

Cost-efficient, safe and durable reinforcement for septic tanks

Dramix® Green: galvanized steel fibres for concrete reinforcement

Manufacturing quality products should not compromise your productivity. This is also true for precast concrete septic tanks. All over the world, septic tank manufacturers are using Bekaert's Dramix® Green steel fibres for concrete reinforcement to make certain they can offer their customers a **durable end product**.

Dramix® Green allows you to combine quality and productivity. Concrete mixed with Dramix® Green results in **smaller cracks** and **better water-tightness**. In addition, with Dramix® Green steel fibres, precast constructors can be **more productive**, as traditional mesh reinforcement is no longer needed.



Romain Vromant
General manager
N.V. Vromant R. & E.
Belgium

Saving time, saving money

“Dramix® Green is a real time and money saver. We can work faster, with less steel, and comply with the highest quality standards.”

Although we can **work faster** with Dramix® Green steel fibres, it does not take away from the solution's high quality and strength. Thanks to the homogeneous Dramix® Green mix, the reinforcement is spread uniformly across the entire end product. We are liable for a **10-year lifetime** of our products, but we could easily exceed this, because up to now we have never experienced any problem. Even today, we still are experimenting to further **increase our productivity** with Dramix® Green steel fibres.

Dramix® Green is also very cost-efficient, because there is no need for mesh or spacers. We also need less room to store our reinforcement steel and we have less waste to consider. As a result, we have more space for our end product.

When I tell my customers I use Dramix® Green, they know I have given them a quality solution. So, when I can guarantee them high quality with less labour and smaller amounts of steel, I reckon that a win-win situation.



Standardized product needs a standardized reinforcement

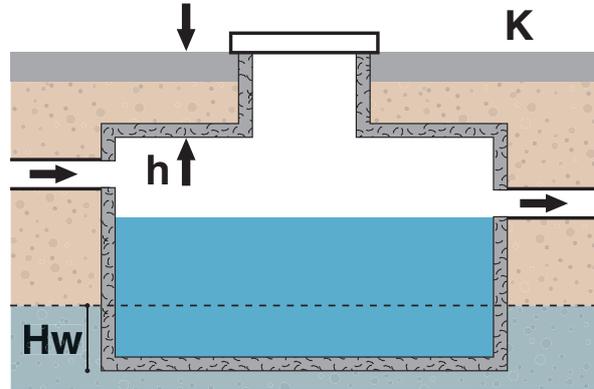
European Standard EN 12566 - Small wastewater treatment systems for up to 50 PT

This European Standard specifies the functional requirements, process performance, testing, marking and quality control requirements for small wastewater treatment systems.

For the determination of loads, the following parameters shall be used:

Key:

- H_w** = Height of exterior water level (groundwater)
- K** = Coefficient of internal angle of friction of different types of soil;
- h** = Depth of the backfill from the top of the tank to ground level.



Free design offer by Bekaert

A precast element is in most cases a 3 dimensional load bearing structure. Several methods are available to calculate the section forces. Section forces or stresses can be derived by simplified methods 2D or more sophisticated FEM 3D and will be decisive in terms of reaching a feasible and economical solution with Dramix® SFRC.

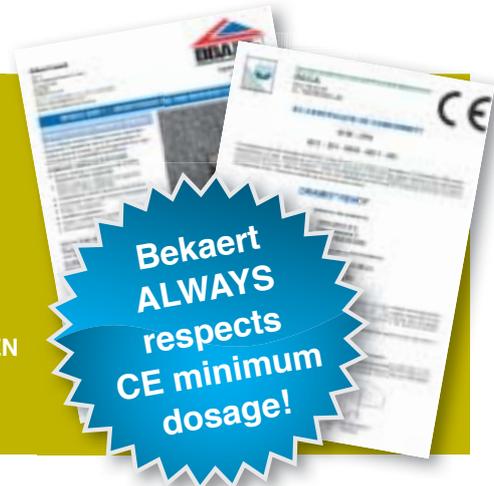


cylinder	litres	diameter		height	thickness
	2000	180		125	4
	3000	220		110	5
	4000				5
	5000	220		165	6
	6000	220		250	6
	10400	250		262	6
rectangular		length	width	height	thickness
	3000	290	125	130	3
	4000	300	125	155	3
	5000	300	125	210	4
	6000	300	240	140	5
octagonal		length	width	height	thickness
	3000	240	120	155	3
	4000	240	155	135	3
	5000	245	160	190	4
	6000	300	240	140	6
	8000	300	240	175	6
	10000	300	240	225	10
	13000	300	240	270	10
	15000	350	250	240	10
	20000	400	245	280	12
	25000	500	250	270	14

Synmix® or Duomix®
 Dramix® Green
 Dramix® Green + rebars

PERFORMANCES CRITERIA

- The **European Standard EN 14889-1** mentions the different ways of specifying the ductility of SFRC in term of residual strength and energy absorption capacity. The residual strength can be prescribed when the concrete characteristics are used in a structural design model.
- The **Dramix® Green** fibres comply with the **European standard EN 14889-1** and **CE Label marking (level 1 for structural reinforcement)**.





Prof. Dr. Eng. R. Breitenbücher
Ruhr-Universität Bochum
Institute for Building Materials
Germany



A unique concept for lasting quality

“The pull-out force of galvanized steel fibres with inhibitor is around 10% higher than without inhibitor.”

Dramix® Green fibres offer the **highest durability** and are therefore the product series of choice to create long lasting solutions and **rust-free, aesthetical surfaces**. Dramix® Green fibres are galvanized and therefore prevent rust staining on the concrete surface. Bekaert have also added a **unique inhibitor** to the Dramix® Green composition, in order to prevent the formation of gas, which typically occurs when galvanized steel comes into contact with fresh concrete.

Researchers around the world have applauded this unique concept, one of whom is Prof. Dr. Eng. R. Breitenbücher of the Ruhr-Universität Bochum Institute for Building Materials.

“As revealed in extensive tests, galvanized steel fibres without the Dramix® Green inhibitor reveal significantly lower flexural strengths, which leads to lower performance,” he comments. “In contrast, the pull-out force of galvanized steel fibres with inhibitor is around 10% higher than without inhibitor. This proves the effectiveness of the inhibitor in preventing the typical reaction of zinc mixed with fresh concrete.”

Tailor-made design service

“Bekaert’s design services are our quality assurance, and a guarantee that our products are in accordance with local and international standards.”

“Bekaert offered us an extensive design report that took into account several environmental conditions,” comments Eng Calogero Grosso, Technical Manager at Bianco Prefabbricati Srl. “This was very important to us, because it helped us to receive the **green light from the Italian government** for our construction works.”

“We value Bekaert’s galvanized fibres because they effectively prevent the formation of rust spots. But probably equally important to us is the **safer site environment** for our personnel. With Dramix® Green fibres, our workers don’t have to handle steel meshes any more or perform risky cutting or welding jobs.”

“Bekaert technical support is invaluable for us. The Bekaert people really take time to listen to us so they can understand our specific requirements. As an example, we asked Bekaert to help us with a **very specific design offer** for a 26,000 liter tank. The Bekaert design report included very helpful dosing requirements and various stress simulations.”



Eng Calogero Grosso
Technical Manager Bianco
Prefabbricati Srl.
Italy





Dramix® TANKER

Push your productivity to another level!

- ✓ Precise dosing of the Dramix® steel fibres
- ✓ Increased productivity
- ✓ Increases the occupational safety
- ✓ Bulk deliveries up to 1100kg
- ✓ Dramix® TANKER 1100: removable tray
- ✓ Dramix® TANKER 1500: dosing speed of 150kg/min

Other possibilities with Dramix® Green



The next success story can be yours!

If you want to find out how these high quality fibres can work for you too, we will be happy to advise. Please contact your local Bekaert specialist.



NV Bekaert SA
Building Products
 Bekaertstraat 2
 BE-8550 Zwevegem
 Belgium
 T +32 56 76 61 10
 F +32 56 76 79 47
 infobuilding@bekaert.com

www.bekaert.com/building