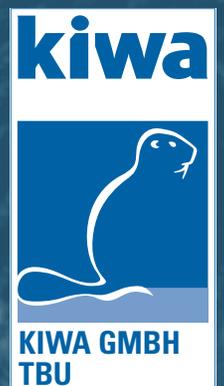
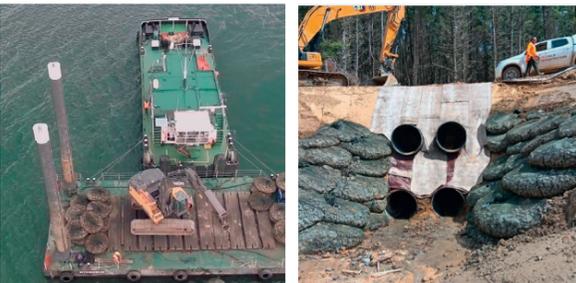




AQUAROCKBAG[®]

TEMPORARY | PERMANENT | EMERGENCY





- + Advanced Erosion Control
- + Sustainable Material Use
- + Broad Application Range
- + Streamlined Deployment
- + Enhanced Durability

AQUAROCKBAG®

The **AquaRockBag®** is a high performance stone filled net providing permanent, flexible and ecologically sensitive protection against scouring and soil erosion within waterbodies and landscaping projects. It is a revolutionary solution designed for erosion control and shoreline protection. Crafted with durability and flexibility in mind, these bags offer a robust alternative to traditional methods.

Made from environmentally friendly materials, **AquaRockBag®** are not only effective in stabilising coastal and riverbank areas but also promote ecological balance. Their versatility makes them suitable for a wide range of applications, from reinforcing hydraulic structures to providing support in various water-related environments. **AquaRockBag®** are an epitome of combining engineering excellence with environmental consciousness, making them a preferred choice for sustainable erosion control projects.

PRODUCTS

Range	Weight Capacity	Net
Classic	1T - 2T - 4T - 8T	Virgin Polyester
Prime	1T - 2T - 4T - 8T	Virgin HDPE
Max	12T - 14T	Virgin HDPE
Bio	1T	Coir

TECHNICAL SPECIFICATIONS FOR AQUAROCKBAG® RANGE

- **Dimensions:** The **AquaRockBag®** range includes various sizes to cater to different project needs, from small-scale riverbank reinforcements to large offshore applications.
- **Material:** All longlasting **AquaRockBag®** are made with Virgin Polyester, and Virgin HDPE or with Coir Netting, ensuring durability, resilience to environmental factors, and suitability for a variety of aquatic conditions.
- **Weight Capacity:** Each model in the **AquaRockBag®** range is designed to support specific weights, making them versatile for both light and heavy-duty erosion control tasks.
- **Application Diversity:** **AquaRockBag®** are suitable for a wide array of applications, including but not limited to shoreline stabilization, protection of hydraulic structures, and seabed cable stabilisation.

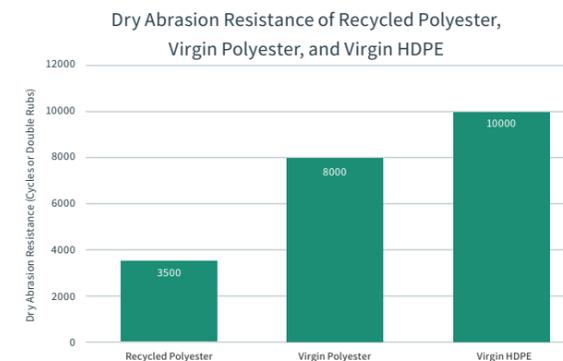


KEY BENEFITS

- **Eco-Friendly:** Made with sustainable materials that promote natural vegetation growth.
- **Durability:** Engineered to withstand harsh environmental conditions, ensuring long-term performance.
- **Ease of Use:** Simple to deploy and fill, reducing labor and time costs.
- **Adaptability:** Available in various models to suit different project needs, from small-scale to large, aggressive environments.
- **Cost-Effective:** Provides a cost-efficient solution for erosion control and environmental protection.

ECO-FRIENDLY MATERIAL COMPOSITION

- **Virgin Polyester and Virgin HDPE:** High durability and resistance to environmental stressors.
- **Minimal Plastic Release:** Stable materials significantly reduce the risk of microplastic release, preserving water quality.



ENHANCING NATURAL PROCESSES

- **Supporting Sedimentation and Vegetation:** Promotes natural sedimentation and vegetation growth, aiding in ecological balance and habitat creation.
- **Water Quality Improvement:** The sediment and vegetation associated with **AquaRockBag®** contribute to natural water filtration, improving the overall quality of the surrounding aquatic ecosystem.

LONG-TERM ENVIRONMENTAL SUSTAINABILITY

- **Adaptability to Environmental Changes:** Designed to be flexible and adaptable, making them a resilient choice in the face of changing environmental conditions.
- **Responsible End-of-Life Management:** Decisions regarding the removal or retention of **AquaRockBag®** should consider their ecological integration. Responsible recycling and disposal practices are encouraged at the end of their service life.

Note: The values in the graphic reflect typical differences indicated by research.

- Testex Textile Testing Results. Retrieved from «Testex»
- Plastics Recycling Report by PlasticsRecycling.org. Retrieved from «Plastics Recycling»
- Recycling and Mechanical Properties Study by «MDPI». Retrieved from «MDPI»

CHOOSING THE RIGHT MODEL



CLASSIC MODEL

- **Material:** Crafted from high-quality, durable Virgin Polyester, ensuring strength and longevity.
- **Weight Capacity:** Capable of holding up to 8 Tons, suitable for moderate erosion control needs.
- **Recommended Use:** Ideal for smaller-scale projects such as riverbank reinforcement, small shoreline protection, and other inland water applications.



PRIME MODEL

- **Material:** Made with the robust Virgin HDPE, designed for more demanding environments.
- **Weight Capacity:** Designed to hold up to 8 Tons, making it perfect for larger, more aggressive erosion control projects.
- **Recommended Use:** Best suited for extensive shoreline protection, larger hydraulic structures, and areas with high water flow or wave action.



MAX MODEL

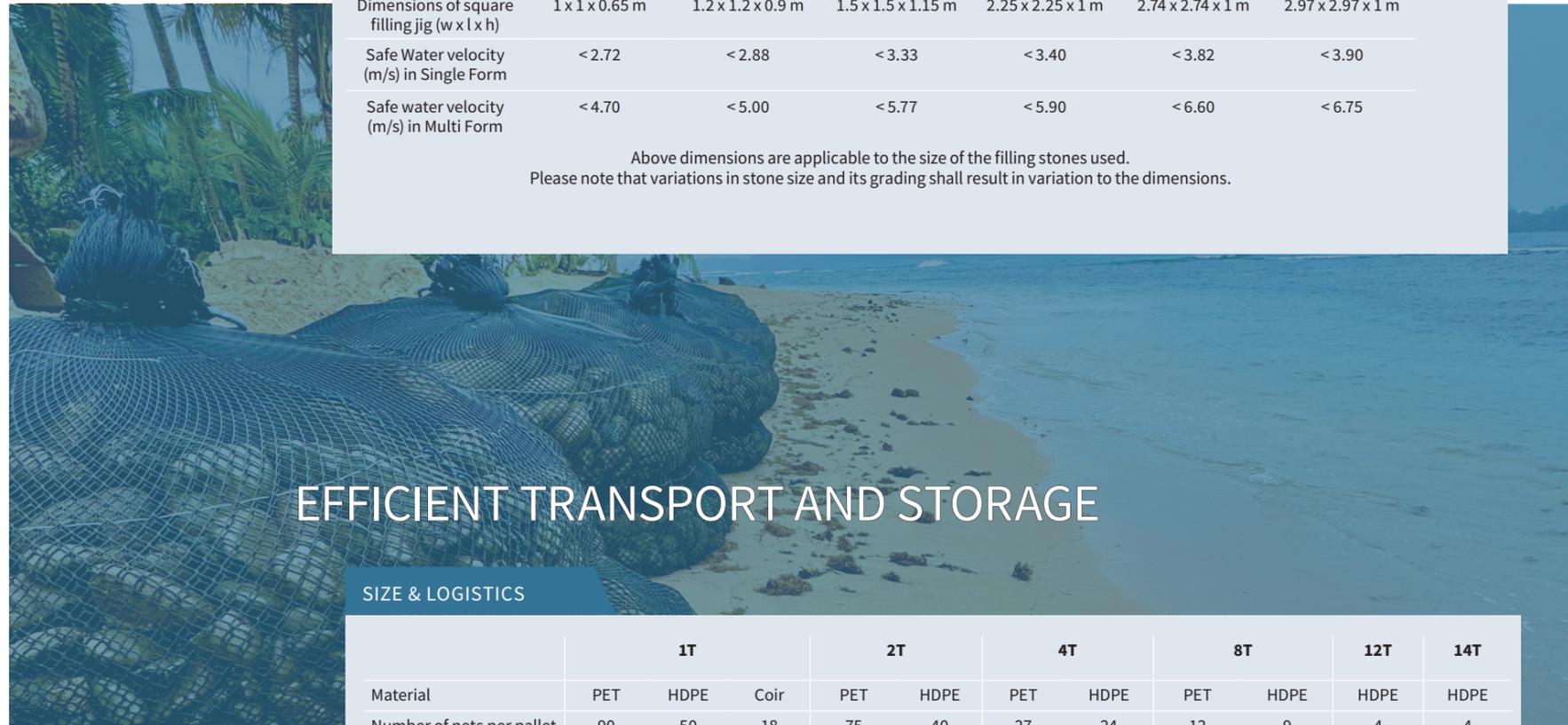
- **Material:** Made with the same robust Virgin HDPE as the Prime model, designed for offshore environments.
- **Weight Capacity:** Designed to support up to 14 Tons, this capacity makes it ideal for ambitious and large-scale erosion control operations.
- **Recommended Use:** Optimally suited for offshore applications, including scour protection around monopiles for wind turbines, reinforcement for larger piles and offshore platform structures, and protection and stabilisation of sea cables on the seabed.



COMMON SPECIFICATIONS

	1T	2T	4T	8T	12T	14T
Mesh size	25 mm	25 mm	25 mm	50 mm	50 mm	50 mm
Suitable stone sizes	50 mm to 180 mm	50 mm to 180 mm	50 mm to 180 mm	50 mm to 180 mm	50 mm to 180 mm	50 mm to 180 mm
Type of stone to be used	The rocks should preferably not have sharp or jagged edges (as sharp edges may cut the net and degrade its performance)					
Dimensions of square filling jig (w x l x h)	1 x 1 x 0.65 m	1.2 x 1.2 x 0.9 m	1.5 x 1.5 x 1.15 m	2.25 x 2.25 x 1 m	2.74 x 2.74 x 1 m	2.97 x 2.97 x 1 m
Safe Water velocity (m/s) in Single Form	< 2.72	< 2.88	< 3.33	< 3.40	< 3.82	< 3.90
Safe water velocity (m/s) in Multi Form	< 4.70	< 5.00	< 5.77	< 5.90	< 6.60	< 6.75

Above dimensions are applicable to the size of the filling stones used. Please note that variations in stone size and its grading shall result in variation to the dimensions.

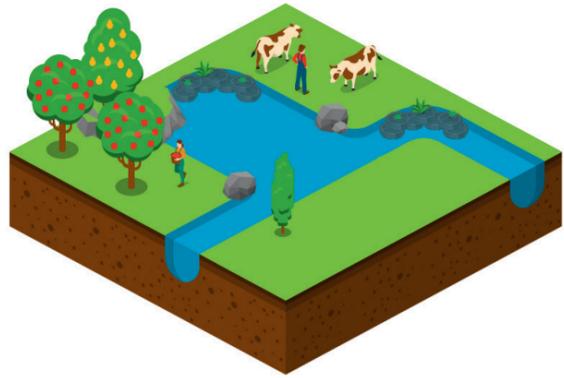


EFFICIENT TRANSPORT AND STORAGE

SIZE & LOGISTICS

	1T			2T		4T		8T		12T	14T
Material	PET	HDPE	Coir	PET	HDPE	PET	HDPE	PET	HDPE	HDPE	HDPE
Number of nets per pallet sea/air transport	90	50	18	75	40	27	24	12	9	4	4
Loaded Pallet Dimensions	1.1 m Length x 1.1 m Width x 1 m Height										
Illustration for measured Height and Diameter											
Stone size used for testing	50mm to 80 mm	50mm to 80mm	100mm to 170mm	100mm to 170mm	100mm to 170mm	100mm to 170mm					
Height (m)	0.35	0.30	0.30	0.50	0.40	0.62	0.50	0.83	0.70	0.73	0.76
Diameter (m)	1.50	1.60	1.60	1.90	2.10	2.30	2.50	3.20	3.50	4.00	4.30
Volume (Cubic m)	0.65	0.65	0.65	1.25	1.25	2.58	2.58	5.00	5.00	7.50	8.82
Weight in kg, excluding ring (before filling) (Tolerance +/- 5%)	4.6	5.7	10.0	5.7	7.7	11.5	13.2	37.0	33.2	70.1	70.1
Ring weight in kg (Tolerance +/- 5%)		0.72		0.72		0.92		1.6		1.6x2	1.6x2

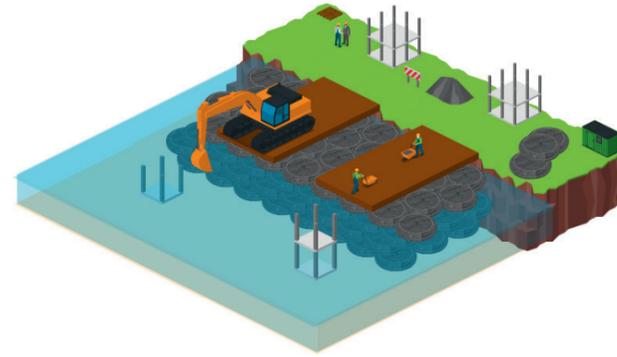
EMERGENCY-TEMPORARY-PERMANENT



SMALL RIVER AGRICULTURAL LAND PROTECTION



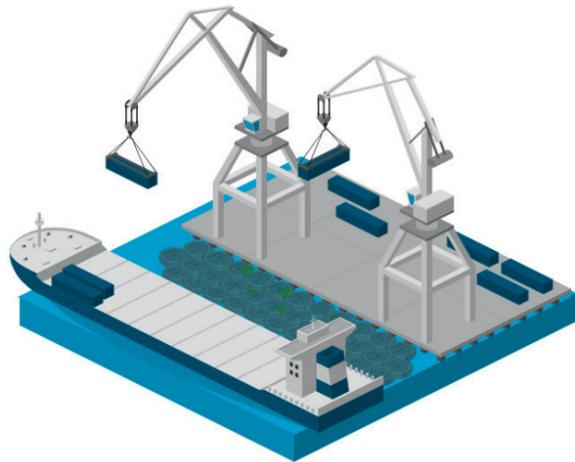
INFRASTRUCTURE PROTECTION DURING FLOOD EVENT



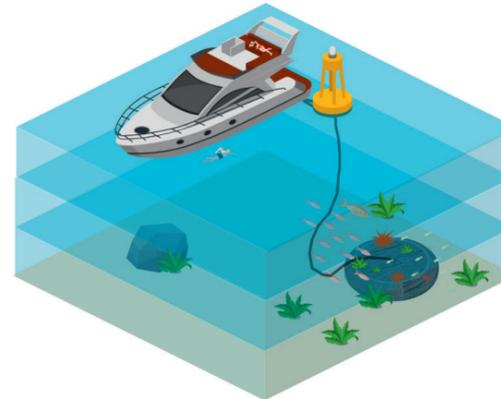
TEMPORARY PLATFORM



COASTAL PROTECTION



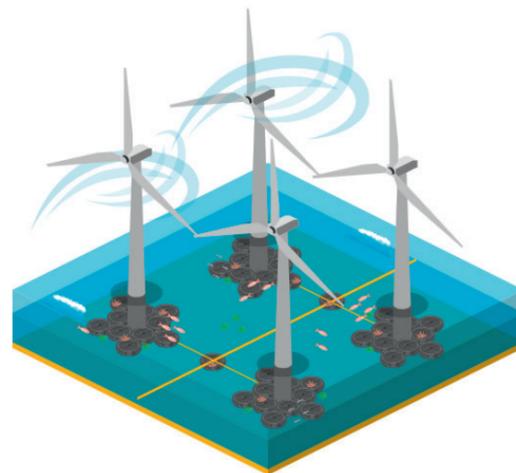
HARBOUR INFRASTRUCTURE PROTECTION



MARINE ANCHORING



MAJOR BANK PROTECTION



OFFSHORE HYDROLOGIC INFRASTRUCTURE PROTECTION



CIVIL HYDROLOGIC INFRASTRUCTURE AND BRIDGE PROTECTION

VERSATILE APPLICATIONS

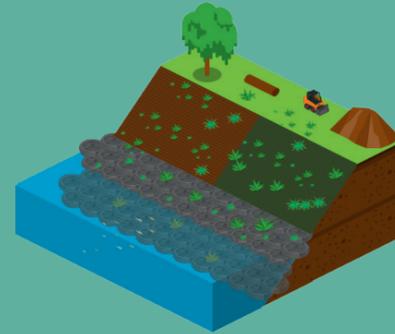
AquaRockBag® is designed for a wide range of applications, making it a versatile solution for various environmental and engineering challenges:

- **Shoreline Stabilisation:** Protects against erosion and stabilises shorelines.
- **Riverbank Reinforcement:** Strengthens riverbanks to prevent erosion and collapse.
- **Coastal Protection:** Shields coastal areas from wave action and storm surges.
- **Hydraulic Structure Protection:** Safeguards structures like bridges and culverts from water damage.
- **Offshore Applications:** Ideal for protecting and stabilizing offshore structures, including wind turbines and sea cables.
- **Temporary applications:** Infrastructure protection during flood event, temporary working platform or Marine Anchoring.



HYBRID ENGINEERING APPLICATIONS

HARD ENGINEERING PRODUCTS



SOFT ENGINEERING PRODUCTS



The long-lasting and stone filled net is made out of virgin HDPE and has a remarkable lifetime.

Eco-Friendly: Made with sustainable materials that promote natural vegetation growth.



The **Bio-AquaRockBag** is 100% nature-based and made from renewable raw materials. Paired with natural stones, the Bio-AquaRockBag integrates seamlessly into the ecosystem and does not absorb any pollutants or foreign substances into the water.



AquaRockRoll is a robust, flexible and permanent revetment for use around reservoirs, shorelines, lake edges, streams and riverbanks. They are environmentally sensitive, cost-effective revetments that are suitable alternatives to rock riprap and gabions in many scour applications.



Bio-AquaRockRoll have the same excellent characteristics as AquaRockRoll, but are made out of coir fiber and are therefore completely biodegradable. The coir net has a long service life.

iGGmat

iGGmat erosion control blankets consist of natural fibers that provide an excellent soil retention capacity. The fibers are sewed up by a thread of polypropylene and jute, shaping a sturdy blanket. Once applied to the ground, the blanket's compact design offers protection from erosion right from the start.



iGGtexc

iGGtexc erosion control textiles and geo-synthetics are so called »technical textiles« which will provide valuable service for you in your erosion control projects and safeguarding measures.



Hydroseeding

Hydroseeding is an efficient and reliable way to permanently green areas that are particularly large or hard to reach. Through the interaction of mulch and an appropriate adhesive an immediate, but limited in its duration and strength, erosion control effect can be achieved.

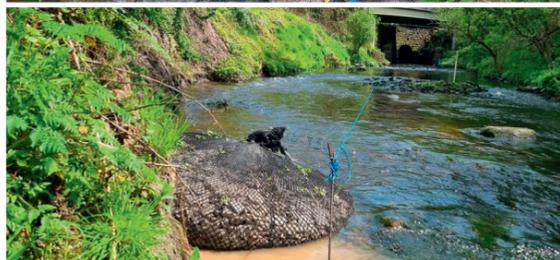


Waterlogs

Main fields of application are biological-engineering projects on water banks of still waters and streams. Furthermore, their ability to reduce the nutrient pollution of water makes them a suitable, biological alternative to chemical water cleansing.



PROJECT REPORT UK



STABILISATION PROJECT IN MANCHESTER - UK

«A large crack had formed in a car park on the outskirts which required urgent remedial works to prevent a further geotechnical failure.

As the official distribution Partner of iGG for UK Salix provided an **AquaRockBag®** solution to improve the stability of a riverbank near Manchester, reducing the overall requirement for sheet piling.

AquaRockBag® helped to provide time and cost saving. As the rock size is relatively small, sediment can accrete and vegetation can establish. This helped to provide an environmentally sensitive solution whilst reducing the overall cost and requirements for the remediation works.

We look forward to seeing how this site vegetates in the future.»



PARTNERSHIPS ALL OVER THE WORLD



COASTAL PROTECTION PROJECT

- **Location:** GERMANY
- **Challenge:** Severe coastal erosion threatening local infrastructure.
- **Solution:** Installation of **AquaRockBag®** along the shoreline.
- **Result:** Significant reduction in erosion, enhanced shoreline stability.
- **Testimonial:** «**AquaRockBag®** adapted perfectly to our shoreline and has shown remarkable durability against harsh marine conditions.»



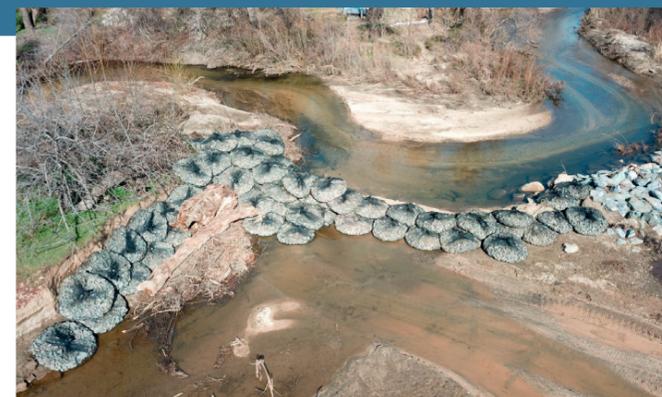
RIVERBANK STABILISATION INITIATIVE

- **Location:** ICELAND
- **Challenge:** Erosion causing riverbank collapse and property damage.
- **Solution:** Deployment of **AquaRockBag®** for riverbank reinforcement.
- **Result:** Stabilised riverbanks, reduced erosion, and improved local ecosystem.
- **Testimonial:** «Since installing **AquaRockBag®** along our riverbanks, we've seen a significant reduction in erosion and an increase in local biodiversity.»



FLOOD DEFENSE SYSTEM

- **Location:** USA
- **Challenge:** Frequent flooding damaging properties and infrastructure.
- **Solution:** Comprehensive flood defense system incorporating **AquaRockBag®**.
- **Result:** Effective flood prevention, protection of properties, and infrastructure stability.
- **Testimonial:** «**AquaRockBag®** has been instrumental in our flood defense system, providing reliable protection during heavy rains and storms.»



URBAN WATERWAY RESTORATION

- **Location:** UK
- **Challenge:** Degraded urban waterway requiring restoration.
- **Solution:** Use of **AquaRockBag®** to restore and stabilise the waterway.
- **Result:** Improved water quality, enhanced aesthetics, and restored habitat for wildlife.
- **Testimonial:** «**AquaRockBag®** played a pivotal role in our urban waterway restoration project, resulting in cleaner water and a more attractive environment.»





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