

STANDARD HEAVY-DUTY MATS

**WITH MATLOK®
HARDWARE SYSTEM**



AXION™
STRUCTURAL INNOVATIONS

STRUXURE® Heavy-Duty mats are constructed from AXION's proprietary structural polymer composites. When combined with MatLok® hardware systems, STRUXURE HD mats are more durable than traditional 8" hardwood lumber mats for superior performance under heavy equipment in wet or challenging project site conditions.

Products	Weight (lbs)	Fc perp Compression Perp. Grain (psi)	Imat (in ⁴)	MOE Elastic Modulus (psi)	EI (kip*in ²)	Fb Allowable Stress (psi)
8" x 4' x 18' No. 1 "Mixed Maple" Dry Wood (12%) ⁽¹⁾	3,000	420	2,050	990,000	2,030,000	830
7" x 45" x 18' STRUXURE Heavy Duty Mats – 5 pcs SPC, 5 MatLok Sets	2,100	1,200	1,440	280,000	365,000	1,300
9" x 49" x 20' STRUXURE Heavy Duty Mats – 7 pcs SPC, 5 MatLok Sets	3,200	1,200	1,440	280,000	840,000	1,300

1. Hardwood Lumber Information Source – American Wood Council NDS Supplement 2015 Edition for 5"x5" and larger timbers. Wet Use Adjustment Factors applied – Fb @ .85, Fc perp @ .67, E @ .90



STRUXURE®
CONSTRUCTION MATS

Minimum Allowable Soiling Bearing Capacity, Unreinforced Mat, 7" Mat x 18' Long

Load (lb)	Width Tire or Tread on Mat (in)						
	6"	12"	18"	24"	30"	36"	45"
50,000	1600 psf	1400 psf	1250 psf	1100 psf	1050 psf	1000 psf	950 psf
70,000	2700 psf	2500 psf	2200 psf	1850 psf	1700 psf	1500 psf	1400 psf
100,000	5200 psf	4450 psf	4000 psf	3400 psf	3000 psf	2700 psf	2500 psf

Minimum Allowable Soiling Bearing Capacity, Unreinforced Mat, 9" Mat x 20' Long

Load (lb)	Width Tire or Tread on Mat (in)						
	6"	12"	18"	24"	30"	36"	48"
70,000	1900 psf	1700 psf	1500 psf	1450 psf	1450 psf	1300 psf	1200 psf
100,000	3600 psf	3200 psf	3000 psf	2500 psf	2200 psf	2000 psf	1900 psf
140,000	6300 psf	5600 psf	4500 psf	4150 psf	3800 psf	3500 psf	3000 psf

Minimum Allowable Soiling Bearing Capacity, 8" Mixed Maple Mat

Load (lb)	Width Tire or Tread on Mat (in)						
	6"	12"	18"	24"	30"	36"	48"
50,000	2100 psf	1900 psf	1750 psf	1700 psf	1650 psf	1500 psf	1400 psf
70,000	4000 psf	3600 psf	3400 psf	2900 psf	2600 psf	2400 psf	2300 psf
100,000	6900 psf	6200 psf	5200 psf	4800 psf	4500 psf	4100 psf	3600 psf

Note on Soil Bearing Capacity Tables

- ▲ Mat loading tables are derived using a standard design method based on the soil bearing capacity.
- ▲ The required crane mat area is calculated by dividing the crane load plus the weight of the mat by the allowable ground bearing pressure.
- ▲ Divide this area by the width of the mat to develop the required effective bearing length.
- ▲ The mat length is then used to calculate bending (which typically controls the mats design) and shear stresses in the mat, based on the assumption of a uniform pressure equal to the crane load divided by the bearing area acting upward on the bottom of the mat.
- ▲ Using a traditional wood mat design as a guide, we utilize published allowable flexural stresses for the composites to check the members in the mat against the applied stress due to the ground bearing.



PROUDLY ENGINEERED AND MANUFACTURED IN WACO, TEXAS USA

STRUXURE

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