DIAMONDGRID™

Designed and Manufactured in **Australia**

**Reduce** your **Carbon** Footprint

Made from **100%** Recycled Plastic

Use up to **91%** less concrete*

TOUGHEN YOUR TERRAIN

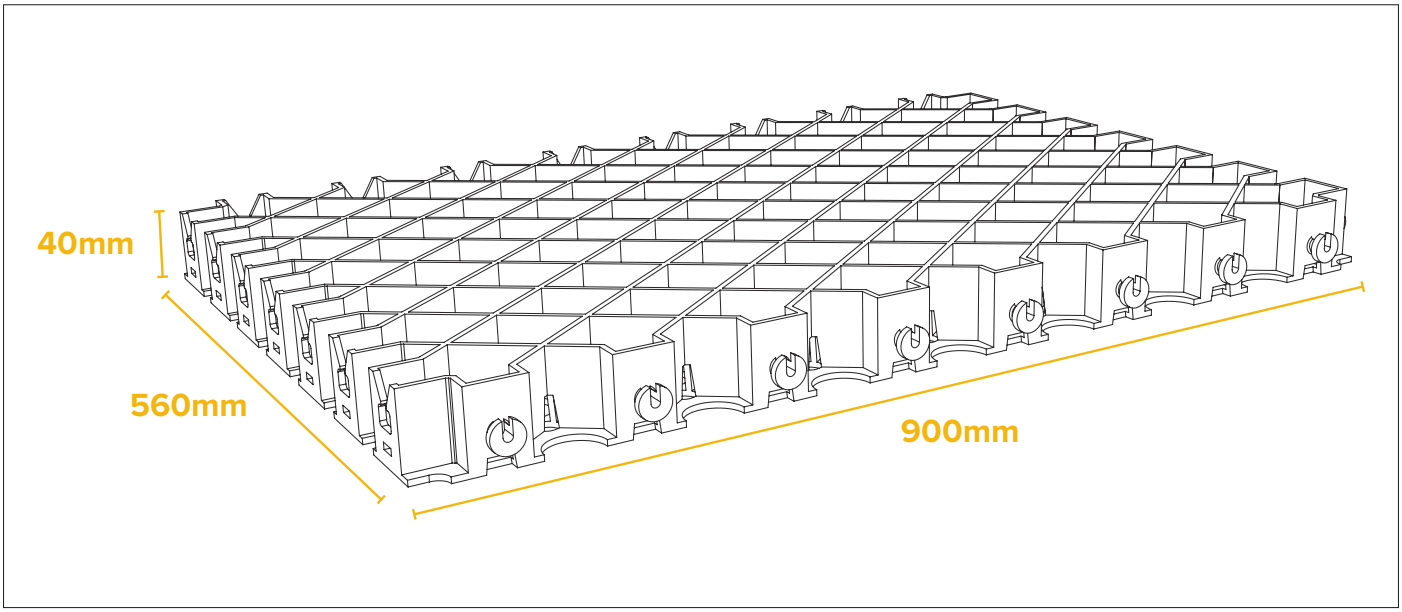
# DIAMONDGRID™ Mining

*In comparison to a 400mm traditionally poured concrete slab.

# Specification Sheet

DIAMONDGRID™

UV STABILIZED | RELOCATABLE | DO-IT YOURSELF | INTERLOCKING SYSTEM




## The Diamond Grid interlocking system is robust and easy to install.

Applications suitable for DiamondGrid™ include:

- Heavy Vehicle Haul/Access Roads
- Roads
- Hardstands
- Shed/Workshop floors
- Concrete pavements
- Car Parks

| | |
|---|---|
| **Measurements** | 900mm W x 560mm L x 40mm H |
| **Crush resistance (filled with gravel/road base)** | 1000+ tonne $m^{2*}$ |
| **Crush resistance (empty grid)** | 300 tonne $m^{2*}$ |
| **Weight per grid** | 3.2kg |
| **Fill ratio** | 1 cubic metre of fill per $26m^2$ |
| **Permeability** | Up to 96% |
| **Fill** | Road base, gravel, pebbles, grass, soil, concrete, asphalt |

DIAMONDGRID™

100% Recycled Plastic

Made from 100% recycled, UV treated polypropylene, DiamondGrid™ is ecologically friendly and highly durable. The product has been load tested by the **Facility of Engineering and Surveying Centre of Excellence in Engineered Fibre Composites, University of Southern Queensland and Sageos CTT Group** and found to withstand loads in excess of 300 tonnes per square metre when empty or over 1000+ tonnes crush resistance per m/2 when grids are filled.

diamondgrid.com

## Typical Vehicle Road Construction

Poor road design impacts safety, traffic management, and maintenance. Rolling resistance is the resistance to vehicle motion due mostly to:

- Road deformation under the tire
- Tire penetration into the road
- Tire deformation effects on the road surface

No amount of maintenance will fix a poorly designed road. Each component of the road infrastructure must be correctly addressed at the design stage.

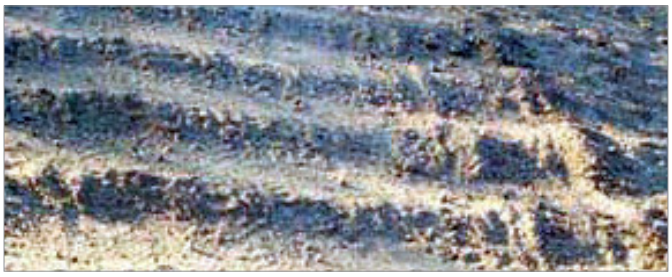
### From a safety perspective:

- **Poor geometric design** – Excessive shear forces and truck instability.
- **Poor structural Design** – Damage to tire and chassis, truck instability, misalignment.

- **Poor functional Design** – wet slipperiness, less traction and skid resistance and more dust.
- **Maintenance Design** – running surface.

Dust is caused through loss of fines, so consider specifically:

- Wearing course material selection:
  - Size distribution, clay content
  - Restraint of fines
  - Traffic volumes
  - Climatic conditions



### Improved Vehicle Roads:

- The cure is not necessarily just 'more frequent' maintenance, as this is costly .
- No amount of maintenance will fix a poorly designed road. Each component of the road infrastructure must be correctly addressed at the design stage.

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## The Diamond Grid™ Approach

An integrated approach to road design using Diamond Grid. Improved rolling resistance using Diamond Grid reduces:

- Road deformation under the tire
- Tire penetration into the road
- Tire deformation effects on the road surface
- Wear on vehicle tires

### From a safety perspective Diamond Grid reduces:

- Lessen shear forces and improved truck stability.
- Will reduce damage to tire and chassis and miss alignment.
- Functional Design – less slipperiness, more traction and skid resistance and less dust.
- Maintenance will reduce and stabilise vehicle surfaces.

- Critical to the design and successful operation of mine and vehicle roads is a proper crown and camber, which will ensure water does not gather on and penetrate into the road surface.

### Maintenance Management

- Maintenance design and management:
- Routine road maintenance as a result of progressive wearing course deterioration.

- A satisfactory road design will require minimum maintenance.
- Too frequent maintenance? Review design data to find root of problem.

# Features and Benefits of

DIAMONDGRID™

Reduce subgrade thickness

Increase load bearing capacity of the road

Act as a bridging layer / differential settlement

Cut maintenance frequency by 70%

Reduce maintenance costs by more than 70%

Holds the road together for much greater periods, reducing maintenance requirements

Increase traffic load without increasing pavement thickness

Minimises pavement failure due to semi-rigid load bearing capacity

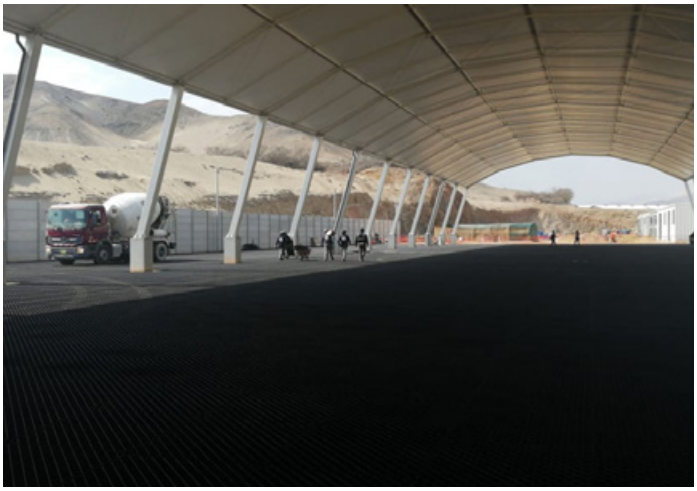
DiamondGrid™ works as a bridging layer to spread load across the ground, similar to putting a rock ballast down but lasting many more years

Less vehicles and staff will be required as they can travel from point to point in half the time

Increase fuel economy of vehicles as they can travel 50-75% faster one safe level and solid roads

Elimination of 90% safety issues and vehicles accidents as with DiamondGrid™ the roads are free of potholes, corrugation and non slippert.

# Diamond Grid™ Examples in Mining and Construction

# Testimonials

*“I would recommend this product to anyone who has any issues with access roads or unstable areas to fix.”*

**Rodney Shea**

Civil Assets Coordinator - Queensland Rail

The top side of the road has grids, while the lower side does not. The erosion on the road is visible on the side without grids, after recent QLD rainfall.

*“After initially purchasing DiamondGrid™ to solve a problem with a single muddy pathway, we have since kept diamond grid in our stores to deal with any paths or road way issues that arise. Diamond grid has become a critical part of all our infrastructure projects.”*

**Adam Place**

Sustainability Manager - Mandalay Resources

*“DiamondGrid™ has been installed between some of our offices at the CHPP. The finished surface result was excellent and was very easy to install. We will certainly be ordering some more as required.”*

**Helen Ballinger**

Contracts Administrator - Lake Vermont Coal Project

## Testimonials

*"DiamondGrid™ mats are great quick way to get a hardened trail set up. Not having to pre-assemble the mats before bringing them out to the field has made progress quicker, and has reduced the amount of crew required to work on the trail, reducing costs."*

**Barry Whitman**

Transportation Coordinator - Native Village of Mekoryuk

DIAMONDGRID™

# FOR A SOLID SURFACE
# ON ANY MINE, ANYWHERE.

**Significantly reduce**
downtime & ongoing maintenance

**100% Recycled**
polypropylene

**diamondgrid.com**

Distributor Details:

**FormDirect™**
*In, on & around concrete*

**1300 659 830**

**www.formdirect.com.au**

DIAMONDGRID™

TOUGHEN YOUR TERRAIN

Just Grid It
DISTRIBUTING DIAMOND GRID™