



EcoMatPro HD (high density) SW (Strand woven) engineered Bamboo Access mat  
 Technical Specifications.  
 Product release # HDSW Spec-EG\_021219-025

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## ECM -70

### Technical specifications “Flex weave™” High Density Strand woven Bamboo Access Mat Beam material and design



ECOMATPRO eco-friendly, renewable resource engineered bamboo access mat

- \*Standard Flat (hard standing or flat road access)
- \*Flush Fit (TRIP Hazard Free all-weather site or camp)
- \*Gripper Incline (added traction trucking access)

Constructed from “flex weave”™ engineered strand woven bamboo beams.

To achieve the extreme density and durability a specific type of bamboo is harvested and processed. We maintain FSC (Bureau Veritas) registration through Forestry Stewardship Council certification. Promoting local participation and community partnerships in the primary harvesting process.

A proprietary hot-press process, “flex weave”™ strand composite design ensures the maximum achievable density and load bearing capacity. Creating the unique weight distribution factor of the “Standard”, “Gripper” and “Flush Fit” mat. The core feature of the designs, the ability to support loads in excessively weak soil structures <2CBR, while reducing or completely mitigating any pre civil construction preparation.

Solid beams are produced under extreme pressure and high temperature with an eco-friendly resin bonding the “flex weave”™ bamboo fibres. ISO 9001 certified product guarantees quality management standards, which consistently exceed customer expectations and satisfaction. ISO 14001 certification assures we deliver a product sourced and constructed from international environmental management standards.

*Mixed standard and gripper rig access*



*gripper access without civil works preparation*





## ECOMATPRO beam properties with comparisons

| EcoMatPro modular beam   | Hard wood – HDPE  |
|--|---|
| <b>Density</b><br>Minimum 1150 kgs m3<br>Maximum 1220 kgs m3.  | <b>Teak</b> (cured and dried) 720 kgs m3<br><b>HDPE</b> 454 kg m3                         |
| <b>Tensile strength</b><br>Minimum 24,000 lbs<br>Maximum 26,000 lbs  | <b>HDPE</b> N/A<br><b>Hard wood</b> N/A   |
| <b>Compression weight loading</b><br>10,611 kN/m2 (independent testing result)                                       | <b>HDPE</b> 3,922 kN/m2<br><b>Hard wood</b> variable                                      |
| <b>Modular construction</b><br>Patented cost-effective modular repair system   | <b>HDPE</b> N/A<br><b>Hard Wood</b> N/A   |
| <b>Water Absorption</b><br><5% maximum<br><b>Saltwater Absorption</b><br><5% maximum                                 | <b>Water Absorption</b><br>Teak, typical 62.95% until tensile failure<br><b>HDPE</b> zero |
| <b>Thickness</b> <b>Width per beam</b><br>Minimum 70 mm        Minimum 140 mm<br>Maximum 71 mm        Maximum 142 mm | <b>HDPE</b> typical 100mm<br><b>Hard wood</b> 250 – 300 mm                                |
| <b>Length per beam</b><br>Minimum 1858 mm<br>Maximum 1860mm  | N/A   |
| <b>Mat size</b><br>Typical 5.25m2<br>(length can be varied to suit application, maximum recommended 6 m2)            | <b>Variable subject to specific product.</b><br><b>HDPE 5.0 – 8.24m2</b>                  |
| <b>Connectors</b><br>Steel to steel quick lock   | <b>HDPE</b> inserts bonded to matting<br><b>Hard wood</b> N/A                             |
| <b>Durability</b><br>15 years dependent on application   | <b>HDPE</b> in excess of 15 years<br><b>Hard wood</b> N/A                                 |

\*note all comparison data from specification sheets.

### ECOMATPRO access mat weight distribution design.

The ECOMATPRO access mat is specifically engineered to optimize the rigidity of the individual engineered strand woven beams while incorporating a patented **spine locking system**. The resultant effect, loads applied to an individual beam are proportionally distributed to the supporting soil sub structure, producing a significantly reduced point loading, in effect increasing the equipment individual tyre footprint.

The ECOMATPRO patented “**Quick lock**” connection system anchors four (4) mats together via a quick installation and release heavy duty steel connecting pin, with side connector limited Pivot linkage plates which are directly attached to the “**Spine Rod(s)**”. The entire quick locking system provides a steel to steel connection independent of the bamboo beams,



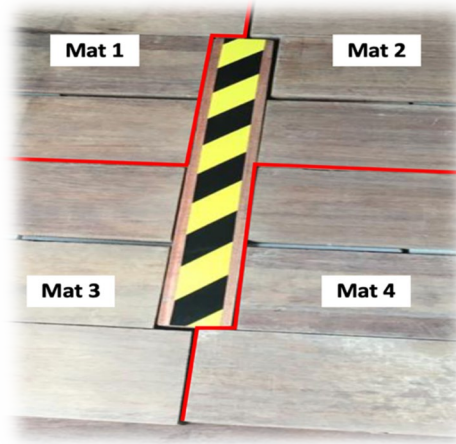
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*Patented Quick Connect System*



*Flush-Fit mats connected with cover plate*



**Rapid Repair and Maintenance**

Unique features distinguish ECOMATPRO from all other products. Our **modular design** allows a **single damaged beam to be replaced on site**, slashing maintenance or repair costs.

Each mat is **fully reversible**, if wear occurs at a high traffic area the mat can be reversed, in effect doubling the wear life.

**Bespoke design:-**

The Standard, Gripper and Flush Fit mats are supplied as a standard width of 1860mm. However, the overall length can be varied to suit specific site requirements, ranging from 2400mm to 3200mm.

**Standard matting weights:-**

Standard Flat Mat (2800 x 1860mm) 464 kgs.  
 Standard Gripper Mat (2800 x 1860mm) 528kgs

**Tracking our product performance:-**

Each mat has an individual asset tracking ID, we maintain a robust “iaudit” system ensuring our solution is fit for purpose at all times.





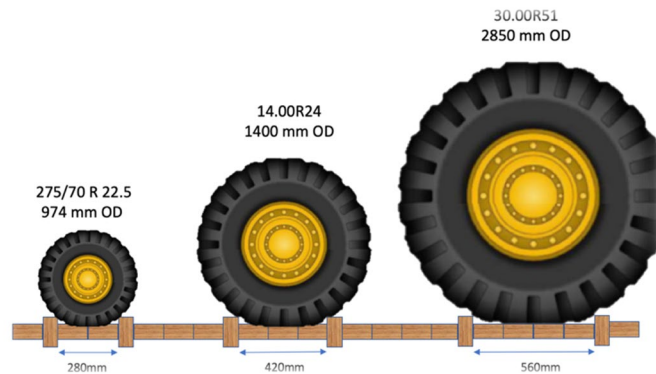
### Lifting points

Each Mat has four-point lifting built in, providing multiple installation options

- a) Forklift,
- b) Excavator
- c) Crane
- d) Boom Truck (Hi AB)

### GRIPPER slope traction:-

Our flagship gripper mat product can be assembled to meet your specific project requirements, ensuring maximum traction designed to deliver uninterrupted access.



### Durability

Many factors impact the durability of all matting, equipment operating weights, volume of traffic and substrate strength etc.

However, the overriding factor impacting all matting density and durability is a weakening from flexing during “tyre roll-on”.

- i) Mat flexing is the key typical failure mechanism of HDPE. Roll on with heavy loads imparts stress fracture cracking and premature failure at connectors, leading to very expensive repairs, or complete loss.

Rigidity of 2.5mm maximum flex within each ECOMATPRO beam combined with a tensile strength equivalent to Mild Steel ensures beam flexing “roll on” is eliminated.

Durability evaluated under actual working conditions at specific sites, where matting cost vs reduction of equipment down time due to waiting on weather, reduction of fill and compaction at back fill areas, roads and hard standings, reduction of equipment undercarriage damage and finally fuel reduction costs with improved roll on, should all be considered.



*The EcoMatPro solutions team “Keeping you moving”*

Patents:- Wipo PCT/NZ2020/050035:- ePCT E01C 9/08 (2006.01) E01C 5/14 (2006.01) E04F 15/02 (2006.01):-

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