TuffTrak

TuffTrak®

Temporary Roadway | Working Pads | Turf & Ground Protection

GRASSFORM PRODUCT GUIDELINE

TuffTrak® - the ultimate heavy duty panel

- Special manufacturing process delivering maximum strength
- Unique chevron traction surface and low theft risk
- Lower transport costs than aluminium and wooden mats
- Tough durable working areas and roads for very heavy plant and machinery
- Avoids severe rutting and eco damage to ground and heritage
- Highly efficient weight disposal on very soft or boggy ground

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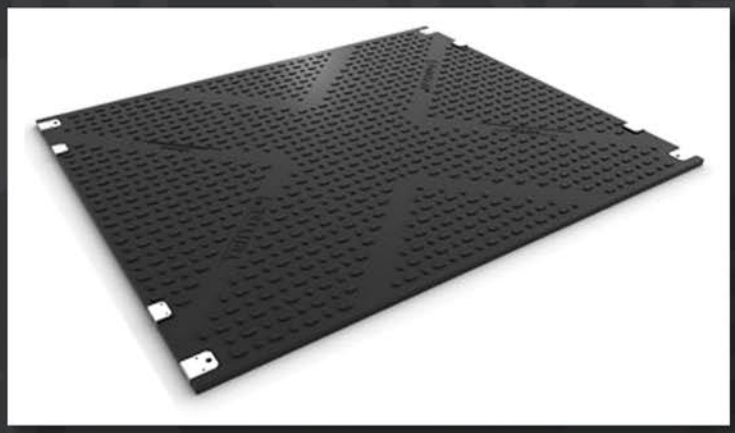
Internationally proven TuffTrak® delivers heavy duty temporary access for all weather and ground conditions.

- Civil Engineering
- Construction
- Oil & Gas
- Utilities Maintenance
- Transmission
- Infrastructure
- Military Sites
- Events

Technical Specifications

Material:	100% recycled HDPE / UHMWPE	
Dimensions		
Length:	9'10"	3000mm
Width:	8'2.5"	2500mm
Depth:	1.5"	38mm
Weight:	650.4lbs	295kg
Surface Area:	81.8'²	7.5m²
Transportation:	80 x TuffTrak® per EU standard curtain sided 13.6m trailer	



*Compression tested at National Physical Laboratory, UK.

Features

Unbreakable to over 150* tonnes, TuffTrak® is the ultimate heavy duty road panel, providing temporary roadways and work areas for very heavy plant, machinery and multiple vehicles.

At a tough 40mm's thick and made from high density polyethylene (HDPE), TuffTrak® are virtually indestructible. Unlike aluminium road mats, TuffTrak® can be deployed in areas of high theft risk and are lighter to transport. The panel is chemically inert which makes it ideal for eco sensitive and heritage sites.

Dual Traction Surface

The engineered chevron surface design delivers ultimate grip and dispels mud whilst vehicles traverse. The unique chevron nub design reduces sideways movement / slippage and delivers optimal forward traction for heavy plant, machinery and vehicles.

Grassform Group
Little Woodbarns Farm Yard, Green Street, Fryerning, Ingatestone, Essex, CM4 0NT UK
www.grassform.co.uk - email: sales@grassform.co.uk
Tel: +44 (0) 1277 353 686 Fax: +44 (0) 1277 356890

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Typical Soil Bearing Capacities

APPLICATION / LOAD	CBR RANGE
Well-graded gravels and gravel-sand mixtures	40-30
Poorly graded gravels and gravel-sand mixtures	30-60
Silty graded gravels, gravel-sand-silt mixtures	20-60
Clayey gravels, gravel-sand-clay mixtures	20-40
Well graded sands and and travelly sands	20-40
Poorly graded sands and gravely sands	10-40
Silty sands, sand-silt mixtures	10-40
Clayey sands, sand-clay mixtures	5-20
Inorganic silts, very fine rock	15 or less
Inorganic clays of low to medium plasticity	15 or less
Organic silts and organic silty clays of low plasticity	5 or less
Inorganic silts, fine sand or silts, elastic silts	10 or less
Inorganic clays or high plasticity fat clays	15 or less
Organise clays of medium to high plasticity	5 or less

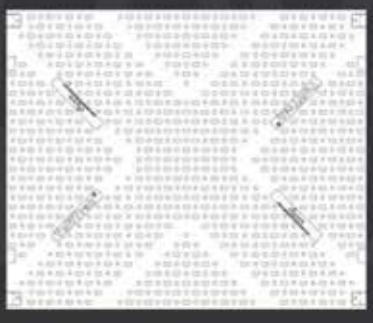
Information obtained from various sources. Users are advised to obtain professional geotechnical advice on the utilisation of TuffTrak on specific site conditons.

Compression Testing

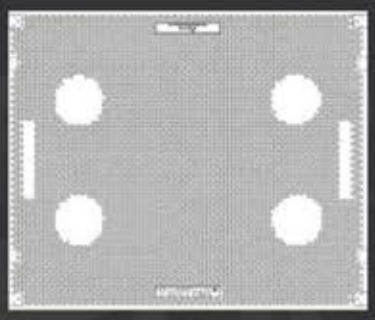
tuffTrak has been subjected to a compressive force test at the National Physical Laboratory (NPL), UK using a circular steel platen (surface area 535 sq cm). The platen test equates to a point load test as required by BS EN 124: 1994. Samples were compressed in the NPL 12 MN hydraulic test machine. Tests were carried out under laboratory conditions with the temperature controlled to 20°C ± 1°C and relative humidity controlled to 50% ± 5%.

Please note that testing is undertaken carried out with mat samples placed on a solid substrate, therefore, data cannot be interpreted for non-solid or very soft ground conditions. During testing the TuffTrak samples resisted breakage and splitting with progressive recovery of the materials to their original state.

High Profile Chevron Traction Surface



Low Profile Traction Surface



Material Properties

CHEMICAL RESISTANCE	HPDE	UHMWPE
Acids - concentrated	Good - Fair	Good - Fair
Acids - dilute	Good	Good
Alcoholds	Good	Good
Alkalis	Good	Good
Aromatic hydrocarbons	Fair	Fair
Greases & Oils	Good - Fair	Good - Fair
Halogenated Hydrocarbons	Fair - Poor	Fair - Poor
Halogens	Fair - Poor	Fair - Poor
Ketones	Good - Fair	Good - Fair

ELECTRICAL PROPERTIES	HPDE	UHMWPE
Dielectric constant @ 1Mhz	2.3 - 2.4	2.3
Dielectric strength (kN mm^{-1})	22	28
DIssipation factor @ 1Mhz	$1\text{-}10x10^{4}$	$1\text{-}10x10^{4}$
Surface resistivity (Ω*cm)	10^{13}	10^{13}
Volume resistivity (Ω*cm)	$10^{15}x10^{18}$	10^{18}

PHYSICAL PROPERTIES	HPDE	UHMWPE
Density (g cm3)	0.95	0.94
Charpy Notched Impact Strength (mJ/mm^{2})	no break	no break
Shore hardness D	62 - 68	64
Limiting oxygen index (%)	17	17
Radiation resistance	Fair	Fair
Refraction index	1.54	N/A
Resistance to Ultra-violet	Poor	Poor
Water absorption (%)	<0.01	<0.01
Color		Black or similar
Odour		Odourless

THERMAL PROPERTIES	HPDE	UHMWPE
Flammability	HB	HB
Coefficient of thermal expansion ($x10^{6}$ $K^{1)}$	100 - 200	130 - 200
Heat - deflection temperature - 0.45Pa (°C)	75	69
Heat - deflection temperature - 1.8Pa (°C)	46	42
Specific heat (J K^{-1} $kg^{-1)}$	1900	1900
Crystaline grain melting range	135 to145	133 to 138
Thermal conductivity @23C (Wm^{-1} K^{-1})	0.45 - 0.52	0.42 - 0.51
Upper working temperature (°C)	55 - 120	55 - 95