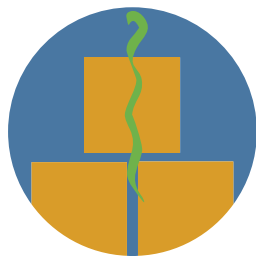


Issued in August 2006

FERRONDO®

GRANDE

the large round version for natural protection



FERRONDO
natural barrier systems

The FERRONDO® - Innovation

clever – dynamic – high quality



By having a unique profile, FERRONDO® GRANDE unites noise control and design. The round shape enables a huge variety of arrangements. The walls can be built according to taste and purpose, creating either a column-like look or the look of a composite construction arranged in a staggered manner. If filled with a soil or concrete core additionally, a highly absorbent and yet natural barrier against sound is created by means of the joining

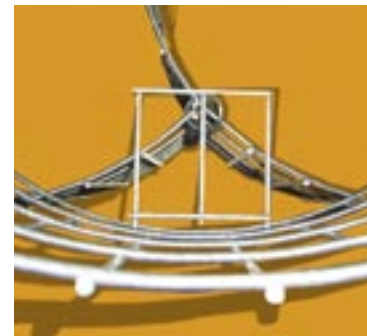
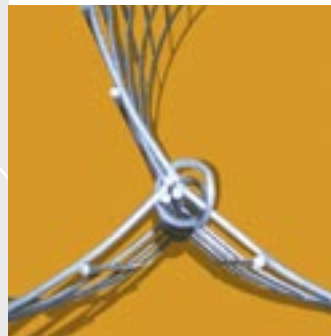
technique of the baskets. As the visible surfaces are made of crushed natural stone, the system adapts to the environment harmoniously. The combination of different materials – stone at the outside and soil within – adds the option of intensive planting. In addition to the positive time and cost factor FERRONDO® does not only offer an extremely effective barrier system, but it also offers a visual advantage for the residents.

The patented FERRONDO® round basket system is permitted by Deutsche Bahn AG for sound barriers along high-speed railway lines in Germany.



The FERRONDO® - System

flexible – creative – original



The joining technique of FERRONDO® GRANDE is just as simple as it is ingenious. The wire baskets enable easy transportation and can be assembled easily, quickly and safely. Further shape and content is up to your choice.

The FERRONDO® - Noise Control

highly absorbent – economically efficient – effective

Newly built ICE railway line Nuremberg-Ingolstadt: The wall, which is highly absorbent from both sides, consists of round gabions, which completely fulfil the requirements for highly absorbent sound barriers along railway lines, in accordance with the guideline 800.2001 of DB AG. The FERRONDO® round basket system is supplied to the construction site on pallets. It is assembled quickly on site without additional machines.



Quick assembly of the noise barrier along the newly built ICE railway line Nuremberg-Ingolstadt

Filling is carried out with usual excavators or loaders. Special machines are not required. In most cases assembly can be carried out without interfering in train services.

One main advantage of the system is its economic efficiency. As the round shape in itself is structurally stable

without any additional stabilization or tie-rods, the individual layers of the round basket system do not need any cover or bottom grids. Via the height of the wall this innovative design and content of the round baskets creates a completely homogeneous work of construction.



Few components – great effect

Highly absorbent noise barrier in Langenselbold: The visible surfaces of this FERRONDO® - noise barrier were filled with local natural stone. The core is made of concrete and corresponding absorber materials, which achieve highest values when it comes to barring and absorbing sound.



The mix of different contents results in a visually attractive wall, which meets the highest requirements



Quality requirements are met in every respect: the material corresponds to the newest state of the art. Thus, it has a life cycle of 30 years and more.

In this project the decision was made in favour of a mix of different natural stones combined with soil-filled baskets that allow planting. An included watering system guarantees a long plant life.



The FERRONDO® - Projects

decorative – economically effective – natural



Aiming high with FERRONDO® GRANDE



Embankment stabilization in Reichenschwand: FERRONDO® adapts to any kind of terrain

Partial view of the noise barrier Langenselbold: The mix of materials creates the visual plus (right)



FERRONDO® round baskets as an harmonious combination with baroque architecture (below)

Balanced landscaping with FERRONDO® Grande (below and right)





Slope stabilization filled with natural stone



FERRONDO® means visually connecting nature and technology

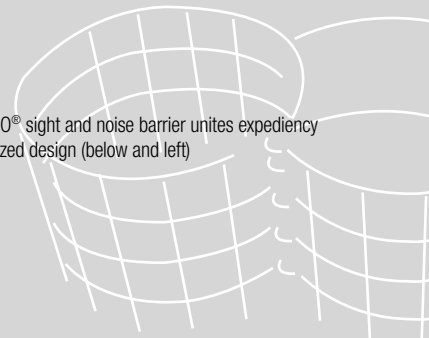


Natural sight barriers consisting of FERRONDO® GRANDE



The FERRONDO® slope stabilization (here in inclined arrangement) adapts to the environment harmoniously (left)

The FERRONDO® sight and noise barrier unites expediency and individualized design (below and left)



Embankment stabilization along a Federal route (below)



The FERRONDO® - Embankment Stabilization

massive – homogeneous – safe



Stabilization of an embankment (height 11 metres) in the direct neighbourhood of a shopping centre in Pegnitz/Bavaria



The lower layers are partially filled with concrete.

A newly developed version of the FERRONDO® round basket system also enables highly efficient embankment stabilization that could only be carried out by means of visually unattractive concrete walls until recently.

The inner chambers of the lower layers were filled with reinforced concrete for structural reasons, but the outer chambers were filled with crushed natural stone for the typical FERRONDO® look. No concrete filling for structural reasons is required in the baskets of the upper layers. The FERRONDO® system does not need any formwork and the baskets can be filled by machines. The stones need not be hand-stacked, because FERRONDO® does not need any tie-rods, owing to its self-stabilizing round shape. It is for these outstanding properties that such measures are possible in short periods of time and do have a unique visual effect.

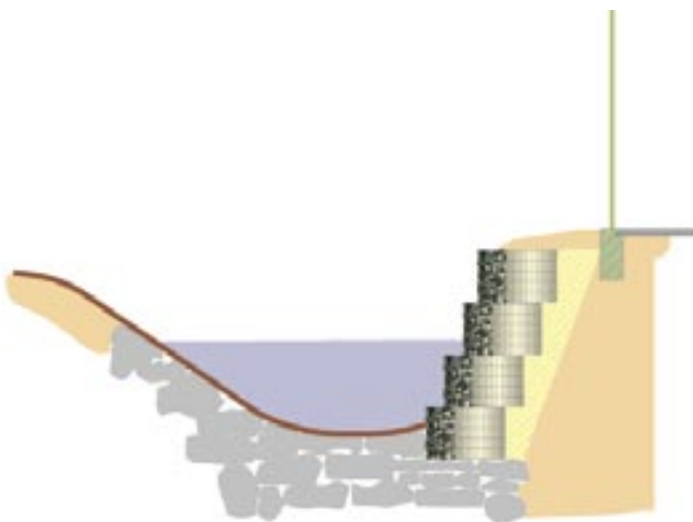


Stabilization wall (height 14 metres) under construction at a company site in Laaber/Bavaria

Depending on the structural requirements, a FERRONDO® embankment stabilization can also be filled with soil for planting.

Die FERRONDO® - Bank Stabilization

ecological – effective – adaptable



Construction example as two-chamber system – cross sectional view

Furthermore, FERRONDO® GRANDE is the ideal solution for stabilizing banks of watercourses. The content can be varied: Soil for intensive planting, crushed natural stone in the typical FERRONDO® - look, or as a material mix in a two-chamber system. The system is of a long lasting nature and meets all wishes and requirements.

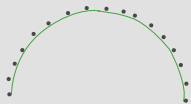
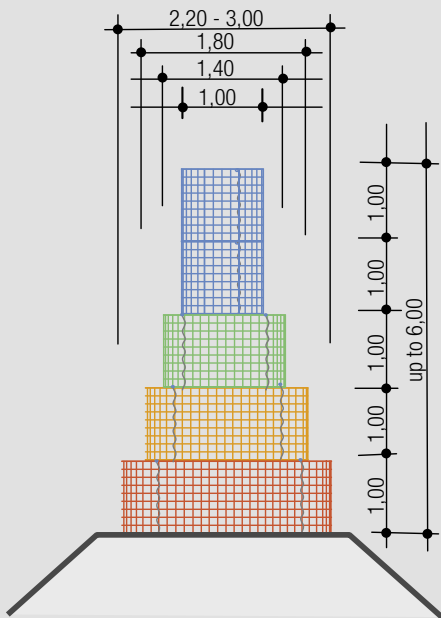


Construction example – top view

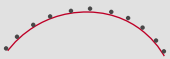
The FERRONDO® - Technique

ingenious – innovative – uncomplicated

Construction



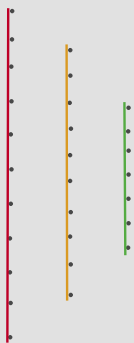
Basic element:
semi-circle for round
baskets



Intermediate part for
round baskets, upper
part for broad baskets



Joining spiral



Intermediate matting
for broadening of
baskets



Bottom grid

Technical Data

Round wire basket

Diameter/height

Aluminum-tin coated

Wire diameter

Mesh width

Rated strength of wire

Electroplated wire, spot-welded

1,025/1,005 m; 1,025/0,505 m

layer thickness 350 g/m² in compliance
with DIN 50021-SS

4.5 and 5.0 mm

5/10 and 10/10 cm

450 N/mm²

Lined with coconut fibre matting having a needle-type, UV-stabilized fleece at the inner side, in case of being filled with soil.

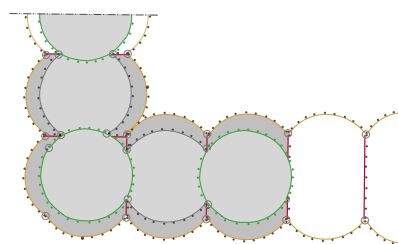
The width of the base can be varied according to the structural requirements in dependence on the height. In case of good bearing, normal soil, the foundation has to meet minimum requirements.

Economic efficiency

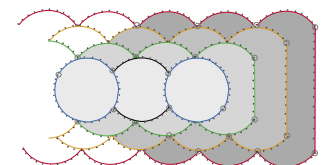
Contrary to angular baskets, FERRONDO® round baskets do not need stabilization, owing to their structural system. This enables quick and uncomplicated filling, resulting in low production costs



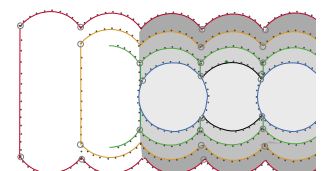
Possibilities



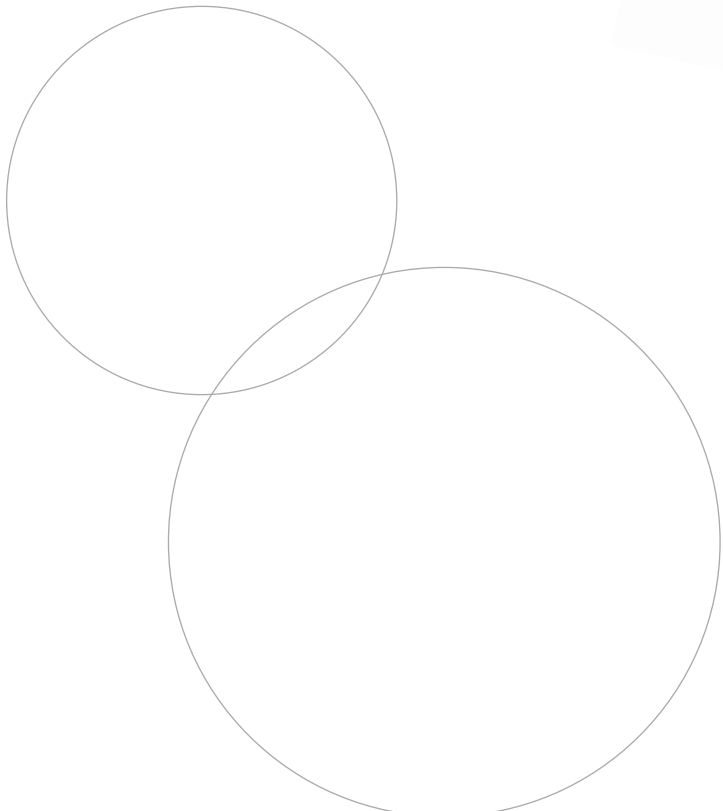
Arranging Corners



Staggered Arrangement



Column-like Arrangement



FERRONDO

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