

**TRAKMATS EUROPE LTD**

**METHOD STATEMENT**

**USE AND DEPLOYMENT OF TRAKMATS**

APRIL 2007

Unbreakable upto 60 tonnes\* refers to the material strength of TrakMats. The weight load distribution performance of TrakMats is subject solely to ground conditions, weight and type of vehicle or plant. TrakMats Europe Ltd (TEL) always recommends that a site survey be carried out to determine weight loading and ground conditions. TEL, its agents or employees are not liable for any damage to existing ground or property through the use of TrakMats.

## **Section 1    Deployment and De-installation of TrakMats**

TrakMats® are shipped, stored and transported to and from site on double pallets, numbering 30 to a pallet, and are securely strapped at all times.

Forklifts are used to move, load and unload palletized TrakMats, both at depot and at site, during delivery and pick up.

### **1.1    Deployment**

Once the TrakMats have arrived at site, each pallet is lifted off the delivery vehicle by a forklift and moved to various designated drop off points along the proposed temporary access track or pad, starting with the first pallet at the commencement of the trackway. Metal or plastic buckets containing the connectors and other connection items are carried separately to the designated drop off points.

The pallet is unstrapped and TrakMats Europe (TE) personnel will lift the TrakMats off the pallet and place each TrakMat in the previously specified location, to commence formation of the temporary access way. TrakMats are either placed as a parallel trackway, solid trackway or laid to form turning, parking or reversing areas ie pads.

After each TrakMat is laid in position, TE personnel will insert and position the connector, together with additional connection items, into the TrakMats to connect each TrakMat to another. TE personnel will use a manual or cordless wrench to tighten the screws through the TrakMats and into the connectors (please see next section) to form a secure connection between each and every TrakMat. Any additional connection options are installed at this time.

There are options to increase the rigidity, robustness and strength of connection to accommodate various ground conditions, type and weight of vehicle and numbers of passes.

Once the first 30 TrakMats from the first pallet are deployed, TE personnel will unstrap and deploy the next 30 TrakMats in repetitive method, until the entire temporary access trackway is completed.

### **1.2    De-installation**

Once the requirement for TrakMats is completed, a forklift will move empty pallets to various designated drop off points along the proposed temporary access track or pad, starting with the first pallet at the end of the existing trackway.

TE personnel will unscrew, disconnect and remove all connectors and additional connection items and place in the designated metal or plastic buckets. TE personnel will then lift each TrakMat and place it on the empty pallet until 30 TrakMats have been loaded. The metal or plastic buckets are carried separately to the designated pick up area.

The pallet is then strapped and the forklift returns the full pallet to the pick up area ready for pick up.

Once the first 30 TrakMats are loaded onto the first pallet, TE personnel will de-install the TrakMats in repetitive method, until the entire temporary access track is de-installed.

### **1.3 Quality Assurance of Deployment and De-installation**

On deploying TrakMats to complete the formation of the temporary access trackway, a qualified TE operations supervisor, or equivalent manager, will inspect the track and all forms of connection that have been used in provision of that track.

It is to be noted that due to the dynamic nature of soil and ground conditions, that periodic inspection of the temporary access track should be carried out by TE personnel, or the client's personnel, to ensure no problems are occurring. If any problem does occur, all movement of vehicles and plant along the temporary access trackway should cease immediately until TE personnel can inspect the problem.

TE personnel will at that point review the access requirements viz a viz ground conditions and carry out any remedial or additional action to solve the problem(s), including upgrading of connection options.

## Section 2 – Connection of TrakMats

### 2.1 Product and Application Bulletin

The following notes are the direct result of carrying out numerous jobs in the field. By following these recommendations you will provide a safe and effective temporary track or access area, an efficient and professional job and a satisfied customer. Please also refer to the Quick Guide on Connection.

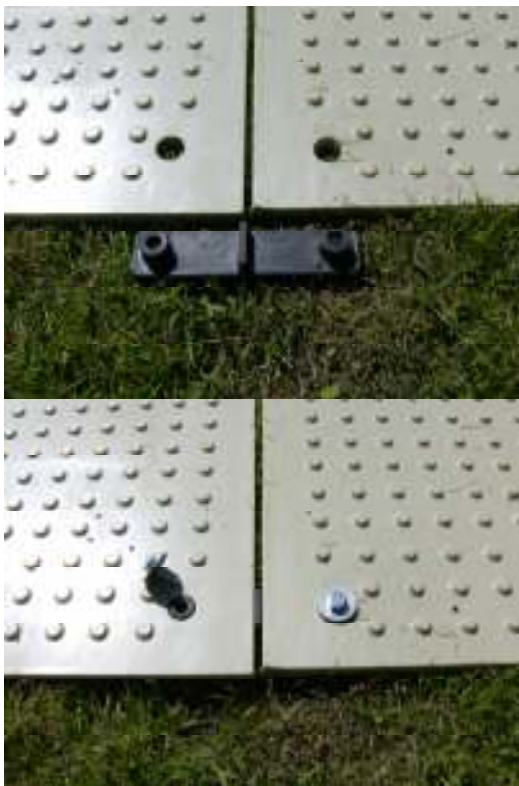
#### A. Nylon Ties, Urethane 2 Way Connectors and Metal Connectors

It is advised for health and safety reasons to ALWAYS provide connectors and/or nylon ties when mats are delivered to a customer site, and if necessary metal connectors.

Please see below and also refer to the Quick Guide on Connection.

The use of connection will cover you on any issues of liability if the Trakmats™ spin or move, causing injury or damage to property. Of course, for any efficient and safe temporary ground protection or access, some form of connection, fastening or pinning of the mats is ALWAYS essential. Each Trakmat needs TWO connectors.

Please also note the NEW 4 WAY connector - use in connecting Trakmats for parking or turning areas (pads). By using 4 way connectors you use 50% LESS 2 way connectors!



**Urethane connector goes under the Trakmat with the two cylinders fitting in the holes in each of the Trakmats.**

**Bolts go into the top of each cylinder**



**Urethane connector  
without metal connector**



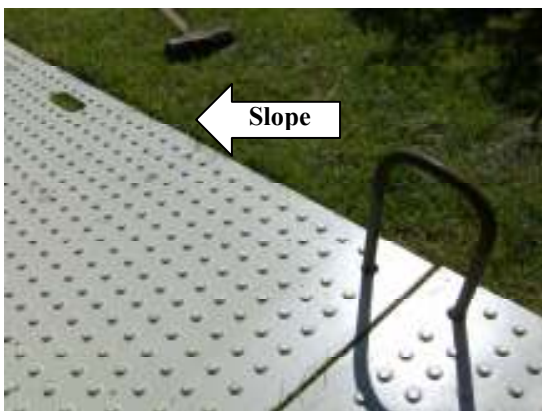
**4 Way Connector**



**Metal connector fits over the Trakmat and the bolts are screwed down through the metal connector and into the cylinders of the urethane connector – forming a “sandwich” - metal – mat – urethane.**

## B. Trakmats on Slopes or Cambers

When installing Trakmats on a slope or a track with a camber, you **MUST** use metal U pins in addition to the nylon ties and/or urethane connectors. The pins can be placed through the hand cutouts or through the unused connector holes (there are two at the outside ends and two at the ends of the mats in the middle). The U pins need to be inserted into the ground by club or sledge hammer and the front pin angled in the same direction as the slope (see photo/diagram).



**Metal U Pin to strengthen the connectivity on slopes or cambers**

If the incline (slope) is steep, or there is heavy and continual equipment running on the Trakmats, it is advised to also use the metal connectors that fit over the mats directly above the urethane connectors underneath the mats as described earlier. The same bolts that fasten the connectors under the mats will also lock down the metal connectors (see diagram).

### C. Trakmats on Hard Surfaces

When installing Trakmats (smooth side) over hard surfaces like block paving, concrete or tarmac, you **MUST** use the metal connectors over the urethane connectors to create a more rigid area – literally a solid mat – which will prevent the mats sliding on the hard surface.

In addition, if there is heavy or tracked equipment running and especially traversing, over the mats, the use of 10mm x 100mm masonry studs set into the underneath material, at intervals around the surface of the matted area, will provide further strength and rigidity.

## **2.2 TrakMats – Quick Connection Guide**

- Nylon Ties

Quick, short term connection, flat ground, light equipment.

- Nylon Ties and/or Urethane Connectors – 2 Way and 4 Way

Long term connection, flat ground, mid to heavy equipment and frequent passes of equipment.

- 4 way connectors for use when constructing turning and parking areas (pads)
- Urethane and Metal Connectors

Longer term connection, flat ground, heavy and especially tracked equipment, numerous passes of equipment and especially frequent turning on the track or turning area.

Also for use with smooth mats over hard surfaces eg block paving, tarmac and concrete.

- Urethane Connectors and Metal U Pins (and Metal Connectors if necessary)

For use on all inclines (slopes) and cambers, all equipment.

If the equipment is heavy or tracked it is highly recommended that metal connectors are installed also.

**EACH TRAKMAT™ NEEDS TWO NYLON TIES OR URETHANE CONNECTORS!**

*The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties. Recipients of these products must take responsibility for observing laws and regulations. Trakmats use and effectiveness are fully subject to ground conditions and a site survey is always recommended. If any problems occur in the use of Trakmats please cease use and immediately notify your agent or Trakmats Europe Ltd directly. Trakmats Europe Ltd is in no way legally responsible for the use and application of Trakmats.*

**Section 3 – Product and Technical Specifications of TrakMats**

**3.1 TrakMats and Pedmats Product Specifications**

| Model / Traction         | Thickness   | Dimension ( w x l) | Weight per sheet |
|--------------------------|---|--------------------|------------------|
| TM4496 / single sided    | 12.7mm  | 1130 x 2440mm      | 33kg             |
| TM4496 / double sided    | 12.7mm  | 1130 x 2440mm      | 33kg             |
| TM2296 / single sided    | 12.7mm  | 560 x 2440mm       | 17kg             |
| TM2296 / double sided    | 12.7mm  | 560 x 2440mm       | 17kg             |
| Material                 | 100% Recycled High Density Polyethylene<br>ISO 9001 manufactured  |                    |                  |
| Colours available        | Standard – light green & black  |                    |                  |
| Connection Options       | Urethane connectors for longer term connection.<br>Metal connectors for heavy and tracked equipment<br>Metal U pins for slops and cambers |                    |                  |
| Environmentally Friendly | Weather proof, water resistant and unaffected by extreme heat or cold, environmentally friendly   |                    |                  |
| Customisation            | Corporate colours and logos available (subject to minimum order)  |                    |                  |
| Guarantee                | Warranty 5 years with a field life of 10 years.   |                    |                  |

### 3.2 TrakMats – Technical Specifications

High molecular weight Polyethylene TrakMat® easily performs in temperature ranges from below freezing to over 90° C in any moisture condition. Cold temperature break test are performed on each lot down to -30° C with a test load of 175 kg.

The basic polymer used to produce TrakMat® is a high molecular weight polyethylene. This material is very inert with a low coefficient of friction. It is the largest volume plastic used in the world. It does not absorb moisture and is very resistant to most chemicals. Most acids are stored in polyethylene containers. It is used in most automotive battery housings and fuel tanks for example. Typical properties are summarized below:

| <u>Physical Properties</u><br><u>(English [SI])</u> | <u>Test Method</u>       | <u>Values</u> |
|---|--------------------------|---------------|
| Resin Properties:                                   |                          |               |
| Melt Index @ 190°C/2.16 kg, g/10 min.               | ASTM D1238               | 0.20          |
| Flow Rate @ 190°C/21.60 kg, g/10min.                | ASTM D1238               | 21            |
| Density, g/cc                                       | ASTM D 792               | 0.9525        |
| Mechanical Properties:                              |                          |               |
| Tensile Strength at Yield, psi (MPa)                | ASTM D 638               | 3500 (24.1)   |
| Tensile Strength at Break, psi (MPa)                | ASTM D 638               | 4600 (31.7)   |
| Elongation at Break, %                              | ASTM 638                 | 800           |
| Flexural Modulus, psi (MPa)<br>140,000 (965)        | ASTM 790, method 1       |               |
| Brittleness Temperature, °C                         | ASTM D 746, procedure A  | <-70          |
| ESCR, F, hours                                      | ASTM D 1693, condition B | 48            |
| Hardness Shore D                                    | ASTM D 2240              | 62            |
| NCLS, hours   | ASTM F 2136              | >24           |
| Density, g/cc<br>0.955                              | ASTM D 1550              |               |
| Durometer, Shore D                                  | ASTM D 2240              | 68            |
| Tensile Impact, kg/cm                               | ASTM D 1822              | 115           |

Negligible odor. Inclusion of 1-butene polymer with ethane in the diet of rats for 90 days at 5% or less caused no adverse effects.

Sensitization (Animal and Human studies) – Polyethylene is not considered to be a skin sensitizer, Does not promote chronic toxicity or carcinogenicity.