

Erosion Protection with High Performance Turf Reinforcement Mat

Design for a Green Environment



Polyfelt® TM13C

High Performance Turf Reinforcement Mat (HPTRM)

TENCATE POLYFELT® TM13C HIGH PERFORMANCE TURF REINFORCEMENT MAT (HPTRM) is a biaxial high tensile strength, 3-dimensional, synthetic erosion control mat that is woven from heavily UV-stabilised polypropylene yarns using a patented technology that creates a random 3-dimensional pattern. The technological design produces “inner pockets,” which entrap and entangle the grass root system (see Figure 1).

When laid over a bare soil surface during construction, the product provides an immediate green turf effect. Here are the benefits :

Benefits

- Blends with the environment with an instant green “turfed over” effect
- Outstanding performance over typical Turf Reinforcement Mats (TRMs)
- Inert to biological and chemical degradation
- Life-span of up to 75 years with proper design and installation
- Quick and easy to install
- Reduces carbon footprint

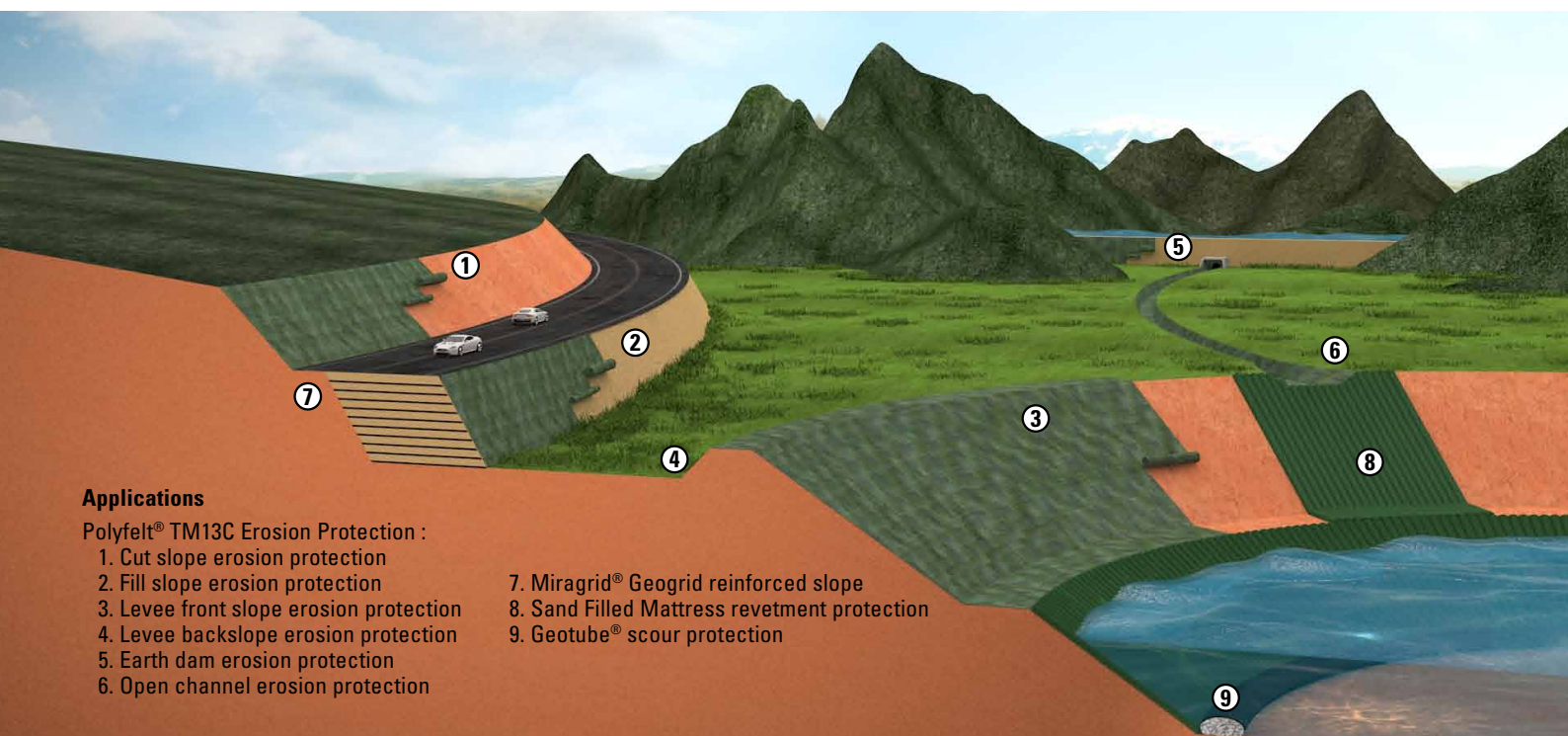


Figure 1: Polyfelt® TM13C

Applications

Polyfelt® TM13C is used for erosion protection of :

- Slopes against rainfall impact and surface runoff
- Banks of channels and impoundments against current flow and turbulence
- Earth dam and levee side slopes against overtopping incidence or wave action



Applications

Polyfelt® TM13C Erosion Protection :

- | | |
|---|--|
| 1. Cut slope erosion protection | 7. Miragrid® Geogrid reinforced slope |
| 2. Fill slope erosion protection | 8. Sand Filled Mattress revetment protection |
| 3. Levee front slope erosion protection | 9. Geotube® scour protection |
| 4. Levee backslope erosion protection | |
| 5. Earth dam erosion protection | |
| 6. Open channel erosion protection | |

PERFORMANCE

Polyfelt® TM13C is optimally designed for short and long term enhanced surficial erosion control (Figure 2).

Phase 1 - Prior to establishment of vegetation :

- Provides bare soil retention and cover
- Offers an undulating surface texture and increased surface roughness thereby increasing surface drag to slow water flow over bare soil
- Captures sediment and holds topsoil

Phase 2 - Turf growing phase :

- Provides bare soil retention and cover over soil where vegetation has not taken hold yet
- Provides a surface environment that nurtures vegetation growth
- Holds down sparsely growing grass
- Reinforces roots of growing grass

Phase 3 - Turf cover has matured :

- Reinforces the root system of the turf cover even when the grass is dormant during off-season periods or during adverse weather conditions

WHY POLYFELT® TM13C?

Biodegradable erosion control mats reduce in performance as they biodegrade and only improve when vegetation establishes over time, which means the performance generally reduces during Phase 1 and possibly extending into Phase 2.

Full scale performance testing at independent laboratories confirm Polyfelt® TM13C has excellent performance for all three phases.

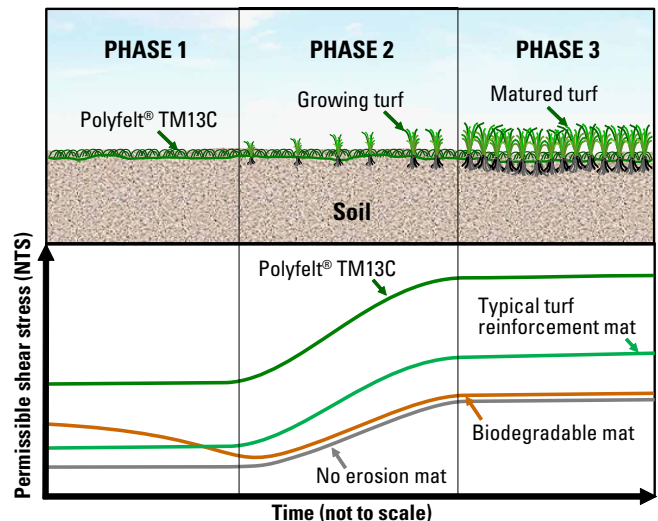


Figure 2: Comparative performance of Polyfelt® TM13C versus other options

As a HPTRM, Polyfelt® TM13C outperforms typical turf reinforcement mats and biodegradable erosion control mats by a wide margin. Polyfelt® TM13C also performs at the upper bound of available HPTRM's in the market.

ENVIRONMENTAL FRIENDLINESS

HPTRM systems provide erosion protection equivalent to light armour protection systems e.g. riprap, articulated concrete block, concrete mat, etc. HPTRM systems are green solutions that blend aesthetically with the natural environment, have comparatively lower carbon footprints and thus are more environmentally friendly than conventional armour systems.



TenCate Geosynthetics for Slope Erosion Protection

Malaysia

TenCate Geosynthetics Asia Sdn Bhd
Registration No. 199301009495 (264232-U)
14, Jalan Sementa 27/91
Seksyen 27, 40400 Shah Alam,
Selangor, Malaysia
Tel : +60 3 5192 8568
Fax : +60 3 5192 8573

Thailand

TenCate Geosynthetics (Thailand) Ltd
169/98 Serm Srap Bldg, 3rd Floor,
Ratchadapisek Road Dindaeng,
Bangkok 10400, Thailand
Tel : +662 692 6680
Fax : +662 692 6679

Singapore

TenCate Geosynthetics Singapore Pte Ltd
67B, Tuas South Ave 1,
Singapore 637581
Tel : +65 6266 0188
Fax : +65 6266 0182

Philippines

TenCate Geosynthetics Asia Sdn Bhd
Philippines Representative Office
Unit 1803 West Avenue Suites
124 West Avenue Barangay Philam
Quezon City, Philippines 1104
Tel : +63 426 8834 / 426 8835
Fax : +63 518 9028

Indonesia

TenCate Geosynthetics Asia Sdn Bhd
Indonesia Trade Representative Office
Graha Simatupang Tower ID 4th Floor,
Jl Letjen TB Simatupang Kav 38
Jakarta 12540, Indonesia
Tel : +62 21782 8963
Fax : +62 21782 8664

Myanmar

TenCate Geosynthetics Asia Sdn Bhd
Myanmar Representative Office
No. L-108 Ground Floor,
Manaw Hari Avenue Baho Road,
Ahlone Township, Yangon, Myanmar.
Tel : +951 1122 4551

India

TenCate Geosynthetics India Pvt Ltd
Vishwasri GL, Plot No 5, IInd floor,
Vijay Nagar Colony,
Behind Secunderabad Club, Picket,
Secunderabad – 500003 Telangana,
India
Tel : +91 40 2770 1271 / 1273
Fax : +91 40 2770 1276

Australia

TenCate Geosynthetics Asia Sdn Bhd
Australia and New Zealand Representative Office
14/328 Handford Road,
Taigum, Qld 4018
Australia
Tel : +61 43255 9266

info.asia@tencategeo.com

www.tencategeo.asia

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