

Hy-Tex MultiMat 100 Geomat



Earthen canals and waterways in general are continuously exposed to erosion and flooding from rainfall, runoff and surface runoff, both on the canal bed and their banks.

Under these conditions, the concentrated forces produced by the velocity can cause the formation of holes, longitudinal and transversal furrows and undercutting at the base. The subsequent sliding of earth down the embankment onto the canal bed can also affect the hydraulic properties of the canal itself.

A dense vegetative plant covering on the bed and banks of the canal provides an effective defence as it increases the profile roughness (subsequently reducing the flow velocity), the sedimentation of suspended solid particles and prevents the detachment of soil.

The formation of plant growth covering is accelerated by using a three-dimensional MultiMat geomat which, due to its flexibility, is easy to place on both the bed and banks of the dry canal.

Anchored to the slopes and base by means of U shaped anchors, the geomat is filled with topsoil and seeded. The planting process allows the roots of the grass to firmly anchor themselves to both the three-dimensional structure and the underlying soil, together forming permanent protection.

Even before vegetation begins to grow, MultiMat geomat is capable of drastically reducing the quantity of soil erosion from slopes and above all it eliminates the formation of rivulets and furrows.

Full-scale University tests have demonstrated that the limit of water velocity, below which erosion of the bank and the base does not occur, greatly increases when the channel is protected by MultiMat geomats.

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PHYSICAL CHARACTERISTICS

STRUCTURE	THREE DIMENSIONAL GEOMAT COMPOSED BY 3 LAYERS
MESH TYPE	RECTANGULAR APERTURES
STANDARD COLOUR	BLACK
POLYMER TYPE	POLYPROPYLENE
CARBON BLACK CONTENT (ASTM D4218)	1.0%

DIMENSIONAL CHARACTERISTICS

APERTURE SIZE MD	12.0mm	b,c
APERTURE SIZE TD	16.0mm	b,c
THICKNESS (ISO 9863)	17.0mm	b
POROSITY (ISO 9863)	95%	b
MASS PER UNIT AREA (ISO 9864)	320g/m ²	b
ROLL WIDTH	2.20m	b
ROLL LENGTH	30.0m	b
ROLL DIAMETER	0.78m	b
ROLL VOLUME	1.40m ³	b
GROSS ROLL WEIGHT	24.0kg	b

TECHNICAL CHARACTERISTICS

PEAK TENSILE STRENGTH (ISO 10319)	MD 10.0kN/m TD 15.0kN/m	a,c
YIELD POINT ELONGATION (ISO 10319)	MD 20.0% TD 15.0%	b,c

NOTES:

- a) 95% lower confidence limit values, ISO 2602
- b) Typical values
- c) MD : machine direction (longitudinal to the roll)
TD : transverse direction (across roll width)