

AS 500 STRAIGHT WEB SHEET PILES

Straight web steel sheet piles

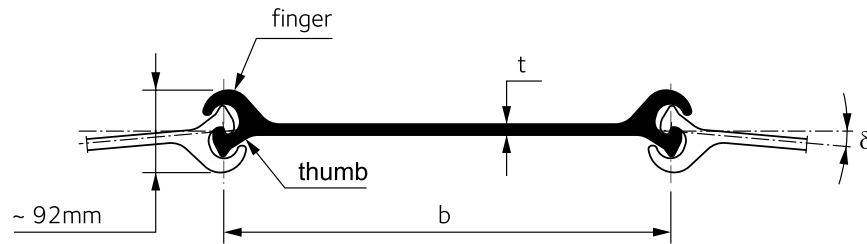



Fig. 2.1. Characteristics of AS 500 straight web sheet piles

Characteristics of AS 500® sections

 SECTION	Width ¹⁾	Web thickness	Deviation angle ²⁾	Perimeter	Steel section	Mass	Mass per m ²	Moment of inertia	Section modulus	Coating area ³⁾
	b	t	δ				Gw			
	in mm	in mm	°	in cm	in ² cm ²	lb/ft kg/m	lb/ft ² kg/m ²	in ⁴ cm ⁴	in ³ cm ³	ft ² /ft m ² /m
AS 500 – 9.5	19.69 500	0.375 9.5	4.5	54.33 138	12.6 81.3	42.87 63.8	26.22 128	4.04 168	2.81 46	1.90 0.58
AS 500 – 11.0	19.69 500	0.433 11.0	4.5	54.72 139	13.9 89.4	47.17 70.2	28.67 140	4.47 186	2.99 49	1.90 0.58
AS 500 – 12.0	19.69 500	0.472 12.0	4.5	54.72 139	14.7 94.6	49.93 74.3	30.52 149	4.71 196	3.11 51	1.90 0.58
AS 500 – 12.5	19.69 500	0.492 12.5	4.5	54.72 139	15.1 97.2	51.27 76.3	31.34 153	4.83 201	3.11 51	1.90 0.58
AS 500 – 12.7	19.69 500	0.500 12.7	4.5	54.72 139	15.2 98.2	51.81 77.1	31.54 154	4.90 204	3.11 51	1.90 0.58
AS 500 – 13.0⁴⁾	19.69 500	0.512 13.0	4.5	55.12 140	15.6 100.6	53.09 79.0	32.36 158	5.12 213	3.30 54	1.90 0.58

Note: All straight web sections interlock with each other.

¹⁾ The calculation width, to be taken into account for design purposes and layout, is 503 mm for all AS 500 sheet piles.

²⁾ Max. deviation angle 4.0° for pile length > 20 m.

³⁾ One side, excluding inside of interlocks.

⁴⁾ Please contact JD Fields & Company for further information.



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Junction Piles

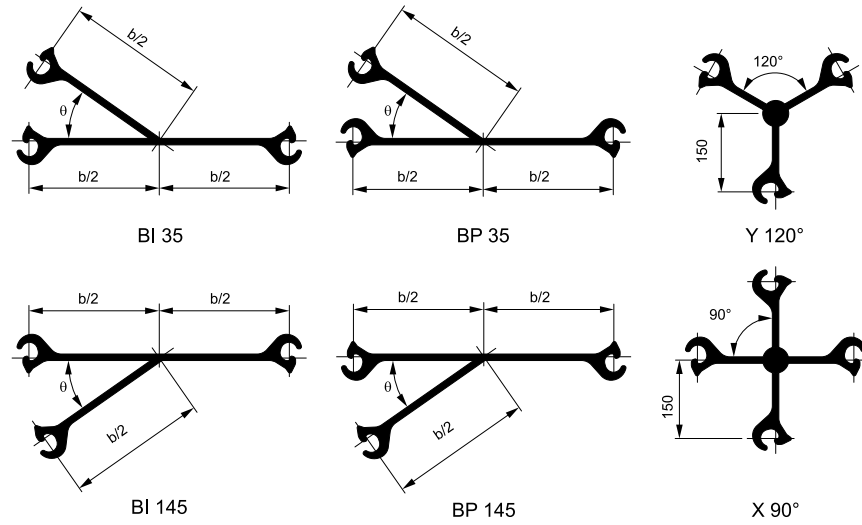


Fig. 2.2.: Characteristics of junction piles.

Connection angles θ in the range from 30° to 45° are recommended.

It is nevertheless possible to have angles up to 90°.

Bent Piles

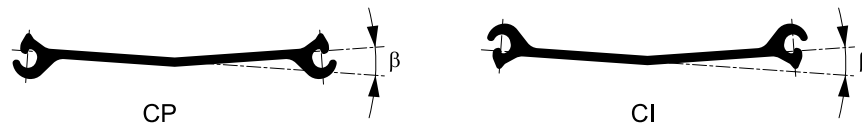


Fig. 2.3.: Bend angle β of AS 500 piles.

If deviation angles δ exceeding the values given in Table 2.1. are required, piles prebent in the mill may be used.

The maximum possible pile bend angle β is about 12°.

Delivery conditions

Interlock resistance

The following characteristic interlock resistance can be guaranteed:

SECTION	$R_{k,s}$ [kN/m] ¹⁾
AS 500 – 9.5	3 500
AS 500 – 11.0	4 000
AS 500 – 12.0	5 000
AS 500 – 12.5	5 500
AS 500 – 12.7	5 500
AS 500 – 13.0	6 000

For verification of the piles both, yielding of the web and failure of the interlock, should be checked.

The test procedure is based on Annex D of prEN10248-1 (2007).

¹⁾ For the related steel grade and further information, please contact JD Fields & Company.