

ELCOMAX[®]

Engineered Geotextiles



ELCOMAX® – THE ENGINEERED SOLUTION

The ELCOMAX® range of fully engineered geotextiles has evolved since the mid 1960's in response to soil stabilisation and hydraulic engineering needs. It has become the most comprehensive non woven geotextile solution available in Australia.

ELCOMAX® represents the most advanced selection of soil stabilising methods available to the design engineer. ELCOMAX® offers geotextile solutions to every kind of engineering application and have been tested to the highest standards as well as observed under varying field conditions for many years.

ENGINEERED QUALITY

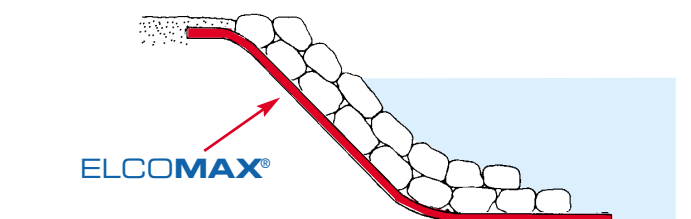
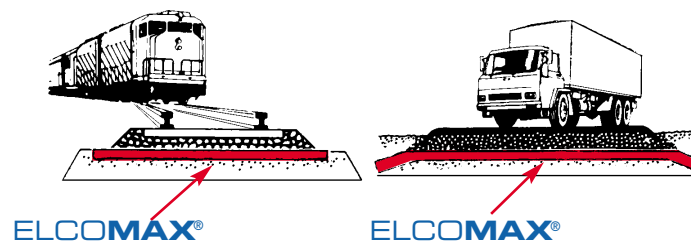
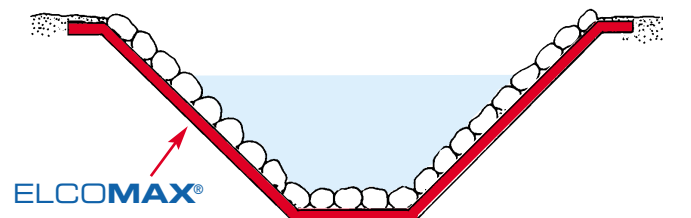
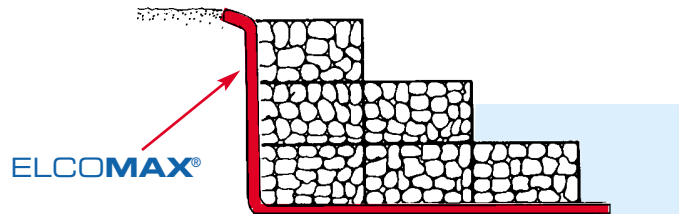
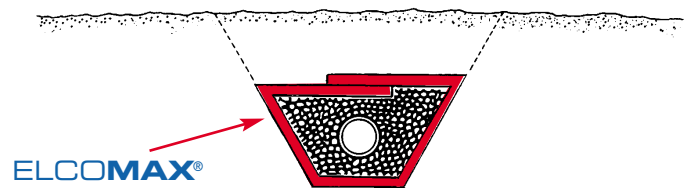
ELCOMAX® has established a high reputation throughout the world for the development and application of geotextiles in civil engineering and construction fields. In Australia, Canada, U.S.A. and Europe ELCOMAX® has set standards in the design and manufacture of high quality products, standards which have created trends within the geotextile industry.

ELCOMAX® – A DEPENDABLE NAME IN GEOTEXTILES

GEOTEXTILE DEVELOPMENT

Geotextiles were developed as a response to geotechnical demands for more economic methods of soil stabilisation. Traditional approaches with natural materials were increasing in cost, not always readily available, and often difficult to install. With the development of synthetic polymers, a low-cost alternative to natural materials became available, easily placed, with the added advantage of factory controlled properties. As a result, research and development with field application of geotextiles for over two decades has evolved into new manufacturing techniques for these products together with improved performance. Rapid growth in the use of these new materials spread throughout the civil engineering field. The modern geotextiles are now readily accepted as a standard solution to geotechnical and hydraulic engineering problems.

TYPICAL APPLICATIONS FOR ELCOMAX®



TYPICAL APPLICATIONS GEOTEXTILES

- Channel and bank protection
- Shore protection works
- Containment structures
- Cofferdams
- Dam structure drainage/transition zones
- Sub-drainage works
- Railroad construction
- Roadways
- Gabion protection
- Ground stabilisation
- Pollution control
- Irrigation works

FUNCTIONS

Four basic functions are defined for the geotextile:

1. Filtration
2. Drainage
3. Separation
4. Reinforcement

1. Filtration

Filtration functions to restrict the migration of fine soil particles from a soil mass while remaining permeable to water movement at least greater than, or equivalent to, permeability of the protected soil.

2. Drainage

Water is conveyed along the plane of the geotextile due to its construction, and then to an outlet. Water may be vertically or horizontally conveyed. Drainage is related to the role of filtration, and is a function of the permeability of a geotextile and its pore opening size or porometry.

3. Separation

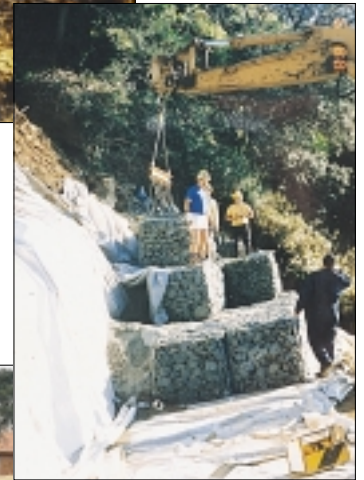
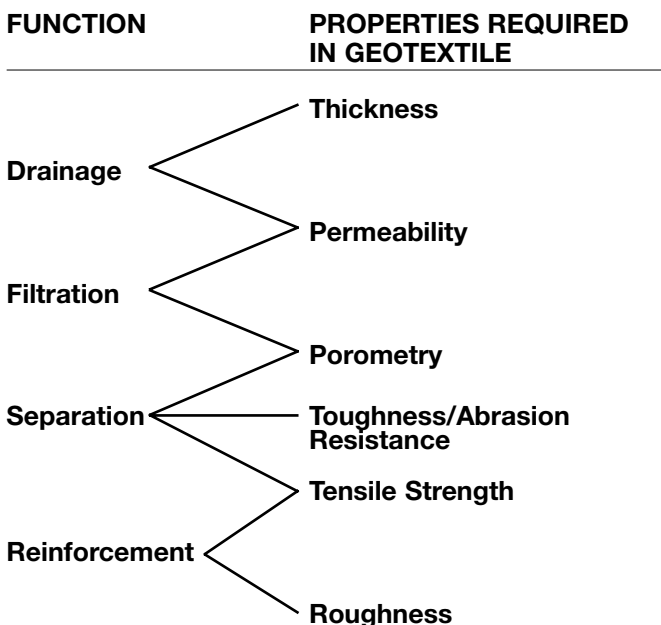
Separation is that function which prevents two distinct soils of different materials from intermixing. The key factors for a geotextile to satisfy this function are porometry, toughness and strength.

4. Reinforcement

This function involves stabilisation of a soil mass by provision of tensile strength to the soil-fabric system.

Geotextile selection can be expressed as a relationship between these 4 basic functions and the properties required by the design engineer in order to satisfy certain criteria, which would relate to a specific application.

The following diagram demonstrates these various relationships:



WANT TO KNOW MORE?

The vast experience and diversity of the ELCOMAX® range ensures our engineers have the resources to assist with your enquiries. We invite you to contact us for professional design assistance.

Please see over for technical specifications

ELCO SOLUTIONS PTY LTD



ABN 84 005 491 921

Australian Manufacturers of a diverse range of specialist geosynthetics

Phone: + 61 7 5500 1400 • Fax: + 61 7 5539 4027

www.elcos.com.au • email: sales@elcos.com.au

ELCOMAX® *Specifications and Physical Properties*

ELCOMAX® geotextiles are Australian made by ELCO SOLUTIONS Pty Ltd

Properties		Units	Standard Grades						
			FT150	XP200	XP270	XP310	XP360	600R	1200R
Thickness		mm	3	3.5	3.8	4	4.8	4.8	5.7
Drop Cone	H50	mm	1 400	4 160	4 210	4 600	5 200	6 000	12 600
	D500	mm	24.8	11.8	11.7	11.0	10.2	9.3	5.6
G Rating			1 200 Mod. Robust	2 800 V. Robust	3 300 Ext. Robust	3 500 Ext. Robust	4 100 Ext. Robust	5 300 Ext. Robust	10 900 Ext. Robust
Trapezoidal Tear		N		250	300	350	380	500	1000
CBR Burst @ % Elong		N	1 100	1 900	2 600	2 800	3 400	4 700	9 600
		%	65	65	60	60	65	70	70
Wide Strip Tensile Strength	XD	kN/m	6.5	14	18	21	23	33	68
	MD	kN/m	5.5	6.5	10	11	14	18	38
Pore Size	EOS	µm	175	175	130	130	130	<75	<75
Through Flow	@ 100mm head	L/m ² /sec	300	300	250	230	230	80	27

NON WOVEN STAPLE FIBRE NEEDLE PUNCHED GEOTEXTILE

Non-woven – High flow rate & excellent filtration

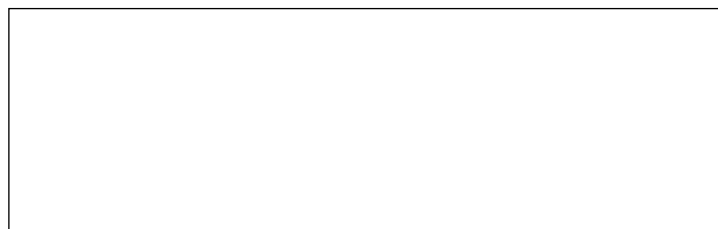
Staple fibre - Unmatched abrasion resistance

Needle punched – High elongation

Non standard and customised project specific ELCOMAX® geotextiles are available.

The widest and most diverse range of geotextiles manufactured in Australia.

We can offer special solutions to coastal engineering, mining, tunnelling and landfill applications



ELCOMAX® & ELCOROCK® are registered trades names of ELCO SOLUTIONS PTY. LTD.

All information and guidelines in this material is given in good faith but without warranty, expressed or implied with respect to the quality or fitness of the product referred to herein for any particular purpose. Recommendations made herein refer to general use of geotextiles. When non-standard conditions exist the company reserves the right to be consulted prior to application. The mean values mentioned above have been achieved in our laboratories and/or independent testing institutes and are indicative. ELCO Solutions reserves the right to make product changes without prior notice.