

## Riverbank protection Oude IJssel

Doetinchem, Netherlands

The banks of the river “Oude IJssel” were severely damaged by erosion. To provide the river with green banks and protect them permanently against erosion, the water authorities “Rijn en IJssel” chose for the installation of Enkammat A20.



Project owner  
Water authorities “Rijn en IJssel”

Product  
Enkammat® A20

Function  
Erosion protection

Contractor  
Tezebo

### Challenge

The “Oude IJssel” flows from Germany to the river IJssel in the Netherlands. It is a quiet and relatively small river that mainly drains collected rainwater from Germany. It is navigated by both recreational and commercial vessels.

At Doetinchem, where the water flows at fairly constant levels, the banks of the “Oude IJssel” were severely affected by erosion.

The water authorities “Rijn en IJssel” decided to address the issue and proposed to execute repair works.

### Solution

- Installation of Enkammat A20.
- Application of berms.

To provide the river with green banks and protect them permanently against erosion, the choice was made to install Enkammat A20.

This choice was partly based on good experiences already gained by the water authorities in previous projects that included Enkammat A20.



Installation in September



Easily cut to size



Situation after installation



Situation in Summer the year after



Well vegetated bank within two years time

Prior to the installation of Enkamamat A20, the banks of the "Oude IJssel" were re-profiled and provided with a kind of water-side puddle. Apart from the grass seeds, also reed-rhizomes were spread in the puddle to create a fine reeds vegetation.

### Benefits of the solution

Enkamamat A20 is a three-dimensional matting, pre-filled with chippings. The structure of the mat is just open enough to generate good and fast growth of vegetation. It therefore blends in the surroundings in a short period of time. The weight of the stone chippings fill contains the underlying soil, and thus ensures - together with the root system - a beneficent vegetation growth.

### Installation benefits

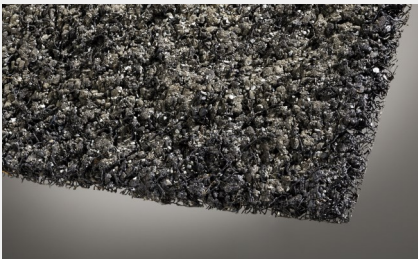
After having leveled and profiled the bank, long lengths of bank can be installed per day because of the 4.8 m wide rolls. The only equipment needed is a crane. A ditcher will accompany the installation.

A spreader bar is delivered for fast and easy un-rolling of the mat.

### Result

With the aid of Enkamamat A20, a permanent, maintenance-free bank protection, without being disruptive for the environment, was established.

### Products used



#### Enkamamat<sup>®</sup> A20

Three dimensional matting, pre-filled with 2-5 mm chippings, bound with bitumen