

INFORMATION SHEET

Product Name **bidim®**
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Geotextile Selection

Geotextile selection is critical when designing with geosynthetics as the incorrect choice can result in a significant reduction in design life of a project.

Having had hands-on experience of geosynthetic applications since 1972, Kaytech is able to present the following authoritative tables (based on the high elongation geotextiles) giving recommended grades of geotextile that will survive given installation conditions. Engineering judgement must, however, still be used to assess the severity of the installation.

Subsoil Drainage

Hydraulic and Filtration characteristics are the most important factors when using geotextiles in drainage applications. To ensure the properties specified are maintained, the following table can be used to determine survivability requirements.

Installation Condition	Grade of Geotextile				
	A1	A2	A3	A4	A5
Trench < 2,0 m deep with smooth sides and rounded drainage stone with moderate compaction	•				
Trench < 2,0 m deep with rough sides or sharp drainage stone with moderate compaction		•			
Trench < 2,0 m deep with rough sides or sharp drainage stone with high compaction			•		
Trench > 2,0 m deep with smooth sides and rounded drainage stone with moderate compaction				•	
Trench > 2,0 m deep with rough sides or sharp drainage stone with high compaction					•

Hydraulic Construction

Hydraulic and Filtration characteristics are the most important factors when using geotextiles in hydraulic applications. To ensure the properties specified are maintained, the following table can be used to determine survivability requirements.

Installation Condition	Grade of Geotextile			
	A4	A5	A6	A7
Gabions and Mattresses – stone hand packed directly into basket on geotextile	•			
Rip Rap – rock < 100 kg placed directly on geotextile at zero drop height		•		
Rip Rap – rock > 100 kg placed directly on geotextile at zero drop height			•	
Rip Rap – rock > 100 kg dropped onto geotextile from a height of less than 500 mm				•

Separation

Strength and Conformability characteristics are the most important factors when using geotextiles in separation applications. To ensure the properties specified are maintained, the following table can be used to determine survivability requirements.

D ₈₅ of Fill Material (mm)	Grade of Geotextile	
	Subgrade Strength CBR < 3	Subgrade Strength CBR > 3
< 37,5	A5	A4
< 75	A6	A5
< 200	A7	A6
< 400	A10	A7

Note: This table applies only to geotextiles with a grab elongation of greater than 50%.

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Liner Protection

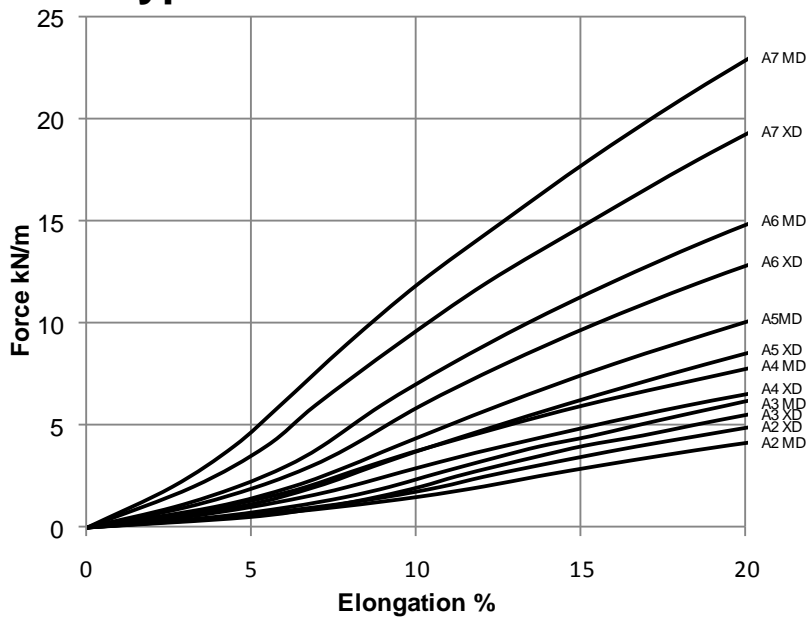
A geotextile liner protection layer must prevent damage to the liner for the design life of the project. To ensure the properties specified are maintained, the following table can be used to determine survivability requirements.

Installation Condition	Grade of Geotextile					
	A4	A5	A6	A7	A8	A10
Below liner on firm prepared base, no protrusion greater than 5 mm. Maximum waste height – 50 m	•					
Below liner on firm prepared base, no protrusion greater than 7.5 mm. Maximum waste height – 50 m		•				
Below liner on firm prepared base, no protrusion greater than 10 mm. Maximum waste height – 50 m			•			
Above liner on firm prepared base, overlain by 19 mm drainage stone. Maximum waste height – 70 m				•		
Above liner on firm prepared base, overlain by 32 mm drainage stone. Maximum waste height – 50 m					•	
Above liner on firm prepared base, overlain by 53 mm drainage stone. Maximum waste height – 25 m						•

Reinforcement

Reinforcing with high-elongation, nonwoven geotextiles is normally restricted to slopes of less than 70°.

Typical Stress-Strain Curves



Nonwoven, continuous filament, needlepunched, polyester geotextile

- Nonwoven – High throughflow and excellent filtration
- Continuous Filament – High isotropic strength
- Needlepunched – High elongation
- Polyester – Superior chemical resistance