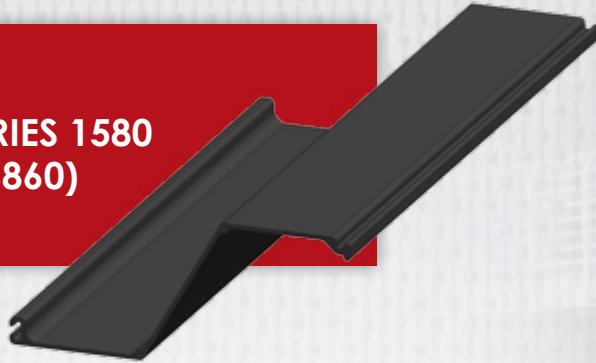


SUPERLOC® Sheet Piles Series 1580 (SS860)

Physical & Mechanical Properties

Long Beach Boardwalk Replacement,
Long Beach, New York

**SERIES 1580
(SS860)**



"The Long Beach Boardwalk repair project was a fast paced project, with a lot of scrutiny from the public in anticipation of completion. Creative Pultrusions provided the 1580 SuperLoc™ sheets to spec and on time. The staff of Creative Pultrusions were able to stay ahead of Peter Scalamandre & Sons, Inc. Even as our production increased beyond the original projected commitments. CP was always accessible and provided clear and accurate information. One of the best material suppliers that I have been involved with in my career. The ability of CP to provide the material in a timely and balanced manner set the pace for Peter Scalamandre & Sons, Inc. and all those that followed behind on this project."

~Robert Hutzler
Peter Scalamandre & Sons

Part drawings and physical property sheets can be viewed at <http://www.creativepultrusions.com>.

Series 1580 (SS860) 18" (457.2mm) W x 8" (203.2mm) H Physical Properties	Imperial Value	Units	Metric Value	Units
Section Modulus	13.08	in ³ /ft	703.22	cm ³ /m
Moment of Inertia	54.01	in ⁴ /ft	7375.52	cm ⁴ /m
Typical Thickness	0.265	in	6.731	mm
Depth of Sheet	8.00	in	203.20	mm
Width of Sheet	18.00	in	457.20	mm
Weight (single pile)	4.05	lbs/ft ²	19.77	kg/m ²
Angle of the web	30	°	30	°
Cross Sectional Area of Sheet	7.43	in ²	47.94	cm ²
Standard Color	Graphite Gray			



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Continued on Back ➔

Series 1580 (SS860) 18" (457.2mm) W x 8" (203.2mm) H Mechanical Properties	Test Method	ASTM D7290-06 Characteristic Values				Units
		Polyester Resin		Vinyl Ester Resin		
		Imperial	Metric	Imperial	Metric	
Tensile Modulus (LW)	ASTM D638	3.46	23.86	3.41	23.51	Msi / GPa
Tensile Modulus (CW)	ASTM D638	1.31	9.03	1.45	10.00	Msi / GPa
Compression Modulus (LW)	ASTM D6641	3.74	25.79	3.27	22.55	Msi / GPa
Compression Modulus (CW)	ASTM D6641	0.93	6.41	1.23	8.48	Msi / GPa
Tensile Strength (LW)	ASTM D638	67.85	467.81	73.42	506.21	ksi / MPa
Tensile Strength (CW)	ASTM D638	6.06	41.78	8.81	60.74	ksi / MPa
Compression Strength (LW)	ASTM D6641	49.17	339.02	54.92	378.66	ksi / MPa
Compression Strength (CW)	ASTM D6641	10.77	74.26	15.05	103.77	ksi / MPa
Inplane Shear Strength	ASTM D5379	5.39	37.16	5.72	39.44	ksi / MPa
Inplane Shear Modulus	ASTM D5379	0.50	3.45	0.50	3.45	Msi / GPa
Short Beam Shear Strength	ASTM D2344	3.51	24.20	4.18	28.82	ksi / MPa

Series 1580 (SS860) 18" (457.2mm) W x 8" (203.2mm) H Mechanical Properties		
Moment Capacity	Imperial	Metric
Moment Capacity Polyester ASD*	11,671 lb-ft/ft. of wall	51.9 kN-m/meter of wall
Moment Capacity Vinyl Ester ASD*	12,873 lb-ft/ft. of wall	57.3 kN-m/meter of wall
Moment Capacity Polyester LRFD ¹	3,361 lb-ft/ft. of wall	15.0 kN-m/meter of wall
Moment Capacity Vinyl Ester LRFD ¹	3,913 lb-ft/ft. of wall	17.4 kN-m/meter of wall
Shear Strength	Imperial	Metric
Shear Strength Polyester ASD*	26,700 lbs per ft. of wall	389.7 kN/meter of wall
Shear Strength Vinyl Ester ASD*	31,200 lbs per ft. of wall	455.3 kN/meter of wall
Shear Strength Polyester LRFD ²	5,553 lbs per ft. of wall	81.0 kN/meter of wall
Shear Strength Vinyl Ester LRFD ²	6,896 lbs per ft. of wall	100.6 kN/meter of wall
Full Section Modulus of Elasticity	Imperial	Metric
Average Full Section Modulus of Elasticity	4.25 Msi (Polyester) 4.56 Msi (Vinyl Ester)	29.30 GPa (Polyester) 31.44 GPa (Vinyl Ester)
Web Buckling Capacity from Wale Force based on ASTM D7290-06 Testing (based on 8" wale section)	2,376 lbs/ft of wall	34.7 kN/m of wall

Notes: All capacities have been developed based on equations and design methodologies described in the Pre-Standard Load & Resistance Factor Design (LRFD) of Pultruded Fiber Reinforced Polymer (FRP) Structures.

*Ultimate Capacity based on ASTM D7290-06 Characteristic Values.

¹LRFD Factored for long term water exposure; Time effect factor λ of .4 applied; ϕ factor of .80 applied.

²LRFD Factored for long term water exposure; Time effect factor λ of .4 applied; ϕ factor of .65 applied.

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