

SUPERLOC® Sheet Piles Series 1432 (SS140)

Physical & Mechanical Properties



**SERIES 1432
(SS140)**

**Testing at Creative Pultrusions' Facility
Alum Bank, Pennsylvania**

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

Series 1432 (SS140) 32" (812.8mm) W x 14" (355.6mm) H Physical Properties	Imperial Value	Units	Metric Value	Units
Section Modulus	30.05	in ³ /ft	1615.54	cm ³ /m
Moment of Inertia	240.54	in ⁴ /ft	32848.18	cm ⁴ /m
Typical Thickness	0.340	in	8.636	mm
Depth of Sheet	14.00	in	355.60	mm
Width of Sheet	32.00	in	812.80	mm
Weight (single pile)	6.70	lbs/ft ²	32.69	kg/m ²
Angle of the web	20	°	20	°
Cross Sectional Area of Sheet	22.1	in ²	142.43	cm ²
Standard Color	Graphite Gray			



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Series 1432 (SS140) 32" (812.8mm) W x 14" (355.6mm) 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	3.62	24.96	3.62	24.96	Msi / GPa
Tensile Modulus (CW)	ASTM D638	0.52	3.59	0.52	3.59	Msi / GPa
Compression Modulus (LW)	ASTM D6641	3.62	24.96	3.62	24.96	Msi / GPa
Compression Modulus (CW)	ASTM D6641	0.87	6.00	0.87	6.00	Msi / GPa
Tensile Strength (LW)	ASTM D638	63.92	440.71	63.92	440.71	ksi / MPa
Tensile Strength (CW)	ASTM D638	8.49	58.56	8.49	58.56	ksi / MPa
Compression Strength (LW)	ASTM D6641	55.31	381.38	55.31	381.38	ksi / MPa
Compression Strength (CW)	ASTM D6641	19.05	131.33	19.05	131.33	ksi / MPa
Inplane Shear Strength	ASTM D5379	8.27	56.99	8.27	56.99	ksi / MPa
Inplane Shear Modulus	ASTM D5379	0.50	3.45	0.50	3.45	Msi / GPa
Short Beam Shear Strength	ASTM D2344	3.08	21.24	3.08	21.24	ksi / MPa

Series 1432 (SS140) 32" (812.8mm) W x 14" (355.6mm) H Mechanical Properties		
Moment Capacity	Imperial	Metric
Moment Capacity Polyester ASD*	61,000 lb-ft/ft. of wall	271.3 kN-m/meter of wall
Moment Capacity Vinyl Ester ASD*	61,000 lb-ft/ft. of wall	271.3 kN-m/meter of wall
Moment Capacity Polyester LRFD ¹	17,576 lb-ft/ft. of wall	78.2 kN-m/meter of wall
Moment Capacity Vinyl Ester LRFD ¹	17,576 lb-ft/ft. of wall	78.2 kN-m/meter of wall
Shear Strength	Imperial	Metric
Shear Strength Polyester ASD*	16,927 lbs per ft. of wall	247.0 kN/meter of wall
Shear Strength Vinyl Ester ASD*	16,927 lbs per ft. of wall	247.0 kN/meter of wall
Shear Strength Polyester LRFD ²	4,875 lbs per ft. of wall	71.1 kN/meter of wall
Shear Strength Vinyl Ester LRFD ²	4,875 lbs per ft. of wall	71.1 kN/meter of wall
Full Section Modulus of Elasticity	Imperial	Metric
Average Full Section Modulus of Elasticity	4.62 Msi (Polyester) 4.62 Msi (Vinyl Ester)	31.85 GPa (Polyester) 31.85 GPa (Vinyl Ester)
Web Buckling Capacity from Wale Force based on ASTM D7290-06 Testing (based on 8" wale section)	12,790 lbs/ft of wall	186.7 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 .80 applied.

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