

# GEOMAT DM20

## Erosion Protection Matting



**Plant roots, geomesh & asphalt working together**

# GEOMAT DM20

- ◆ A 3-D geomesh factory-filled with bitumen-bound stone chippings to provide erosion protection
- ◆ Strong & lightweight
- ◆ Vegetation quick to grow through
- ◆ Standard & Fine grades available
- ◆ Used since 2001

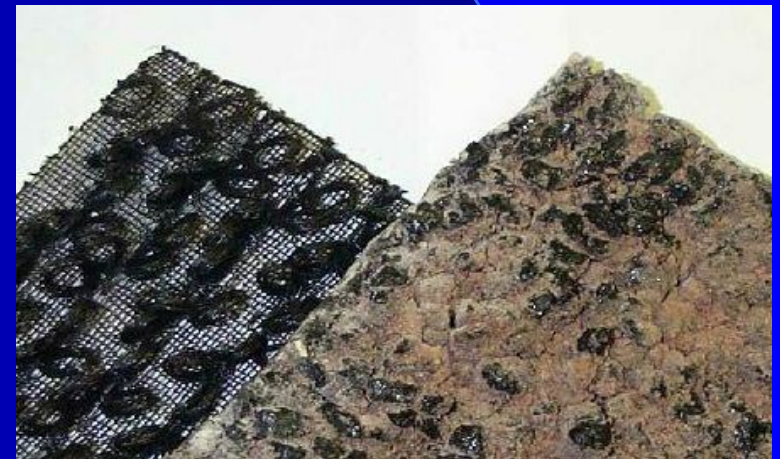
# GEOMAT DM20 - MATERIALS

## ◆ Filter Geotextile

- Pore size to suit underlying soil (100-1000 $\mu$ m)
- Strength to suit loading conditions (min 35 kN/m)

## ◆ Polypropylene loops to provide 3-D structure

- ◆ 6mm Aggregate & dust
- ◆ Modified bitumen binder



# GEOMAT DM20 - APPLICATIONS

- ◆ **Protection of canal & river banks**
  - High currents & boat-wash
- ◆ **Protection of river & drainage channels**
  - High currents
- ◆ **Protection of reservoir banks**
  - Wave impacts
- ◆ **Protection of exposed slopes**
  - Water run-off



# GEOMAT DM20 – GRADES AVAILABLE

## ◆ **Standard Grade**

- Typically used above waterline with cohesive and granular ( $>1\text{mm}$ ) soils

## ◆ **Fine Grade**

- Typically used below waterline with cohesive and finely-graded silty-sand

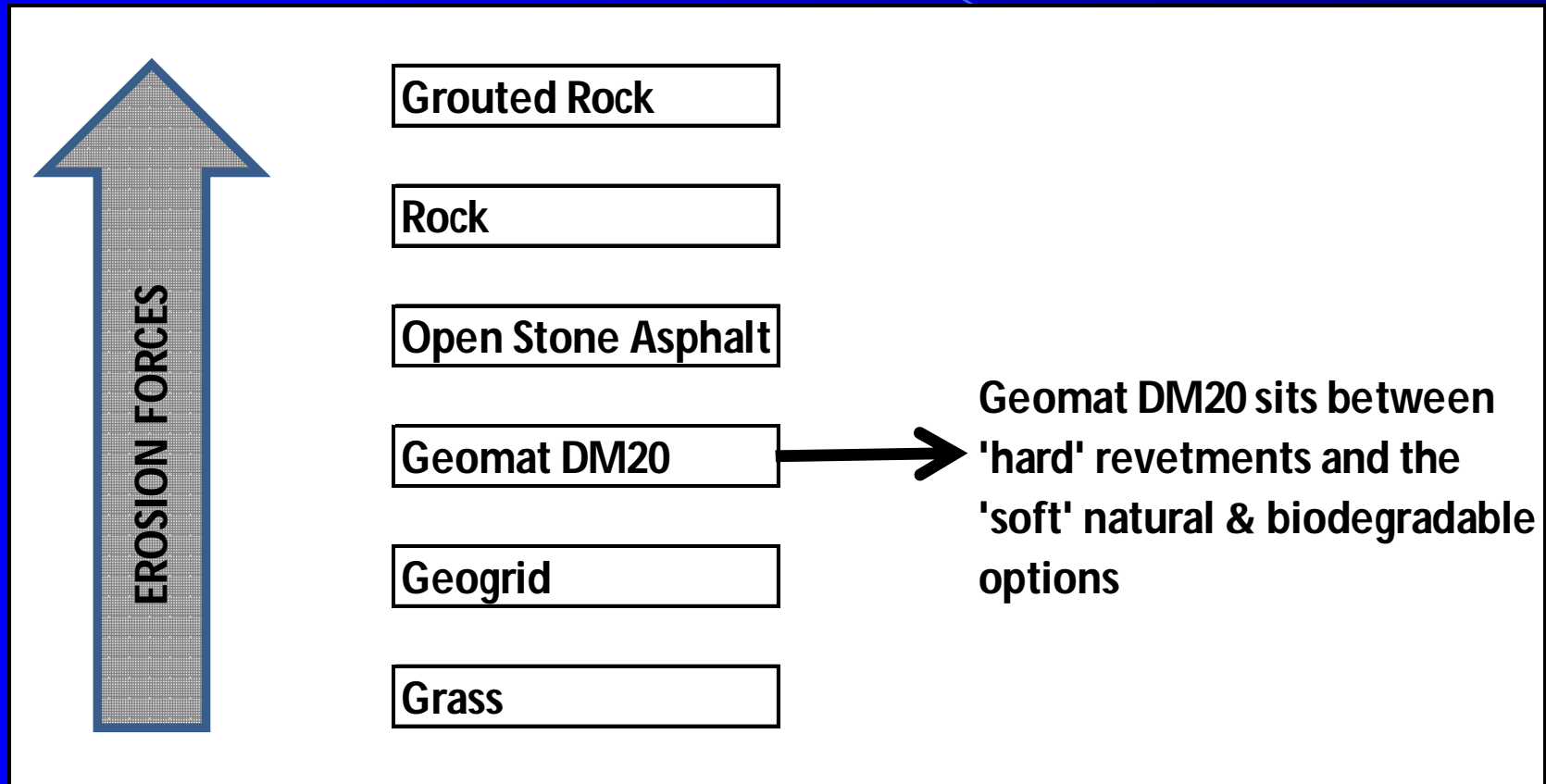
## ◆ **Special Grades**

- Geotextile selected to suit soil & loading

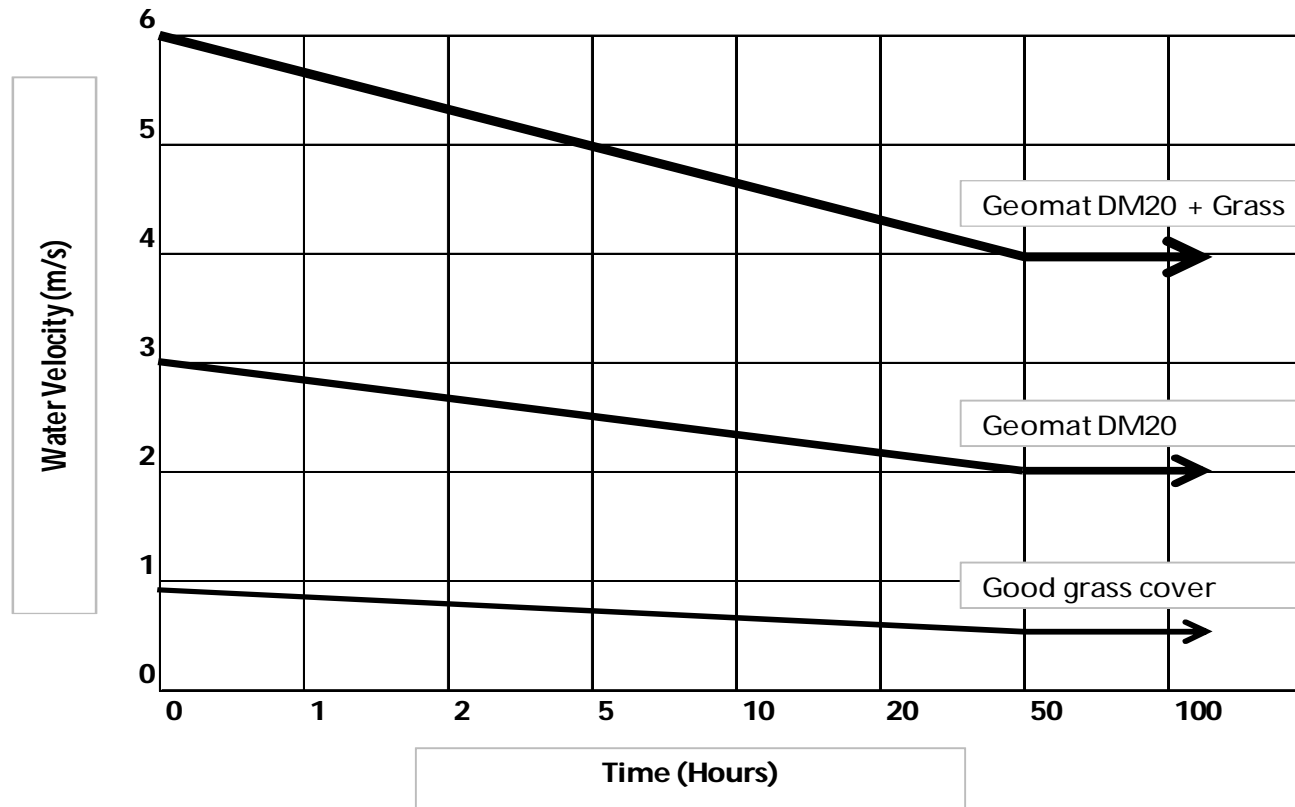
# GEOMAT DM20 – DESIGN

- ◆ **Underlying ground requirements**
  - Slope stability & soil type
- ◆ **Filter requirements**
  - Geotextile grade selected on pore size & strength
- ◆ **Hydraulic loads – flow velocity**
  - Maximum of approx. 6 m/s
- ◆ **Hydraulic loads – wave attack**
  - Maximum of approx. 0.5m (Hs)

# GEOMAT DM20 – ROBUST & 'GREEN'



# GEOMAT DM20 – FLOW VELOCITIES





# GEOMAT DM20 – WAVE IMPACTS

**For periods exceeding 24hrs:**

- ◆ **Unvegetated Geomat DM20 - Hs 0.3m**
- ◆ **Geomat DM20 + Grass - Hs 0.5m**

**For shorter periods, greater wave impacts  
are acceptable (max. approx. 1.0m)**

# GEOMAT DM20 – PRODUCTION

- ◆ **Factory produced in NL for distribution worldwide**
- ◆ **Locally produced for larger projects**
- ◆ **Typical roll size is 20m x 4.8m**
- ◆ **Other sizes made to order**

# GEOMAT DM20 – TRANSPORT & HANDLING

- ◆ Supplied as rolls on steel poles
- ◆ Handling by forklift or installation frame
- ◆ Stack max of 2 high
- ◆ Protect from heat



# GEOMAT DM20 – INSTALLATION

- ◆ Unrolled with purpose-built frame
- ◆ Pinned into position (1 per 5m<sup>2</sup>)
- ◆ Pins typically 8mm 'J' bars, 500mm long





# GEOMAT DM20 – VEGETATION GROWTH

- ◆ Typically placed on pre-seeded topsoil
- ◆ Vegetation established very quickly
- ◆ Grasses & Reeds grow through easily





# GEOMAT DM20 – RIVER CHANNEL PROJECT

- ◆ Norfolk Broads – protection against currents & boat wash up to 0.5m





# GEOMAT DM20 – RESERVOIR PROJECT

- ◆ >50,000m<sup>2</sup> to protect shoreline on reservoir enlargement scheme



# GEOMAT DM20 – RIVER TRAINING PROJECT

## ◆ River Diversion





# GEOMAT DM20 – ENVIRONMENTAL

- ◆ Asphalt safe to use with drinking water
- ◆ Vegetation growth rapid to add ‘natural’ strength to the protection
- ◆ Natural appearance



# **GEOMAT DM20 – DURABILITY & MAINTENANCE**

- ◆ **Life expectancy of geotextile is over 50 years**
- ◆ **With good vegetation growth material is very resistant to hydraulic loads and uv degregation**
- ◆ **Localised damage is easily repaired with patches pinned down over damage**



# GEOMAT DM20



*HESELBERG HYDRO*