



 **AQUAROCKBAG®**

The river bank and shoreline protection solution

PRODUCT

Introducing AquaRockBag®

Traditional harder revetments – including gabions, sheet piling, rock rip-rap or blockstone – can

- be detrimental on natural river processes (e.g., pushing erosion problems downstream)
- negatively impact upon aquatic ecological habitats
- be difficult to install in deeper water

The optimal way to eradicate these problems is by using **AquaRockBag®**.



AquaRockBag® is an environmentally innocuous, high-performance net filled with graded rock which is used in erosion control, scour protection and landscape (re-)modeling. Due to its unique characteristics, it is the optimal alternative to the aforementioned conventional methods for four major reasons:

1. High interstitial spaces absorb water energy while simultaneously providing habitat for flora and fauna through accretion of sediments.
2. Due to its flexibility, AquaRockBag® adapts well to uneven surfaces which eliminates the need for ground preparation works (to a large extent).
3. AquaRockBag® is easily placed in deeper water environments.
4. It is the optimal base for softer soil bioengineering methods to be used at and above average water level thus providing a natural solution that blends in perfectly with its surrounding.

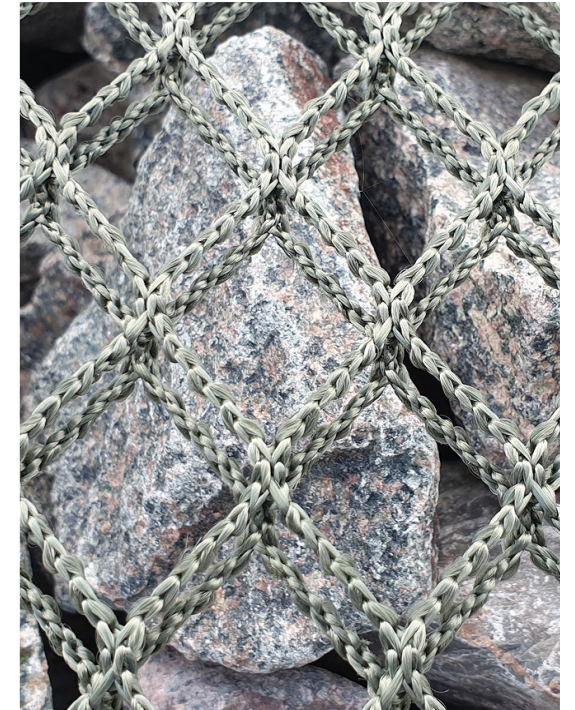


Net Technology

AquaRockBag® is made from highly abrasion and UV resistant virgin materials ensuring high performance levels, great longevity and low environmental risk. The material is predicted to be durable for 25 years.

The net was tested for its environmental innocuousness. The result: AquaRockBag® can be graded environmentally innocuous according to BBodSchV from 19/06/2020 and the criteria of M Geok E (2016) section 7.6. For more information, please contact Internationale Geotextil GmbH at sales@aquarockbag.com.

Nonetheless, constant investment is made to further reduce environmental impact as well as to improve engineering performance.



Applications

AquaRockBag® works best under water and can be combined with softer soil bioengineering solutions at and above average water level to achieve a natural solution blending in perfectly with its surrounding. The filled bags can be used in both fluvial and intertidal zones with typical applications being:

- River bank revetments
- Scour protection around bridge pillars and other structures
- Temporary work solutions
- Artificial reefs
- Shoreline protection

Please note:

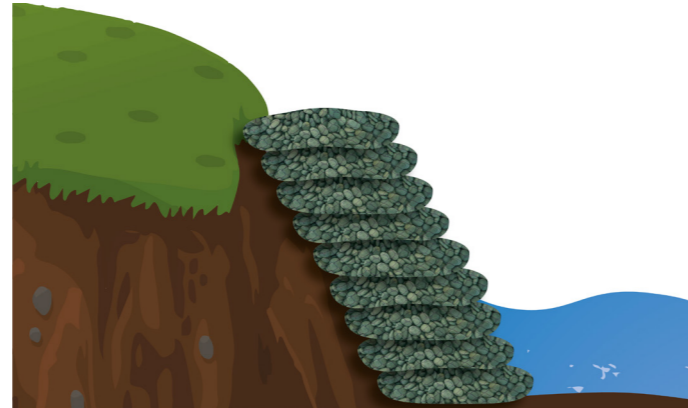
AquaRockBag® is not intended for use in high seas, in particular for protection and securing of submarine cables, pipelines or offshore wind turbines.



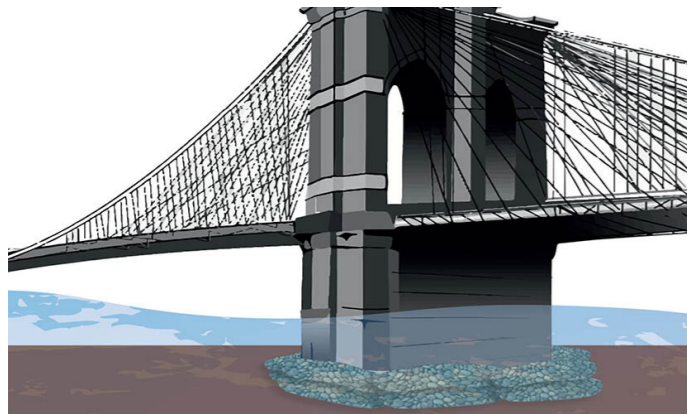
Areas of Application



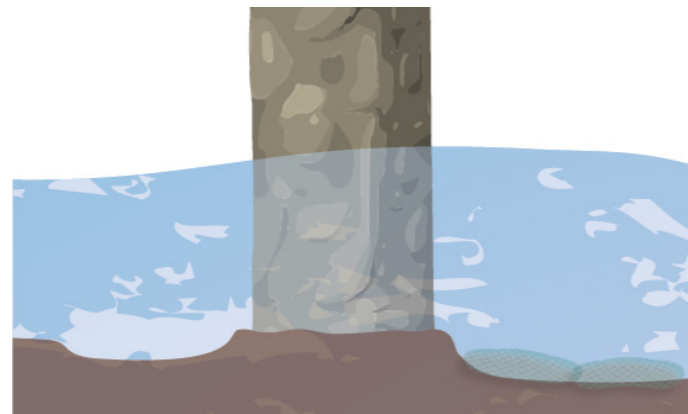
Bank Erosion Revetments



Bank Erosion Revetments



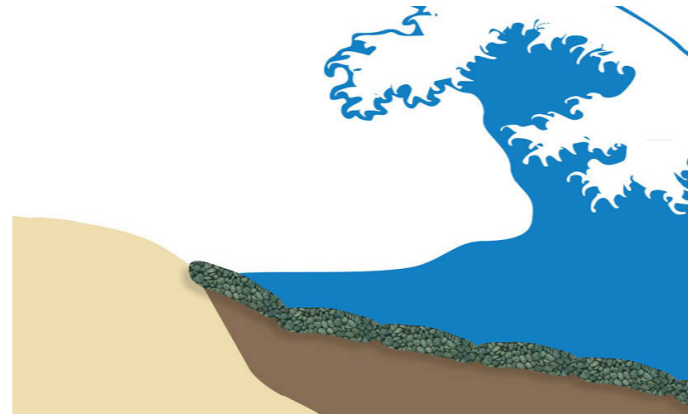
Scour Protection Around Bridges



Scour Protection Around Other Structures



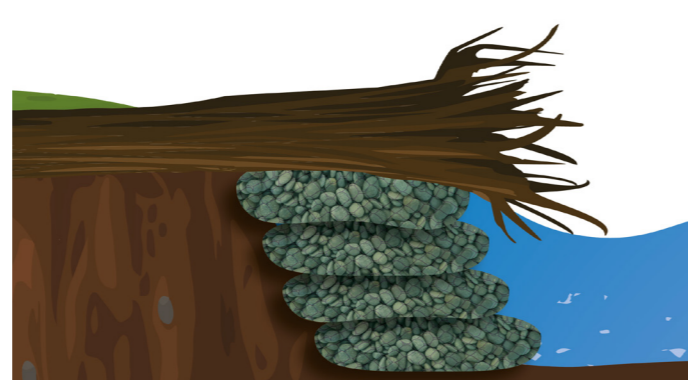
Protection of Bank Structures



Coastal Defence and Artificial Reefs



Temporary Works Solutions



Bioengineering Solutions

Filling

AquaRockBag® is typically filled at job site using a portable filling frame and machinery (e.g. excavator). The process is very quick and requires basic staff training only. For a visual in-depth „Filling Guide“ please refer to www.aquarockbag.eu.

Additional info:

- White marker rope indicates the filling level and is not to be exceeded.
- Each AquaRockBag® comes with a lifting eye and all ties.



Installation

AquaRockBag® is easy to transport around site and is positioned using an excavator (or crane) and a quick hitch that is fixed to the lifting eye. For an even more precise positioning GPS can be used, e.g. when installing AquaRockBag® in deeper water. For a visualisation please refer to our installation video on www.aquarockbag.eu.



Benefits

Filling & Installation Benefits

The AquaRockBag® filling and installation process is quick, safe and easy which results in big savings on labour costs.

- Onshore filling with a purpose-built frame and machinery (e.g. excavator) that use small rocks often available at job site. Smaller stone grading provides good structural interlock needed to provide a robust revetment.
- The same machinery can be used for precise installation of AquaRockBag® via quick hitch and lifting eye without the need of workers being in the water.
- Flexible nature of the filled AquaRockBag® eliminates need for ground preparation (to a large extent).



Benefits

Ecological Benefits

Harder revetments re-/ deflect water energy, thus pushing erosion and scour problems downstream. On the contrary, the high interstitial spaces between the small rocks inside the AquaRockBag®:

- Absorb water energy → slowing currents in erosion-prone areas
- Build up sediments that create an underwater artificial reef → creating habitat for benthic invertebrates and aquatic vegetation

AquaRockBag® has been used as a direct alternative to traditional harder revetments in deeper scour applications, allowing softer and greener soil bioengineering to be used at and above average water level.

- The bags can be vegetated over relatively short time scales.
- Natural processes are retained and negative impacts on the river bed and banks are greatly reduced.



