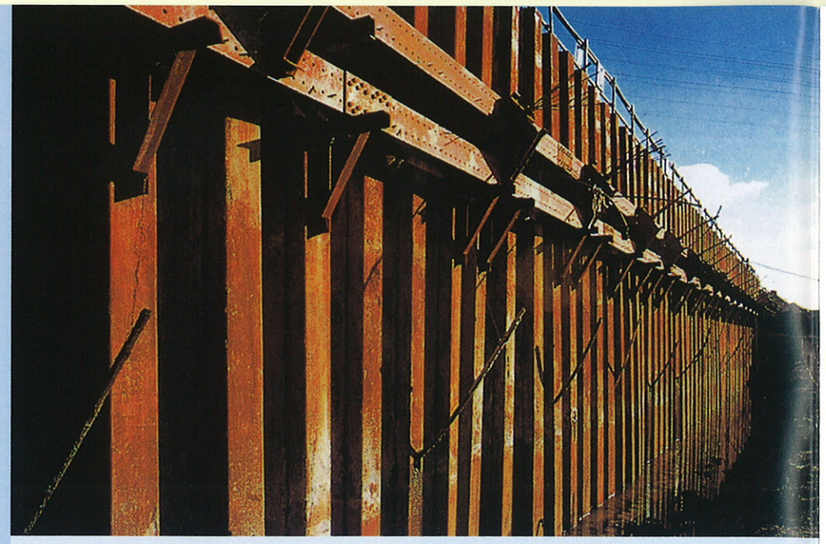
SUMITOMO METALS

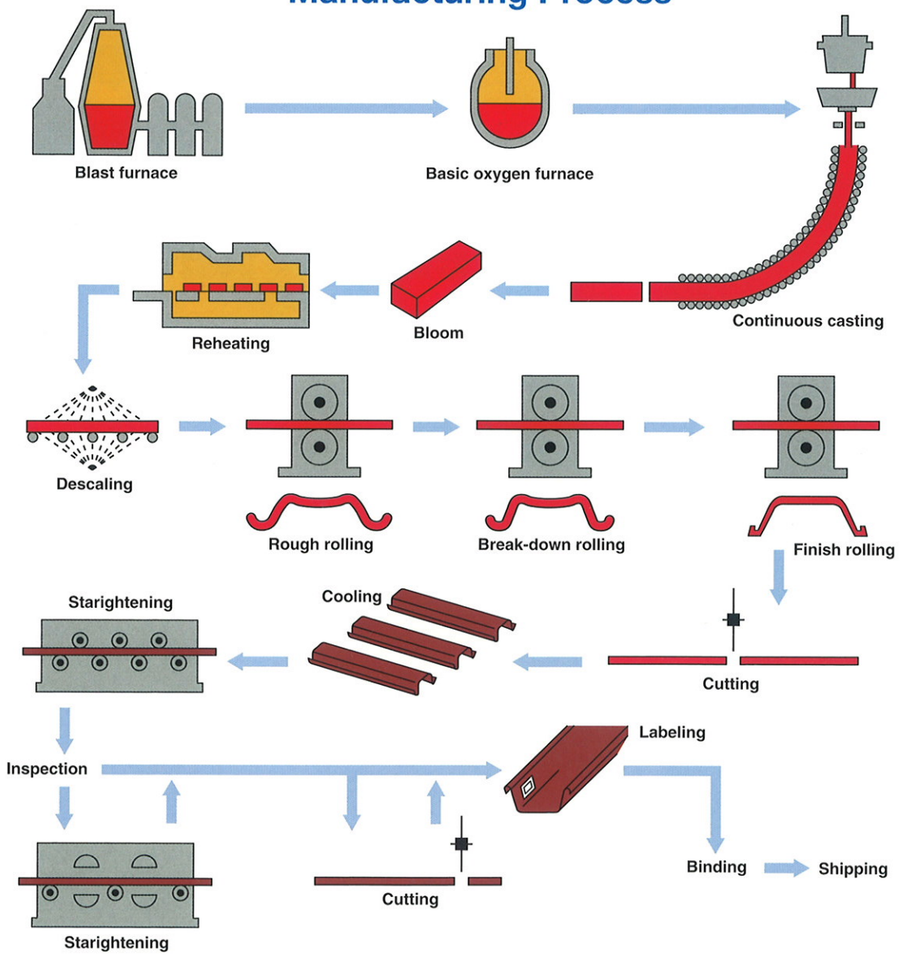
STEEL SHEET PILING SKSP

SKSP

CONTENTS



Manufacturing Process



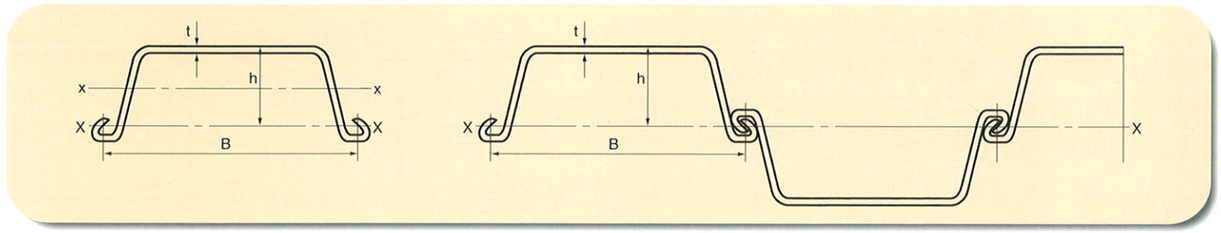
Types, Dimensions and Sectional Properties

U-Type Steel Sheet Piling

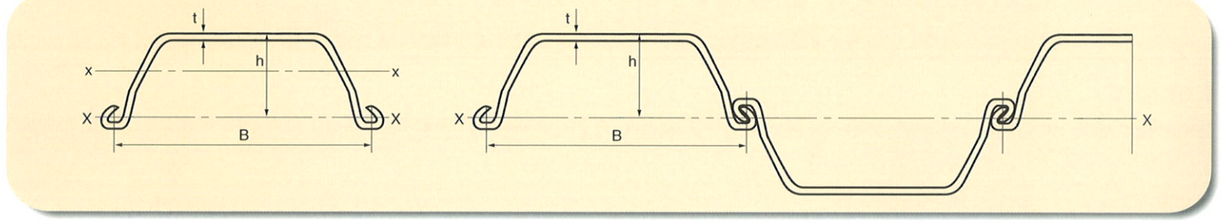
U-Type steel sheet piling are available in twelve types of Rarssen-type steel sheet piling.

Shapes

Standerd Series



Wide Series



Dimensions and Sectional Properties

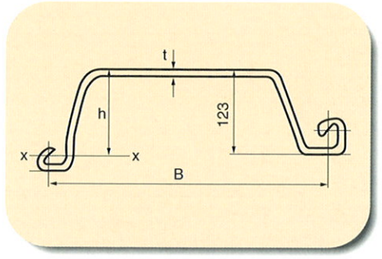
Section Type	Dimensions			Per Pile				Per Liner Meter of Wall			
	Width B	Height h	Thickness t	Sectional Area A	Weight W	Moment of Inertia Ix	Section Modulus Zx	Sectional Area A	Weight W	Moment of Inertia Ix	Section Modulus Zx
	mm	mm	mm	cm^2	kg/m	cm^4	cm^3	cm^2/m	kg/m^2	cm^4/m	cm^3/m
SKSP-ⅠA	400	85	8.0	45.21	35.5	598	88.0	113.0	88.8	4,500	529
SKSP-Ⅱ	400	100	10.5	61.18	48.0	1,240	152	153.0	120	8,710	874
SKSP-ⅡA	400	120	9.2	55.01	43.2	1,460	160	137.5	108	10,600	880
SKSP-Ⅲ	400	125	13.0	76.42	60.0	2,220	223	191.0	150	16,800	1,340
SKSP-ⅢA	400	150	13.1	74.40	58.4	2,790	250	186.0	146	22,800	1,520
SKSP-Ⅳ	400	170	15.5	96.99	76.1	4,670	362	242.5	190	38,600	2,270
SKSP-ⅣA	400	185	16.1	94.21	74.0	5,300	400	235.1	185	41,600	2,250
SKSP-ⅤL	500	200	24.3	133.8	105	7,960	520	267.6	210	63,000	3,150
SKSP-ⅥL	500	225	27.6	153.0	120	11,400	680	306.0	240	86,000	3,820
SKSP-SX10	600 23.6	130 5.12	10.3 0.406	78.70 12.20	61.8 41.5	2,110 50.7	203 12.4	131.2 6.198	103 21.1	13,000 95.3	1,000 18.6
SKSP-SX18	600 23.6	180 7.09	13.4 0.528	103.9 16.10	81.6 54.8	5,220 125	376 22.9	173.2 8.183	136 27.9	32,400 237	1,800 33.5
SKSP-SX27	600 23.6	210 8.27	18.0 0.709	135.3 20.97	106 71.2	8,630 207	539 32.9	225.5 10.65	177 36.3	56,700 415	2,700 50.2

Length

Standard steel sheet piling lengths are designated in metric units with increments of 500mm.

Rolled Corner Steel Sheet Piling —— SKSP-CⅢ

Shapes



Dimensions and Sectional Properties

Item	Dimensions			Cross-sect. area	Weight	Geometrical moment of inertia		Section modulus	
	B mm	h mm	t mm	per pile cm²	kg/m	per pile cm⁴		per pile cm³	
SKSP-CⅢ	400	125	13.0	76.4	60	Around center of gravilty	Around X-axis	Around center of gravilty	Around X-axis
						1,840	6,480	181	506

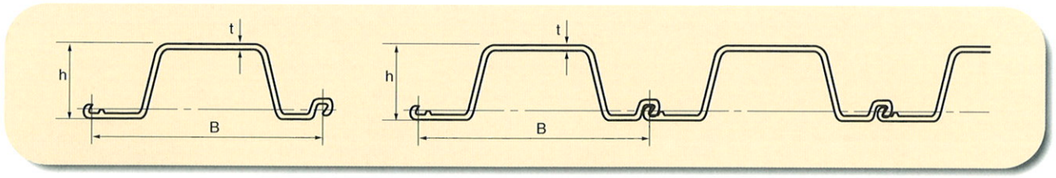
Length

Standard steel sheet piling lengths are designated in metric units with increments of 500mm.

Non-Deadspace Type Steel Sheet Piling —— SM-J

Sumitomo's "SM-J" steel sheet piling has been developed for the construction with no deadspace. Using an exclusive driving machine for "SM-J", the piling wall can be made along the boundary with the neighbor without deadspace.

Shapes



Dimensions and Sectional Properties

Section Type	Dimensions			Per Pile				Per Linear Meter of Wall			
	Width B	Hight h	Thickness t	Sectional Area A	Weight W	Moment of Inertia Ix	Sectional Modulus Zx	Sectional Area A	Weight W	Moment of Inertia Ix	Sectional Modulus Zx
	mm	mm	mm	cm²	kg/m	cm⁴	cm³	cm²/m	kg/m²	cm⁴/m	cm³/m
SM-J	600	200	13.0	111.2	87.3	7,250	705	185.3	145	12,090	1,175

Length

Standard steel sheet piling lengths are designated in metric units with increments of 500mm.

Applicable Standards

Chemical composition and mechanical properties

Sumitomo steel sheet piling are manufactured with SY295 or SY390 steels specified in JIS A5528, SYW295 or SYW390 steels specified in JIS A 5523.

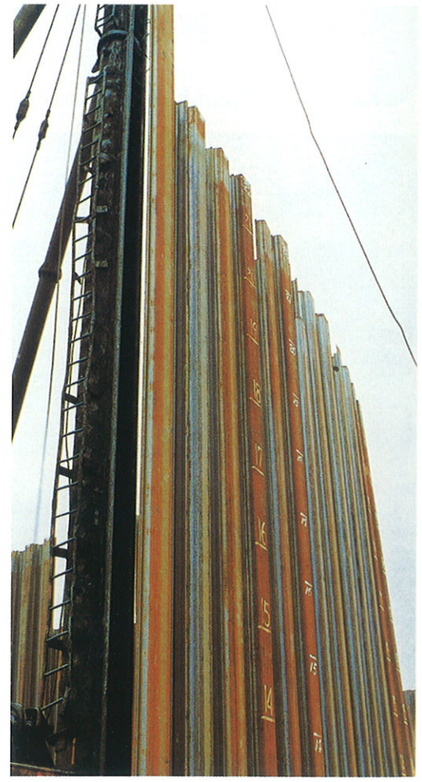
Number	Notation	Chemical Composition %						Carbon Equivalent %	Yield Point N/mm²	Tensile Strength N/mm²	Elongation %	Charpy Absorbed Energy J (0°C)
		C	Si	Mn	P	S	N (Free N)					
JIS A 5523	SYW295	0.18 max.	0.55 max.	1.50 max.	0.04 max.	0.04 max.	0.0060 max.	0.44 max.	295 min.	490 min.	17 min.	43 min.
	SYW390	0.18 max.	0.55 max.	1.50 max.	0.04 max.	0.04 max.	0.0060 max.	0.46 max.	390 min.	540 min.	15 min.	43 min.
JIS A 5528	SY295	–	–	–	0.04 max.	0.04 max.	–	–	295 min.	490 min.	17 min.	–
	SY390	–	–	–	0.04 max.	0.04 max.	–	–	390 min.	540 min.	15 min.	–

Dimensional tolerances

Dimensional tolerances are specified in JIS A5528 or JIS A5523 with sweep,cambere and ends out-of-square as shown below.

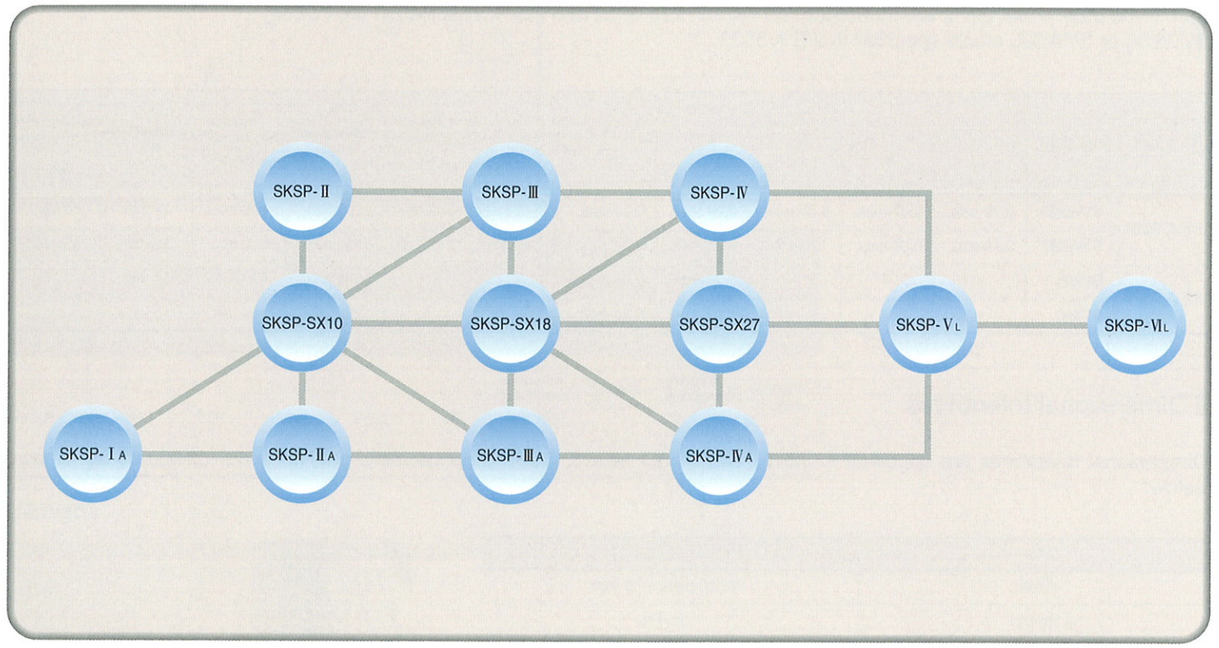
Item		Tolerance
Width		+ 10 mm, − 5 mm
Heigth		± 4%
Thickness	Under 10 mm	± 1.0 mm
	10 mm & over to 16 mm, excl.	± 1.2 mm
	16 mm & over	± 1.5 mm
Length		+ not spcified, − 0
Sweep	Length 10 m and under	0.12% max. × Length
	Length over 10 m	(Length − 10 m) × 0.10% + 12 mm max.
Camber	Length 10 m and under	0.25% max. × Length
	Length over 10 m	(Length − 10 m) × 0.20% + 25 mm max.
Ends Out-of-square		4% max. × Width

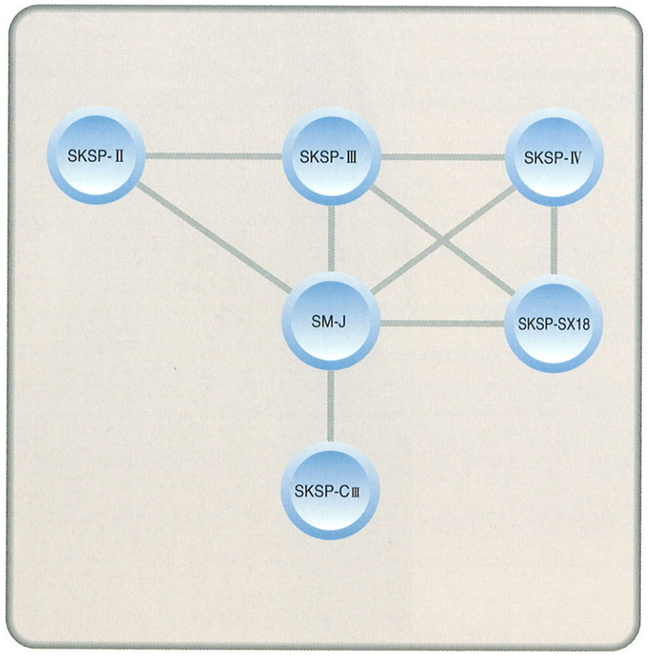
(Note) Sweep is measured parallel to sheet pile wall;camber is measured perpendicular to sheet wall.

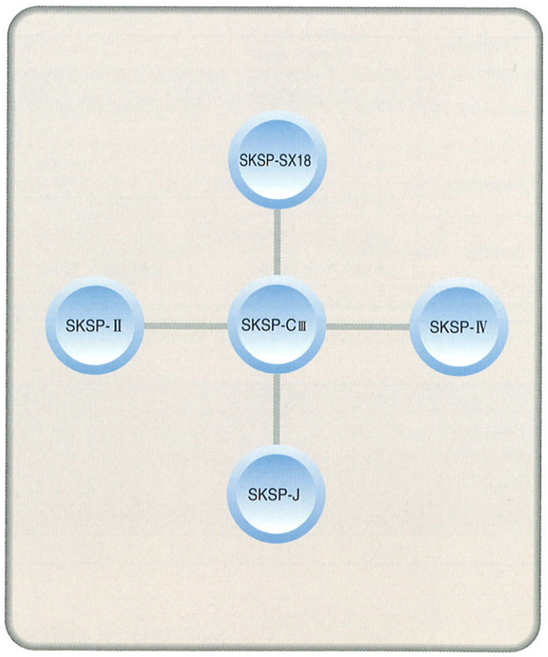


Interlocking Characteristics

Interlocking Compatibity with Other Section

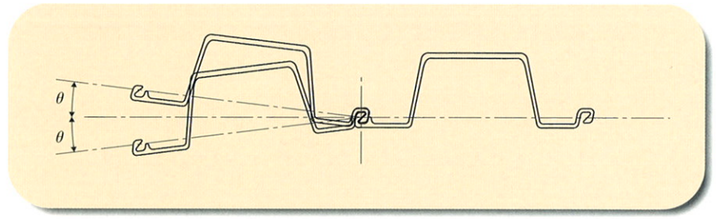


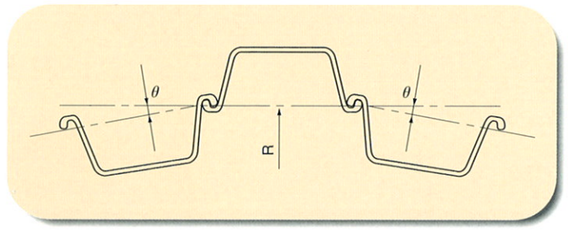


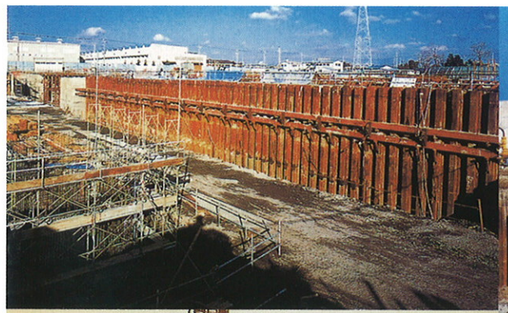


Normal Interlock Swing

U Type	ⅠA	Ⅱ	ⅡA	Ⅲ	ⅢA	Ⅳ	ⅣA	ⅤL	ⅥL	SX10	SX18	SX27	J
Swing Angle θ (deg.)	6	6	6	6	6	6	6	6	6	6	7	7	4
Radius (m)	3.82	3.82	3.82	3.82	3.82	3.82	3.82	4.77	4.77	5.73	4.97	4.97	8.0~10.0

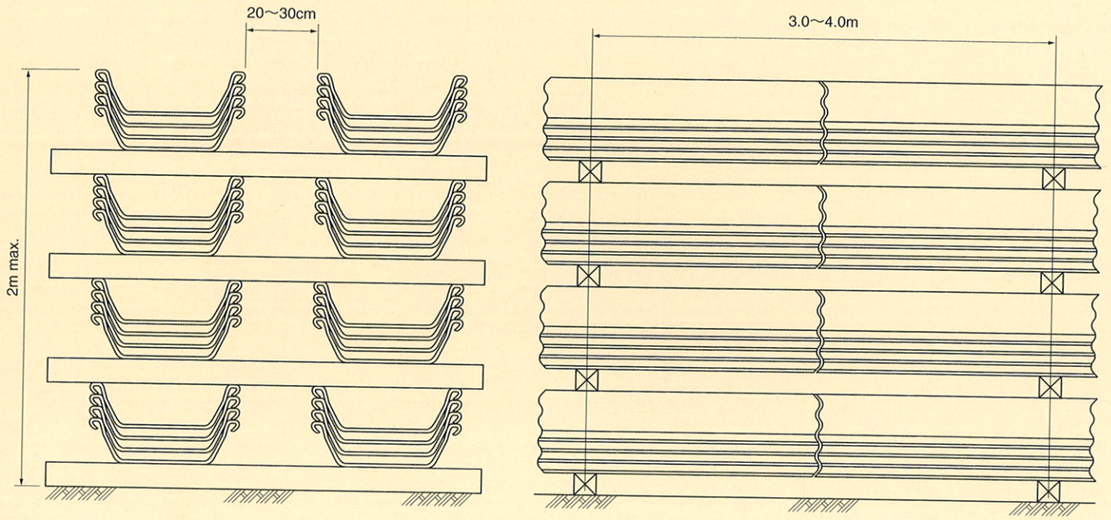




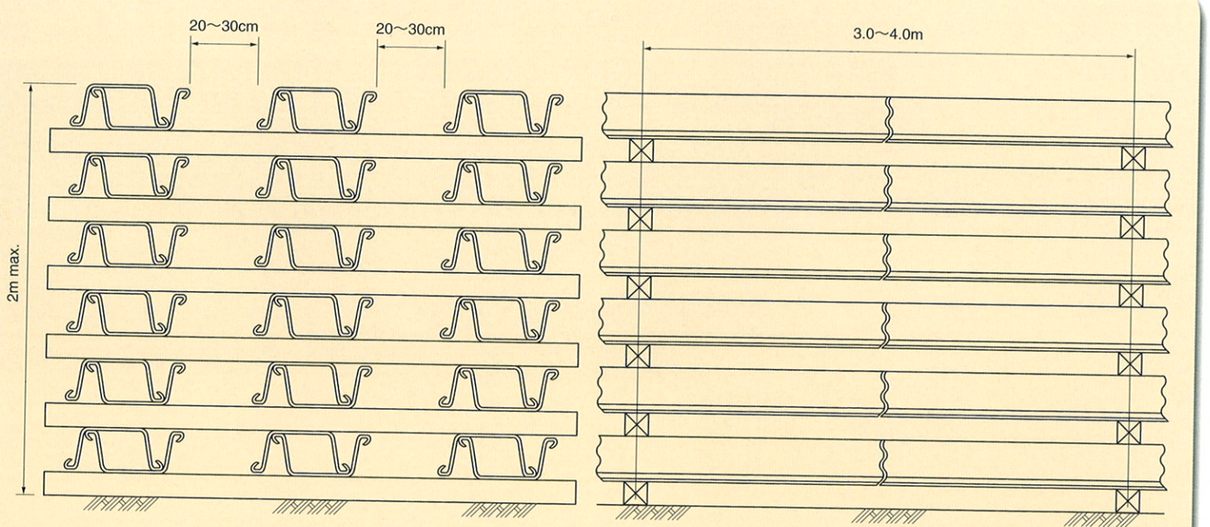


Storage of Piling

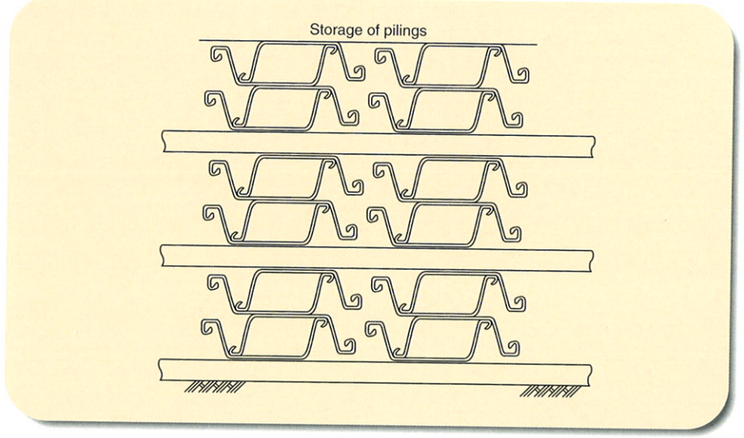
Wide Series



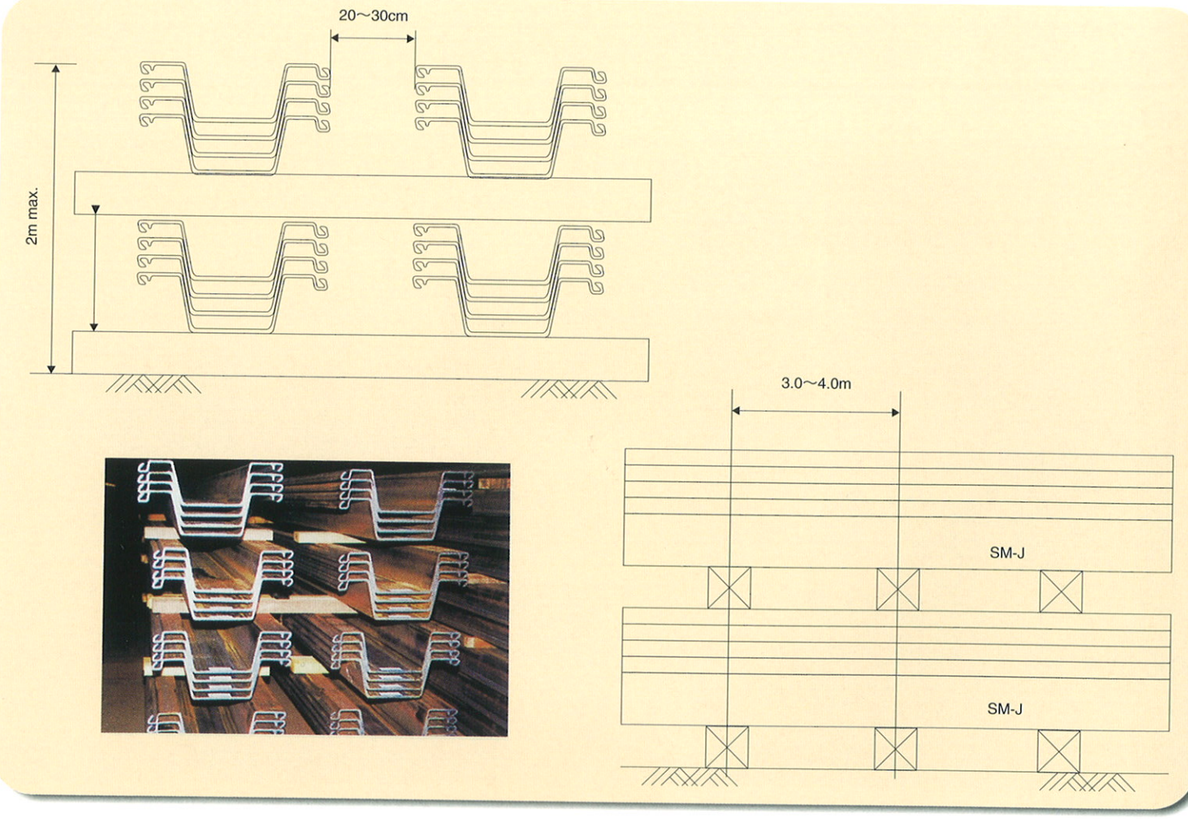
Standard Series



SKSP-C Ⅲ

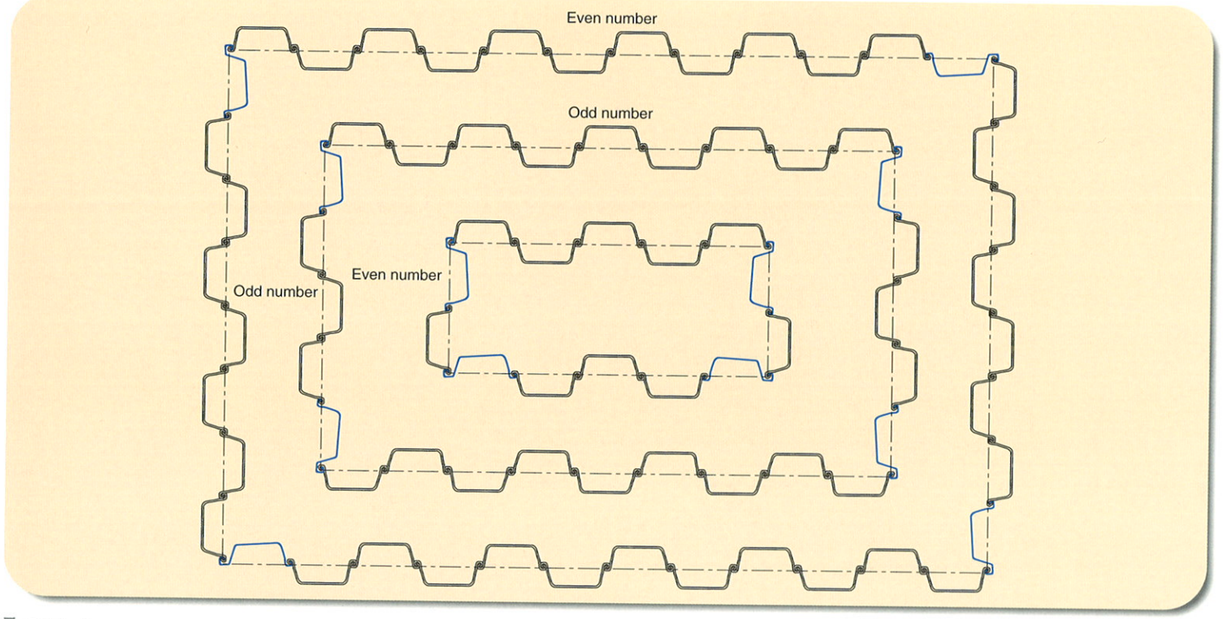


SM-J

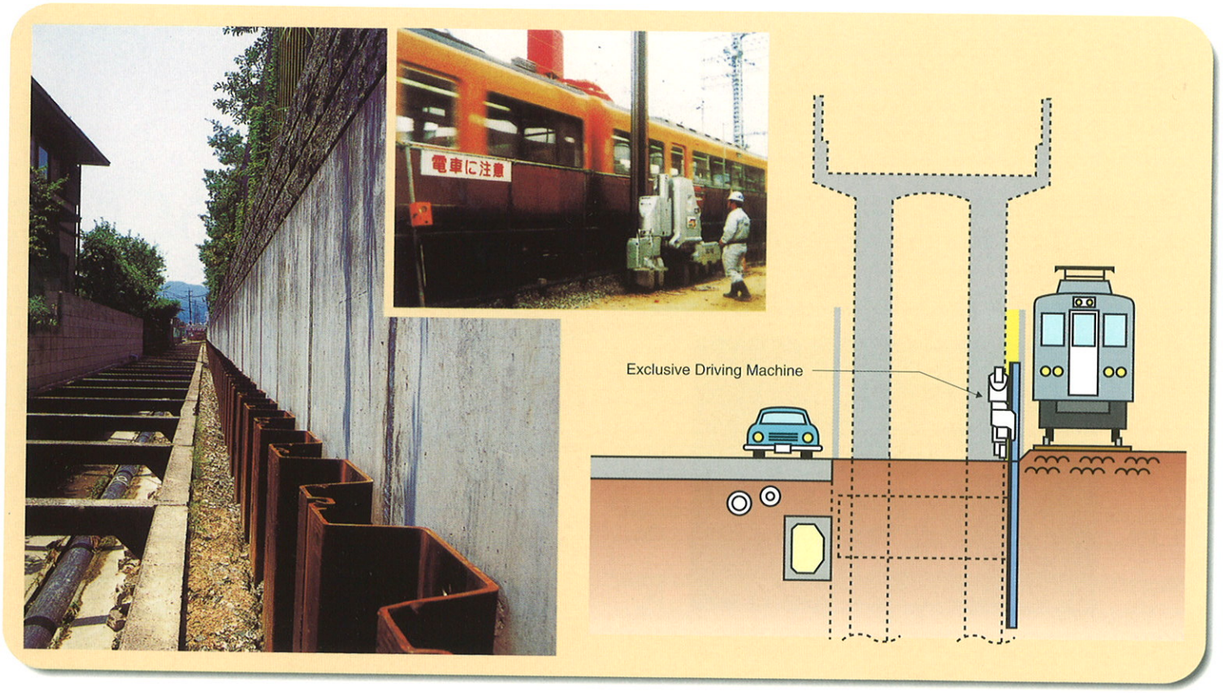


Example of Application

SKSP-C Ⅲ



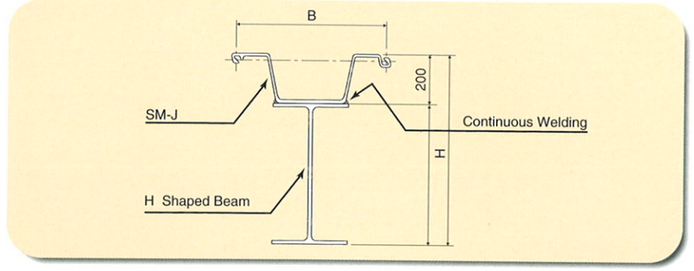
SM-J



Example of Application

HJ Systems——Fabricated Steel Sheet Piling

Shapes



Dimensions and Sectional Properties

Section Type	Width B	Hight H	Sectional Area A	Weight W	Moment of Inertia I	Section Modulus	
						SM-J Z_J	H Z_H
	mm	mm	cm^2	kg/m^2	cm^4/m	cm^3/m	cm^3/m
HJ-390×300×10×16	600	590	244.4	192.3	164,889	6,355	4,988
HJ-440×300×11×18	600	640	265.1	208.3	215,431	7,570	6,061
HJ-488×300×11×18	600	688	270.4	212.3	258,227	8,570	6,678
HJ-588×300×12×20	600	788	298.4	234.3	385,240	11,132	8,718
HJ-700×300×13×24	600	900	342.7	269.3	597,217	14,818	12,017
HJ-800×300×14×26	600	1,000	374.7	294.3	818,370	18,155	14,900
HJ-890×299×15×23	600	1,090	378.1	297.3	969,817	20,043	16,000
HJ-900×300×16×28	600	1,100	417.0	327.3	1,100,895	21,905	18,427
HJ-912×302×18×34	600	1,112	471.3	370.3	1,272,748	24,283	21,650
HJ-918×303×19×37	600	1,118	498.6	391.3	1,358,402	25,453	23,248

HJ Pile Wall

Driving HJ Pile