

# AGGA BIOENGINEERING SYSTEMS

## A.G.A BIOENGINEERING SYSTEMS

PRE-VEGETATED COIR FIBRE PRODUCTS FOR EROSION CONTROL, WATER QUALITY AND HABITAT RESTORATION

Bioengineering with **AGA's Coir Fibre Products** is the proven approach for effective yet sensitive design and construction.

Natural materials and growing vegetation bring together biological, ecological and engineering concepts to vegetate and stabilise eroding banks.

**AGA Coir Fibre Products** support the growth and development of plants that physically secure the bank or shoreline. Native wetland plants used in our systems are selected for their adaptation to varied physical conditions and also provide excellent cover for invertebrates, fish and wildlife.

**AGA Planted Coir Fibre Products** improve water quality, catch and stabilise sediment and counteract non-point pollution.

At **AGA** we are continually developing innovative techniques and applications which allow Consultants, Landscape Architects and Civil Engineers to use a whole spectrum of materials and installation methods to overcome erosion.

**Proven solutions are achieved using pre-grown coir modules. Our own wetland nurseries ensure a reliable supply of well rooted, established aquatic plants growing in coir rolls or pallets.**

Composite solutions incorporating a range of **AGA** structural elements including:

**Rock Rolls, Faggots, Gabions, Geomembranes, Geogrids & Geotextiles, may also be vegetated using pre-established coir modules or AGA seed mixtures.**

We also hold in stock a comprehensive range of aquatic plants available for immediate delivery.

### AGA Bioengineering Systems offer:-

- Immediate and effective erosion control
- Year round installation
- Strong well rooted vigorous aquatic plants
- Rapid root anchorage to the bank
- Aquatic plants to suit all UK locations
- A banks rapid return to its natural state
- The preservation of wildlife habitat
- Proven solutions based on research, development and over 20 years experience

**AGA ARE THE LEADERS IN BIOENGINEERING SYSTEMS**



**EROSION CONTROL**



**LAKESIDE RESTORATION**



**RE-VEGETATING WATER COURSE STRUCTURES**



**RIVER RE-ALIGNMENT**



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**CONCEPT TO COMPLETION**

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## EXPERIENCE

Bioengineering Systems have been developed since 1970 and AGA's accumulated experience globally has in this time helped to improve the environmental aspects of many streams, rivers, lakes, detention basins and wetlands. Throughout the UK we have developed systems for a wide range of conditions and applications. Technical excellence and practical experience ensures we can offer the most economic and long lasting solutions.

## PERFORMANCE

Our products and techniques are designed to adequately meet the hydraulic and biological needs of the site. The systems are highly effective from the day they are installed and grow better over time. Well rooted pre-grown modules ensure the reliability and rapid establishment of vegetation.

## SERVICE

Through training and practical experience, our Staff are uniquely qualified to assist on projects using AGA Coir Fibre Systems. We are familiar with the variety of technical, ecological and regulatory requirements in the field of land and water resource management and restoration. We offer a full range of design and support services and invite collaboration with Planners, Engineers and other professionals to best serve our Clients.

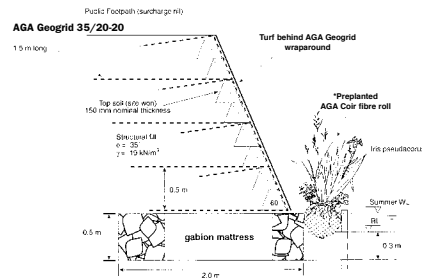
## QUALITY

The success of AGA Coir Fibre Systems depends on living and non-living components. Our coir fibre modules are designed for versatile application, efficient installation and dependable function. Our unique plant cultivation methods and exacting standards for quality ensure our plants are vigorous and able to flourish under stressful aquatic conditions.

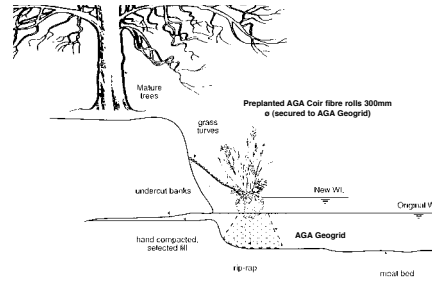
## VARIETY

We know the range of aquatic species our Clients may require to satisfy engineering functions. We are aware of the geographical distribution needs for indigenous planting. With this in mind we are usually able to offer a range of nursery grown root ball plants or modules grown with single or mixed plant species.

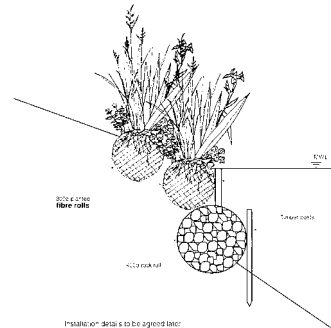
Get immediate information on the whole range of AGA products from [www.agagroup.co.uk](http://www.agagroup.co.uk)



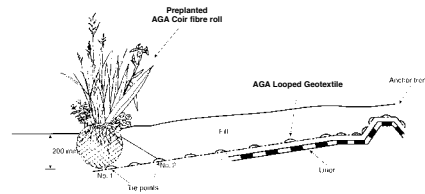
Pre-grown Fibre Rolls anchored firmly to gabions, piles, concrete revetments etc. provide a naturalising effect to the stark appearance of the structure and offer habitat and access to aquatic wildlife



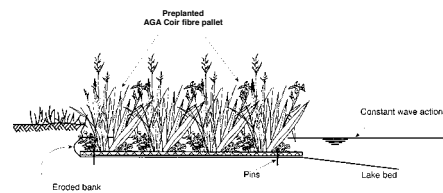
Pre-grown Fibre Rolls can protect the toe of the slope and retain fill material. In cases of deep undercutting, a stable foundation can be established using Rock Rolls, Faggots, Gabions, RipRap, Geotextiles etc.



A wave breaker of pre-grown Fibre Rolls often combined with Rock Rolls, calms the water, helps contain the substrate and supports vigorous growth. Only strong stands of vegetation are capable of withstanding and establishing under wave impact.



Membrane or clay lined lakes are able to support a natural stand of vegetation when pre-grown Fibre Rolls are safely secured to a special fabric covering the membrane.



A good stand of wetland plants, once established can withstand reasonable wave impact. Many species are able to dissipate wave energy through leaf and stem elasticity. With pre-grown plant pallets a mature stand of native wetland plants can be laid quickly on site.

## Dedicated To The Environment

**A.G.A Group**

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