Ground Protection Mat (Desert Series)

High-Density Polyethylene (HDPE) Heavy-Duty Surface Solution

1. GENERAL DESCRIPTION

Ground Protection Mats are manufactured from premium high-density polyethylene (HDPE), engineered to establish a stable, resilient platform for heavy vehicles and machinery. Specifically optimized for desert environments, construction work zones, and irregular terrain, these mats provide superior load distribution and eliminate vehicle sinkage in loose sand or soft subgrades.

2. TECHNICAL SPECIFICATIONS

Parameter	Value / Description
Material	High-Density Polyethylene (HDPE)
Thickness	15 mm (±5%)
Standard Dimensions	1220 mm (W) × 2440 mm (L) × 15 mm (T)
Density	0.950 g/cm^3
Tensile Strength (Yield)	≥ 32 MPa
Elongation at Break	≥ 500%
Bearing Capacity	**60 tons (Self-weight within 80 tons)**
Flexural Modulus	800 – 1200 MPa
Melting Point	120 – 140°C
Thermal Expansion Coefficient	1.5 – 2.0 × 10^{-4}/°C
Water Absorption	< 0.01% (24h immersion)
Chemical Resistance	Excellent (Resistant to acids, alkalis, salts)
UV Resistance	Good (Integrated UV stabilizers)
Operating Temperature	-50°C to +80°C
Standard Colors	Black (Custom colors available upon request)

3. KEY FEATURES

- **Heavy-Duty Load Bearing:** Engineered to safely support loads up to **60 tons**, subject to ground conditions and vehicle configurations.
- **Extreme Durability:** Exceptional impact resistance and structural flexibility designed to withstand harsh operational stress.
- **UV & Chemical Resistant:** Formulated with advanced stabilizers for long-term outdoor deployment in aggressive desert climates.
- **Anti-Slip Traction Surface:** Treaded pattern delivers optimal grip for heavy vehicle tires, tracks, and industrial machinery.
- **Reusable & Portable:** Lightweight modular design allows rapid installation, dismantling, and repositioning.

4. TARGET APPLICATIONS

- Temporary vehicle access routes across desert sands, dunes, and soft soil deposits.
- Heavy construction sites and oil & gas upstream operations.
- Access roads and heavy equipment staging for remote renewable energy projects.
- Event flooring and temporary infrastructure in sandy or sensitive turf environments.
- Comprehensive ground protection against rutting and structural soil compaction by heavy machinery.

5. OPERATIONAL GUIDELINES & NOTES

Important Performance Notice: Actual load performance varies based on vehicle type, weight distribution, speed, and underlying subgrade conditions. In shifting desert terrains, these protection mats effectively distribute wheel loads, prevent excessive sinkage, and preserve vital logistics routes.