

ALIMATS®

Patented Interlocking Outrigger Mats



Our range of outrigger mat sizes are made up of standard interlocking modules. They're all handleable and come in different lengths. Our latest addition is a brand new 3.480m extra-long module.

Applications

- ✓ Crane Outriggers
- ✓ Concrete Pumps
- ✓ MEWPS
- ✓ Props
- ✓ Scaffolding
- ✓ Scissor Lifts

Features and Benefits

- **Certified** - Fully certified Aluminium system
- **Engineered** - Interlock enables bi-directional load spread
- **Strong** - Fully load tested up to 1850 tonnes/m²
- **Lightweight** - Mat modules weigh between 25kg and 48kg
- **Handleable** - All modules fitted with handles as standard
- **Adaptable** - Wide range of mat sizes available
- **Safe** - No short rigging or plant required to set up



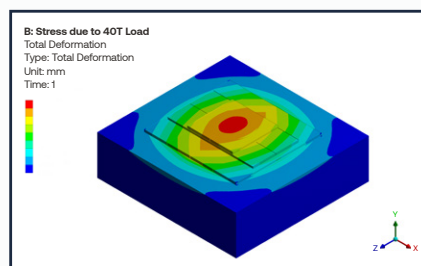
Safer Stronger Solution

We've conducted various types of Finite Element Analysis (FEA) simulations on a variety of mat configurations – considering hard, soft and uneven ground/soil conditions. These were analysed both interlocked; and not interlocked. ALIMATS® come with a patented interlocking design and these simulations highlighted some key benefits.

- The interlock enables monolithic action and enhances bi-directional load spread, which results in more even load distribution and reduced stress values below the mat surface.



INTERLOCK



FEA ANALYSIS



SITE SET UP

Design Considerations and Specification

Outrigger Mat Material

Handleable outrigger mats are generally manufactured from: **Aluminium, Timber, Ultra-High-Molecular-Weight-Polyethylene (UHMW)** and are used to distribute the load of the outrigger to the ground. The suitability of the outrigger mat used is determined by:

- The size of the mat being suitable to distribute the load to the ground at a stress level less than the ground bearing capacity.
- The strength and integrity of the mat and its ability to evenly distribute the load exerted by the outrigger.

Please refer to the table below regarding material property variables.

Properties	Plastic UHMW	Timber Ekki / Azobé (D70)	Timber Oak (D40)	Aluminium ALIMATS®
Mat Density (kg/m ³)	960	1080	660	600
Material Density (kg/m ³)	960	1080	660	2700
Compressive Strength (MPa)	50	34	26	280
Tensile Strength (MPa)	28	42	24	240
Modulus of Elasticity (MPa)	1350	20000	13000	69000

This table highlights the importance that the selected material is actually capable of transferring the load horizontally across the mat surface prior to distribution into the ground.

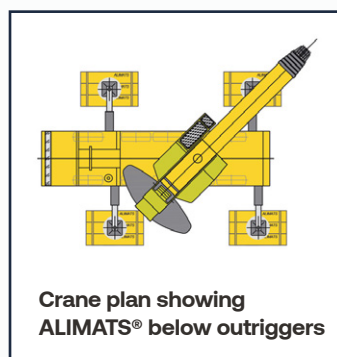
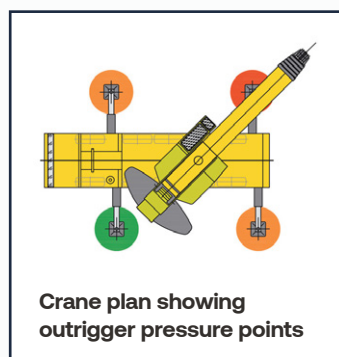
Timber strength deteriorates with continued use and when exposed to the elements, so certification won't be available at time of use.

New ALIMATS® Range

Outrigger mat sizes are made up by interlocking ALIMATS® modules together on-site. To increase our range, we recently introduced a brand new 2.175m long module.

Module	Module Dimensions	Standard Outrigger Mat Sizes		
Short	1160mm x 580mm x 60mm	1.346m ²	2.018m ²	2.523m ²
Standard	1740mm x 580mm x 60mm	3.028m ²	4.037m ²	5.046m ²
Long	2175mm x 580mm x 60mm	6.728m ²	7.737m ²	8.410m ²

Example | Calculation*



Allowable ground bearing pressure: 15.00T/m²
Weight of crane and counterweight: 83.50T
Weight of load: 10.00T
Hook Block: 1.24T
Max point load: (83.50 x 0.75) + 10.00 + 1.24 = 73.87T
Mat size required: 73.87 ÷ 15 = 4.925m²

Therefore adopt ALIMATS® mat size = 5.046m² *

* Based on a simplistic approach to load spread.

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