

REDUCTION OF TOTAL COST OF OWNERSHIP



LESS MATERIAL

Less steel and stone mean savings!



QUICKER INSTALLATION

Optimised solutions and material reduction mean easier and faster installation



GREENER RESULTS

Less emissions and better integration into the natural mean less environmental burden

ENHANCED THE BIODIVERSITY

Our solutions create a natural habitat for living species, enhancing biodiversity through the protection of the *benthos*. The interstitial between the stobes offer an habitat for species that live in the transition zone between water and land.

Before



After



ENVIROMENTALLY AND DIGITALLY CERTIFIED SOLUTIONS



We provide reliable and comparable information on the environmental impacts of the product life cycle

maccaferri.com/EPD



Our products are also available as certified BIM Model. BIM system reduces design time and cost and facilitates cooperation between project stakeholders

maccaferri.com/BIM

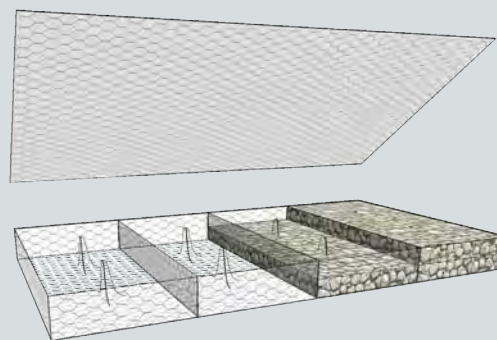
©Maccaferri - 2021

Officine Maccaferri S.p.A.
Via J.F. Kennedy, 10
40069 Zola Predosa (Bologna) - Italy
T: + (39) 051 643 6000
E: info@hq.maccaferri.com

maccaferri.com



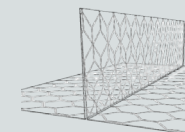
Reno Mattress Plus



The **PoliMac®** coating gives outstanding protection against mechanical loads and chemical aggressions.



X-Tie is the experimentally developed and patented tie to maximise the structural resistance of the mattress.



Vertical standing **Double Diaphragm** make filling operation easier.



Reno Mattress Plus
with X-Ties



maccaferri.com/design-the-change

MACCAFERRI



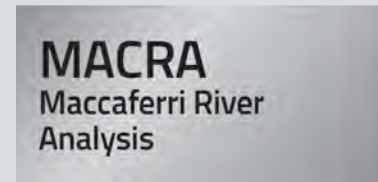
For over 140 years, we have developed solutions that enhance river ecosystem resilience including the social ability to recover quickly from catastrophic events (flood, natural disasters). Projects carried out over the years highlighted to us the importance of **Shear Stress** as main design parameter for hydraulic structures that aim at preventing water induced erosion.

		SHEAR STRESS (N/m ²)			
		0 - 200	200 - 400	400 - 600	600 - 800
INSTALLATION CONDITION	Dry Installation	<p>RENO MATTRESS PLUS 17</p>	<p>RENO MATTRESS PLUS 23</p>	<p>RENO MATTRESS PLUS 30</p>	<p>GABION 50</p>
	Underwater Installation	<p>RENOMAC PLUS 23</p>	<p>RENOMAC PLUS 30</p>	<p>RENOMAC PLUS 30</p>	<p>EASY LIFT GABION 50</p>

What does Shear Stress mean?
 Shear stress is the force of moving water against the bed of the channel that causes erosion.



Reno mattress Plus with X-Ties is the result of 3-yr long R&D campaign that aimed at finding out a more effective solution to protect river banks from erosion. The physical test campaign was conducted by Maccaferri Innovation Center in collaboration with Colorado State University.



NOTE: This document gives a brief introduction to the use of Maccaferri Lining Portfolio. Kindly notice that the solution to be implemented in a project should be always selected according to the specific needs and conditions at the site.

Download **MACRA** software to design environmentally sound bank protection