

MATERIAL DATA SHEET

GEOMAT DM20



HESSELBERG
EROSION PROTECTION

Material Description:

Geomat DM20 is a thin asphalt-filled geomesh supplied on rolls and used mainly for areas of high water-flow rather than wave impacts.

The open structure allows vegetation to grow through the 20mm thick material. Often placed on pre-seeded topsoil to encourage rapid establishment of plants leading to a natural, 'un-engineered' appearance.

The geotextile carrier has a minimum tensile strength of 35kN/m and its pore size can be adapted to suit the underlying material.

Primary Uses:

- Protection against water flows up to 6m/s
- Canals, reservoirs, river banks and diversion channels
- Dam downstream slope protection

Common Alternative to:

- Enkamat A20
- Geogrid-reinforced grass
- Light rip rap

Maintenance:

Nominal maintenance when installed correctly - the vegetation maintenance is separate.

If material is damaged patches of Geomat DM20 can be placed over the damaged area and pinned in place.

Durability:

Life expectancy is above 50 years.

Vegetation growth will enhance protection against UV degradation.

Constituents:

- Polyethylene geotextile with polypropylene loops
- Aggregate (8mm to dust)
- Modified bitumen binder

Properties:

- Minimum weight 20kg/m²
- Permeable (approx. 5×10^{-3})
- Resistant to water velocities up to 6 m/s depending on duration
- Resistant to waves generated by boatwash

Production & Installation:

- Produced in a factory in Holland distributed via HEP
- Delivered in rolls of about 100m² and 2.2t
- Secured with J-pins on pre-seeded embankments
- Edges finished in shallow trenches and pinned.

Environmental Compatibility:

- Promotes reestablishment of vegetation and regrowth
- The mesh is made of 100% recyclable material
- Can be used in drinking water reservoirs and SSSIs



Installation of Geomat DM20 using purpose built frame



Vegetation regrowth on Geomat DM20

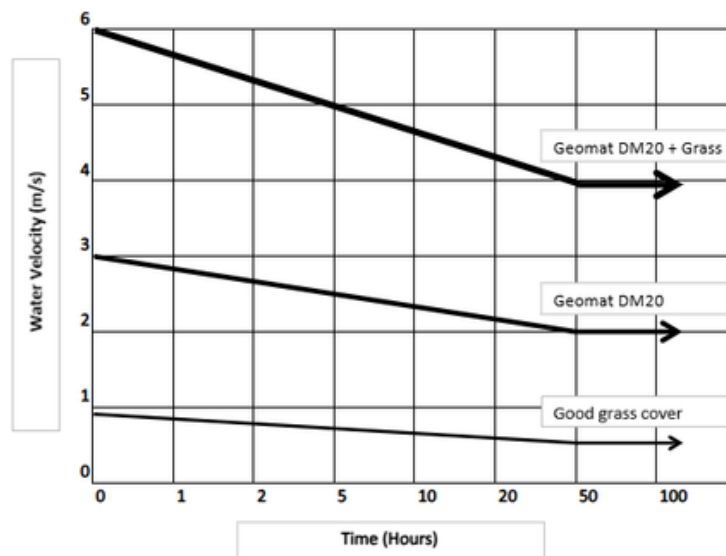


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Key Performance Information:

- Can be used in drinking water reservoirs
- Geotextile pore sizes available from 100 to 1000µm (microns)
- Geotextile strength to suit loading conditions (minimum 35 kN/m)
- Permeability of approximately 5×10^{-3}
- Can be placed on any geotechnically stable slope (no maximum gradient)
- Good protection against high water currents and overtopping

Resistance to Flow Velocities:



Before and after pictures of Geomat DM20

Limitations:

- Susceptible to damage if maximum design loads applied before establishment of vegetation
- Susceptible to vandalism before vegetation fully established

Sources:

CIRIA Report 116 - Design of reinforced grass waterways