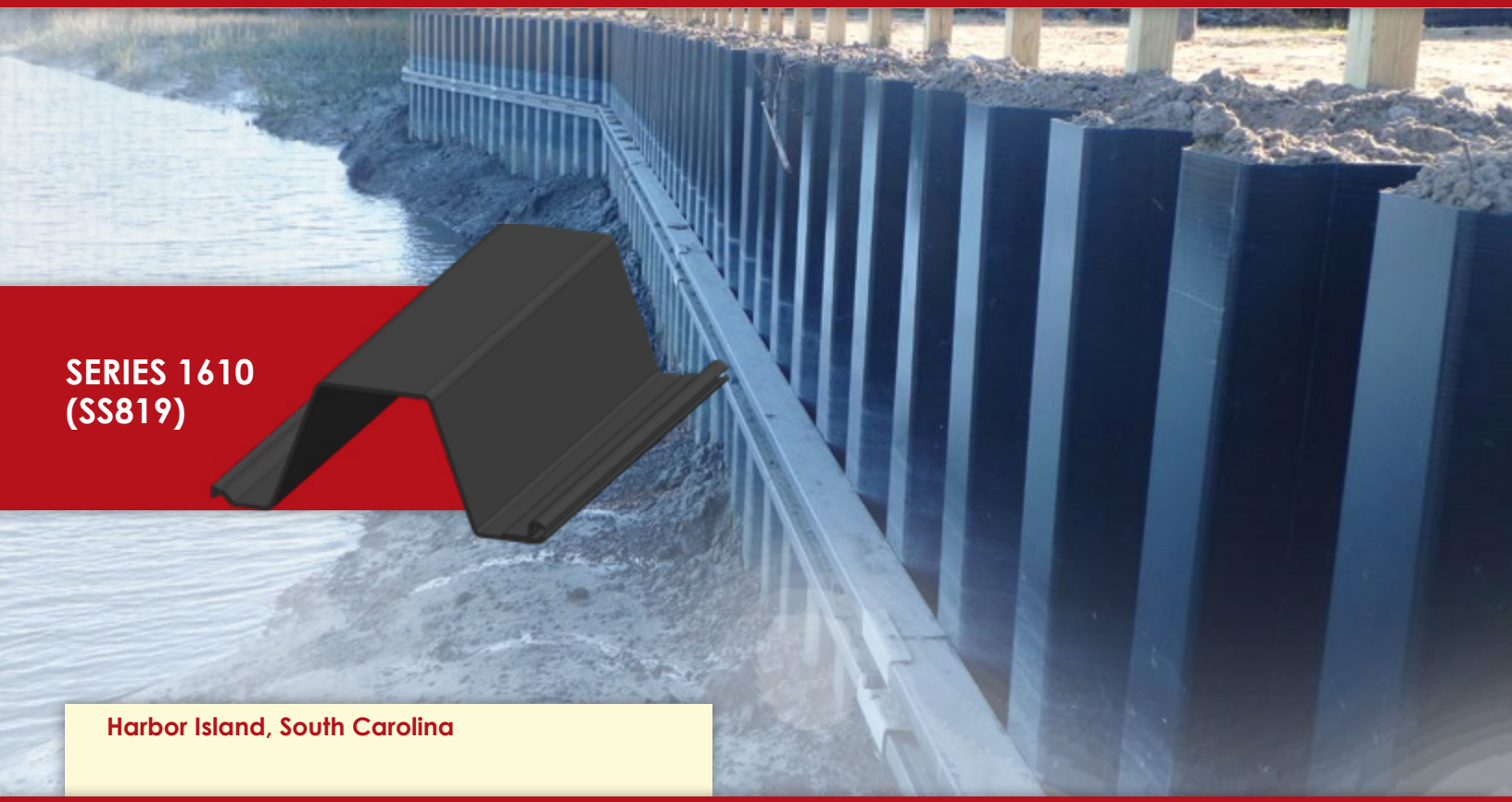
SUPERLOC® Sheet Piles Series 1610 (SS819) Physical & Mechanical Properties



Harbor Island, South Carolina

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

Series 1610 (SS819) 24" (609.6mm) W x 10" (254mm) H Physical Properties	Imperial Value	Units	Metric Value	Units
Section Modulus	18.40	in^3/ft	989.24	cm^3/m
Moment of Inertia	101.43	in^4/ft	13851.12	cm^4/m
Typical Thickness	0.30	in	7.62	mm
Depth of Sheet	10.00	in	254.00	mm
Width of Sheet	24.00	in	609.60	mm
Weight (single pile)	5.47	lbs/ft^2	26.71	kg/m^2
Angle of the web	20	°	20	°
Cross Sectional Area of Sheet	13.47	in^2	86.90	cm^2
Standard Color	Graphite Gray			

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Series 1610 (SS819) 24" (609.6mm) W x 10" (254mm) 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	5.24	36.13	5.24	36.13	Msi / GPa
Tensile Modulus (CW)	ASTM D638	0.53	3.65	0.65	4.48	Msi / GPa
Compression Modulus (LW)	ASTM D6641	5.43	37.44	5.43	37.44	Msi / GPa
Compression Modulus (CW)	ASTM D6641	1.35	9.31	0.97	6.69	Msi / GPa
Tensile Strength (LW)	ASTM D638	79.92	551.03	73.98	510.09	ksi / MPa
Tensile Strength (CW)	ASTM D638	6.61	45.57	8.43	58.14	ksi / MPa
Compression Strength (LW)	ASTM D6641	60.98	420.44	58.40	402.66	ksi / MPa
Compression Strength (CW)	ASTM D6641	14.50	99.97	11.85	81.72	ksi / MPa
Inplane Shear Strength	ASTM D5379	4.44	30.61	5.04	34.76	ksi / MPa
Inplane Shear Modulus	ASTM D5379	0.36	2.48	0.35	2.41	Msi / GPa
Short Beam Shear Strength	ASTM D2344	3.01	20.75	3.93	27.10	ksi / MPa

Series 1610 (SS819) 24" (609.6mm) W x 10" (254mm) H Mechanical Properties		
Moment Capacity	**Imperial**	**Metric**
Moment Capacity Polyester ASD*	34,616 lb-ft/ft. of wall	154.0 kN-m/meter of wall
Moment Capacity Vinyl Ester ASD*	38,135 lb-ft/ft. of wall	169.6 kN-m/meter of wall
Moment Capacity Polyester LRFD[1]	9,969 lb-ft/ft. of wall	44.3 kN-m/meter of wall
Moment Capacity Vinyl Ester LRFD[1]	11,593 lb-ft/ft. of wall	51.6 kN-m/meter of wall
Shear Strength	**Imperial**	**Metric**
Shear Strength Polyester ASD*	20,380 lbs per ft. of wall	297.4 kN/meter of wall
Shear Strength Vinyl Ester ASD*	23,640 lbs per ft. of wall	345.0 kN/meter of wall
Shear Strength Polyester LRFD[2]	5,870 lbs per ft. of wall	85.7 kN/meter of wall
Shear Strength Vinyl Ester LRFD[2]	7,188 lbs per ft. of wall	104.9 kN/meter of wall
Full Section Modulus of Elasticity	**Imperial**	**Metric**
Average Full Section Modulus of Elasticity	5.78 Msi (Polyester) 6.10 Msi (Vinyl Ester)	39.85 GPa (Polyester) 42.06 GPa (Vinyl Ester)
Web Buckling Capacity from Wale Force based on ASTM D7290-06 Testing (based on 8" wale section)	8,760 lbs/ft of wall	127.8 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.
[1]LRFD Factored for long term water exposure; Time effect factor λ of .4 applied; ø factor of .80 applied.
[2]LRFD Factored for long term water exposure; Time effect factor λ of .4 applied; ø factor of .80 applied.

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