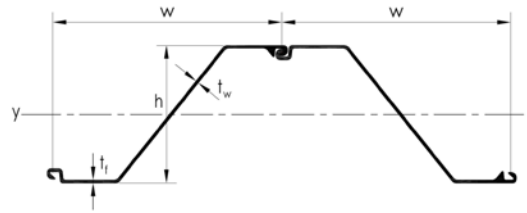


## ESC-HRZ SERIES



Interlocking Clutch



SECTION	WIDTH		HEIGHT		THICKNESS		CROSS SECTIONAL AREA		WEIGHT		ELASTIC SECTION MODULUS	MOMENT OF INERTIA	COATING AREA *(both side per pile)
	(w)	(h)	Flange (t <sub>f</sub> )	Web (t <sub>w</sub> )	Per Pile	Per Wall	in <sup>3</sup> /ft	in <sup>4</sup> /ft	ft <sup>2</sup> /ft				
	in	in	in	in	in <sup>2</sup> /ft	lb/ft	in <sup>3</sup> /ft	in <sup>4</sup> /ft	ft <sup>2</sup> /ft	in <sup>3</sup> /ft	in <sup>4</sup> /ft	ft <sup>2</sup> /ft	
	mm	mm	mm	mm	cm <sup>2</sup> /m	kg/m	cm <sup>3</sup> /m	cm <sup>4</sup> /m	m <sup>2</sup> /m	cm <sup>3</sup> /m	cm <sup>4</sup> /m	m <sup>2</sup> /m	
ESC-HRZ12-770	30.338 770	13.554 344	0.335 8.5	0.335 8.5	14.42 93	48.9 72.8	23 1,250	157 31,300	6.43 1.68				
ESC-HRZ13-770	30.338 770	13.554 344	0.355 9	0.355 9	15.1 97.4	51.2 76.2	24 1,300	164 22,430	6.43 1.96				
ESC-HRZ14-770	30.338 770	13.593 345	0.374 9.5	0.374 9.5	15.78 101.8	53.5 79.6	25 1,360	171 23,370	6.43 1.96				
ESC-HRZ17-700	27.58 700	16.548 420	0.335 8.5	0.335 8.5	14.42 93	49.3 73.3	32 1,740	266 36,430	6.46 1.97				
ESC-HRZ18-700	27.58 700	16.587 421	0.355 9	0.355 9	15.1 97.4	51.5 76.7	34 1,810	277 38,000	6.46 1.97				
ESC-HRZ19-700	27.58 700	16.587 421	0.374 9.5	0.374 9.5	15.78 101.8	53.9 80.2	35 1,880	289 39,580	6.46 1.97				
ESC-HRZ20-700	27.58 700	16.627 422	0.394 10	0.394 10	16.46 106.2	56.2 83.7	36 1,950	300 41,160	6.46 1.97				
ESC-HRZ24-700	27.58 700	18.085 459	0.441 11.2	0.441 11.2	18.93 122.1	64.4 95.8	45 2,440	408 55,950	6.73 2.05				
ESC-HRZ26-700	27.58 700	18.124 460	0.481 12.2	0.481 12.2	20.34 131.2	69.2 103	48 2,600	437 59,840	6.73 2.05				
ESC-HRZ27-700	27.58 700	18.163 461	0.5 12.7	0.5 12.7	21 135.5	71.5 106.4	50 2,680	450 61,640	6.73 2.05				
ESC-HRZ28-700	27.58 700	18.163 461	0.52 13.2	0.52 13.2	21.75 140.3	74 110.1	51 2,760	465 63,740	6.73 2.05				
ESC-HRZ36-700	27.58 700	19.661 499	0.591 15	0.441 11.2	123.45 151.3	79.8 118.7	67 3,600	655 89,750	7.15 2.18				
ESC-HRZ38-700	27.58 700	19.7 500	0.63 16	0.481 12.2	24.99 161.2	85 126.5	71 3,800	693 94,980	7.15 2.18				
ESC-HRZ40-700	27.58 700	19.739 501	0.67 17	0.52 13.2	26.52 171.1	90.2 134.3	74 4,000	732 100,220	7.15 2.18				

\*excludes internal section of interlock

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## ESC-HRZ SERIES

SECTION	WIDTH	HEIGHT	THICKNESS		CROSS SECTIONAL AREA	WEIGHT		ELASTIC SECTION MODULUS	MOMENT OF INERTIA	COATING AREA *(both side per pile)
	(w) in mm	(h) in mm	Flange (t <sub>f</sub> ) in mm	Web (t <sub>w</sub> ) in mm		Per Pile lb/ft kg/m	Per Wall lb/ft <sup>2</sup> kg/m <sup>2</sup>			
ESC-HRZ42-700	27.58 700	19.661 499	0.709 18	0.552 14	28.23 182.1	96.1 143	41.8 204.2	79 4,230	770 105,540	7.12 2.17
ESC-HRZ44-700	27.58 700	19.7 500	0.749 19	0.591 15	29.76 192	101.3 150.7	44.1 215.3	83 4,440	810 110,940	7.12 2.17
ESC-HRZ46-700	27.58 700	19.739 501	0.788 20	0.63 16	31.29 201.9	106.5 158.5	46.4 226.5	86 4,640	848 116,160	7.12 2.17
ESC-HRZ48-700	27.58 700	19.818 503	0.867 22	0.591 15	31.47 203	107 159.3	46.6 227.6	89 4,790	879 120,470	7.12 2.17
ESC-HRZ50-700	27.58 700	19.858 504	0.906 23	0.63 16	32.92 212.4	112 166.7	48.8 238.2	92 4,970	915 125,360	7.12 2.17
ESC-HRZ52-700	27.58 700	19.897 505	0.946 24	0.67 17	34.43 222.1	117.1 174.3	51 249	96 5,160	952 130,400	7.12 2.17

## ESC-HRZ SERIES

### OTHER CONFIGURATIONS



Box King Piles (fabricated out of 4 Z Piles)



Box King Piles (fabricated out of 2 ESC-HRZ Piles & 1 Cold Formed U Pile)



Jagged Wall



ESC-9E Hot Rolled Clutch Interlock (compatible with all ESC-HRZ Sheet Piles)

\*excludes internal section of interlock

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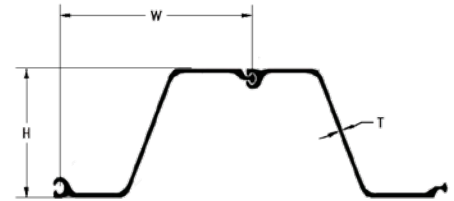
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FURTHER DOMESTIC US OPTIONS

ESC-PZ SERIES



SECTION	WIDTH	HEIGHT	THICKNESS	CROSS SECTIONAL AREA	WEIGHT		ELASTIC SECTION MODULUS	MOMENT OF INERTIA	COATING AREA *(both side per pile)
	(w) in mm	(h) in mm	(t) in mm		Per Pile lb/ft kg/m	Per Wall lb/ft <sup>2</sup> kg/m <sup>2</sup>			
ESC-PZ22	22.0 559	9.00 229	0.375 9.50	6.47 136.9	40.3 60.0	22.0 107.4	18.10 973	84.38 11,500	4.48 1.37
ESC-PZ27	18.0 457	12.00 305	0.375 9.50	7.94 168.1	40.5 60.3	27.0 131.8	30.20 1,620	184.20 25,200	4.48 1.37
ESC-PZ35	22.6 575	14.90 378	0.600 15.21	10.29 217.8	66.0 98.2	35.0 170.9	48.50 2,608	361.22 49,300	5.37 1.64
ESC-PZ40	19.7 500	16.10 409	0.600 15.21	11.77 249.1	65.6 97.6	40.0 195.3	60.70 3,263	490.85 67,000	5.37 1.64

\*excludes internal section of interlock

Project References



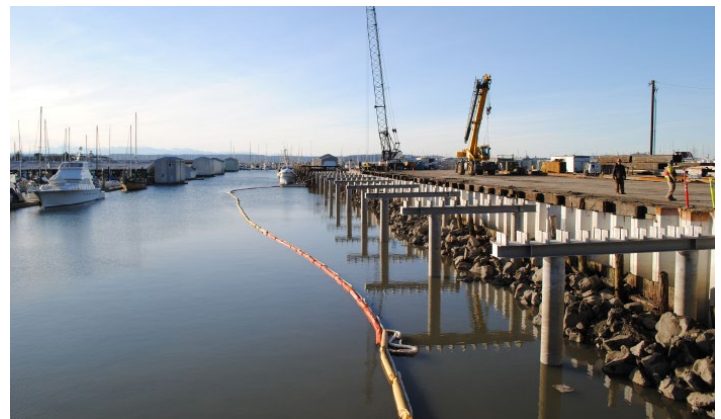
SLOPE PROTECTION, PHILIPPINES



ABU DHABI, UAE



QUAY WALL PROJECT, TAIWAN



PORT OF EVERETT, USA

## STEEL GRADES &

## MANUFACTURING TOLERANCES

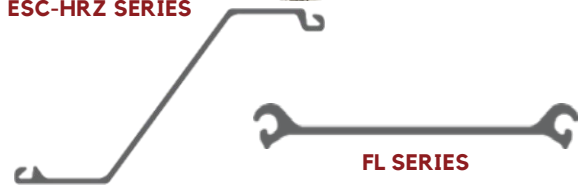
### HOT ROLLED SHEET PILES

### MANUFACTURING TOLERANCES

COMPONENT	ESC-HRZ SERIES		FL SERIES	
	BS EN10249-2	ASTM A6	BS EN10249-2	ASTM A6
Mass	± 5%	± 2.5%	± 5%	± 2.5%
Length	± 7.87" / 200mm	+ 5" (125mm)	± 7.87" / 200mm	+ 5" (125mm)
Height (≤ 7.87" / 200mm)	± 0.197" / 5.0mm		N/A	
Height (> 7.87" / 200mm & ≤ 11.81" / 300mm)	± 0.236" / 6.0mm		N/A	
Height (> 11.81" / 300mm)	± 0.276" / 7.0mm		N/A	
Thickness (≤ 0.335" / 8.5 mm)	± 0.0197" / 0.5 mm		± 0.0197" / 0.5 mm	
Thickness (> 0.355" / 8.5 mm)	± 6% of thickness		N/A	
Width of Single	± 2% of width		± 2% of width	
Width of Pair	± 3% of width		N/A	
Straightness	±0.2% of the length		±0.2% of the length	
Squareness of Ends	± 2% of the width		± 2% of the width	



ESC-HRZ SERIES

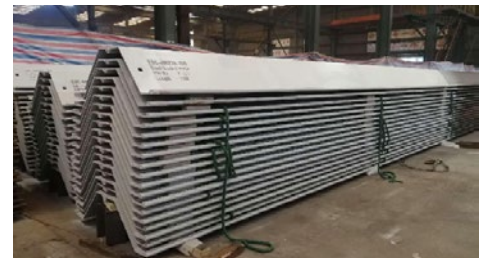


FL SERIES

## STEEL GRADES

Other Steel Grades are available on request. The Yield Point provided is applicable to thicknesses less than or equal to 0.63in (16mm).

CLASSIFICATION			MINIMUM YIELD STRENGTH		ULTIMATE TENSILE STRENGTH		MINIMUM ELONGATION	CLASSIFICATION			MINIMUM YIELD STRENGTH		ULTIMATE TENSILE STRENGTH		MINIMUM ELONGATION
Region	Code	Grade	ksi	MPa	ksi	MPa	%	Region	Code	Grade	ksi	MPa	ksi	MPa	%
USA	ASTM A252	Grade 1	30	205	50	345	18	Europe	EN 10248	S240GP	35	240	49	340	26
	ASTM A252	Grade 2	35	240	60	415	14		EN 10248	S270GP	39	270	59	410	24
	ASTM A252	Grade 3	45	310	66	455	-		EN 10248	S320GP	46	320	64	440	23
	ASTM A572	Grade 42	42	290	60	415	20		EN 10248	S355GP	51	355	70	480	22
	ASTM A572	Grade 50	50	345	65	450	18		EN 10248	S430GP	62	430	71	490	20
	ASTM A572	Grade 55	55	380	70	485	17	China	GB/T 700	Q235B	34	235	73	500	26
	ASTM A572	Grade 60	60	415	75	520	16		GB/T 1591	Q345B	50	345	91	630	20
ASTM A572	Grade 65	65	450	80	550	15	GB/T 1591		Q345C	50	345	91	630	21	
Canada	CSA 40.21	260W	38	260	86	590	20		GB/T 1591	Q390B	57	390	94	650	20
	CSA 40.21	300W	44	300	90	620	20	GB/T 1591	Q420B	61	420	99	680	19	
	CSA 40.21	350W	51	350	94	650	19	Japan	JIS A5528	SY295	43	295	71	490	17
	CSA 40.21	400W	58	400	100	690	16		JIS A5528	SY390	57	390	78	540	15



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