



**SPARTAN
MAT**

(888) 543-6287

Sales@SpartanComposites.com

RIG MATS

Rig Mats for Drilling, Spans and Roads

APPLICATIONS

- ◆ Crane Work
- ◆ Oil & Drilling
- ◆ Pipeline Construction
- ◆ Temporary Access Roads
- ◆ Barge & Marine Work
- ◆ Events & Construction
- ◆ Offshore Operations
- ◆ Transmission Lines
- ◆ Logging & Forestry
- ◆ Environmental Remediation
- ◆ Military
- ◆ Free Span Bridging
- ◆ Bridge Construction
- ◆ Heavy Civil
- ◆ Heated & Safety Walkways
- ◆ Turf Protection
- ◆ Waste Removal & Cleanup
- ◆ Nuclear, Mining, Hydro,
- ◆ Solar & Wind
- ◆ Utilities



- ✓ Cross-member design adds strength where the cross-member meets the rail.
- ✓ Wood inserts are installed for excellent weight distribution and strength.
- ✓ Rig mats are toggled so welds are performed flat – for deep penetrating welds.
- ✓ Internal mat components are made from either custom cut timbers, or engineered, finger-jointed and laminated billets.
- ✓ All wood components are dado'd and rabbited to create a seamless & flush mat without any tripping hazards.
- ✓ Mats are flush and usable both sides.
- ✓ Fork lift protectors can be added in 12" inch increments (1/4" thick).
- ✓ Curved radius edges (1-1/8") built into our outer channel, makes our mats far superior for forklift handling.
- ✓ Beams and rails may be added and customized for higher quality mats.

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Engineered Reinforced Steel Rig Mats

Rig Mat Customization

While Spartan Mat always tries to stock the most common sizes, we can also customize our rig mats to order. Some of the customizations and options include the following:

- ◆ Custom sizes ranging from 11' feet wide up to 40' feet long.
- ◆ Fewer or additional layers or "ply's" can be selected for specific applications.
- ◆ Choice in hardware – pick points or shackles or none.
- ◆ Fork lift protectors can be added in 12" inch increments (1/4" thick).
- ◆ Wide Flange or C Channel steel available for steel edging.



Engineered Rig Mats Are Different

Engineered rig mats differ dramatically from standard rig mats, which use timbers or billets locked into place with steel rails and beams. Engineered rig mats only use steel on the outside edges of the mat, which reduces the weight per mat, without suffering losses to performance.

Our engineered rig mats are manufactured for optimal strength and endurance under pressure. Because the strength of our engineered mats is located in the multi-layer process, and not in the steel, these mats exceed in resiliency and deflection.

The process of making the engineered rig mats is straight forward. Cross-directional lumber is layered, micro-planed, glued, finger jointed and pressed under specialized hydraulics. This engineered, bi-axial loading mat eradicates weak boards or timber billets that can fail and further eliminates durability issues commonly associated with the traditional style rig mat.

These mats are rated twice as strong as traditional rig mats. The wood is kiln dried, resulting in a lighter weight mat that does not saturate when exposed to wet conditions. An 8'x40' engineered mat is typically 1,000 to 1,500 lbs lighter than standard rig mats. Depending on the manufacturer, in some cases, our engineered mats can be as much as 2,000 to 3,000 lbs lighter in weight. While light weight, these mats are rated for 70,000+ lbs per square foot of down pressure.



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Rig Mats:

- ◆ Also known as Rig Mats, Reinforced Steel Mats, Drilling Mats, etc.
- ◆ Standard sizes readily available in 3", 4" and 6" thicknesses: 8'x10', 8'x15', 8'x20', 8'x30', and 8'x40'
- ◆ Custom sizes and features such as fork lift protectors, lifting devices and treated wood components are available upon request.
- ◆ All wood components are dado'd and rabbited to create a seamless & flush mat without any tripping hazards.
- ◆ Mats are flush and usable both sides.
- ◆ Curved radius edges (1-1/8") built into our outer channel, makes our mats far superior for forklift handling.
- ◆ New mats, used mats, rental mats and purchase and buyback programs available

RIG MATS RATINGS FOR A BRIDGE APPLICATION

Span (ft.)	WITH IMP ACT		WITHOUT IMP ACT	
	Allowable Load H-20 Rating (Tons)	Allowable Load HS-20 Rating (Tons)	Allowable Load H-20 Rating (Tons)	Allowable Load HS-20 Rating (Tons)
2	18**	32**	18**	32**
4	18**	32**	18**	32**
6	16	28	18**	32**
8	12	21	15	27
10	91	61	22	2
12	81	41	01	8
14	71	28		15
16	61	07		13
18	596			12
20	48		61	0
22	4	759		
24	465			8

4-PLY REINFORCED STEEL RIG MAT ENGINEERING SPECS

	WIDTH	LENGTH	DEPTH	PLY'S	STEEL WRAP	PICK POINT	WENCHABLE ENDS	WEIGHT (LBS)	MATS PER LOAD	At 500 kpi			At 250 kpi			At 90 kpi		
										POINT LOAD	LINE LOAD	DEFLECTION	POINT LOAD	LINE LOAD	DEFLECTION	POINT LOAD	LINE LOAD	DEFLECTION
4-Ply 8'x20'	8'	20'	6"	4C	Channel	Optional	Yes	3400	14	41500	18525	0.07	37000	14500	0.11	31500	11800	0.14
4-Ply 8'x40'	8'	20'	6"	4C	Channel	Optional	Yes	6400	7	41500	19500	0.08	37000	15000	0.14	31500	12200	0.18
4-Ply 8'x20'	8'	20'	6"	4	WideF Langle	Optional	Yes	3400	14	41500	18525	0.07	37000	14500	0.11	31500	11800	0.14
4-Ply 8'x40'	8'	20'	6"	4	WideF Langle	Optional	Yes	6400	7	41500	19500	0.08	37000	15000	0.14	31500	12200	0.18

Table Notes:

1. k values shall be confirmed by a qualified professional for the site specific conditions. It is recommended that minimum site preparation be provided to create a uniform subgrade. K=500 pci represents compacted gravel base; k= 250 pci represents compacted sandy soil; k=90 pci represents soft soils such as clay or silt.
2. Engineered reinforced steel rig mats manufactured with Douglas Fir / Larch No. 2 grade or better. Fb = 900 psi; Fv = 180 psi; E = 1,600,000 psi.
3. Material adjustment factor equal to 1.65 has been used to represent construction loading (Cd = 1.25), repetitive member (Cr = 1.15), and flat use factor (Cf = 1.15). Moisture reduction factor has not been considered.
4. Engineered reinforced steel rig mats analysis is based on allowable strength design methodology. Ultimate strength of the mat, based on testing and PRG APA 320, should be approximately 2.1 times greater than the published values.
5. Loading:
 - * Point load represents total load in pounds over a 1ft by 1ft area at the center of the mat. Increase in the line loading area will result in an increase of the load carrying capacity.
 - * Line load represents the uniform linear load in pounds per foot of a 1ft wide track across the short direction of the mat. Increase in the line load or track width will result in an increase of the load carrying capacity.
6. The deflection noted represents the absolute maximum deflection (either up or down) for the worst case between the point load or the line load.
7. The strong axis of the mat has been used to control the design and determine the allowable load carrying capacity for each scenario.

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