

Steel fibre concrete reinforcement for economical and safe composite slab systems

Mesh-free but steel reinforced!

Dramix® steel fibre concrete reinforcement is a successful alternative to traditional mesh reinforcement. In composite slab construction, Dramix® steel fibres offer a low-risk and cost-effective way to enhance the design capacity of composite deck floors. Dramix® steel fibres make the composite deck strong, durable and moreover avoid crack formation.

Still quoting for mesh? Think again!

The solution: reinforce economically with Dramix® steel fibres.

- **Time-saving:** skip the mesh placing process and shorten your construction time. Dramix® steel fibres are very easy to mix and pump.
- **Safe & safety:** replace steel by steel. With 40 years of experience, steel fibre reinforcement is the proven solution for long term reinforcement. Moreover, working with Dramix®, allows you to keep a real steel reinforcement, and work in a safer environment on the job site!
- **Cost-effective:** by applying very narrow tolerances, Bekaert is able to design in a much more economical way. Without compromising on quality, Dramix® enables to use the lowest steel fibre dosages.



Yes!

- ✓ It is as good as mesh to avoid crack formation.
- ✓ You can get a structural design developed by the Steel Construction Institute.
- ✓ We deliver fire rating approvals.
- ✓ No problem to pump, even 200 meter high.
- ✓ Easy to pour and perfect to finish.

Benefit from our total design and execution management

1. Replace steel by steel

- a. Use a high Young's modulus material to strengthen the concrete, at least 5 times the concrete Young's modulus (E-mod steel = 200 GPa; E-mod concrete = +/- 20 GPa).
- b. Long fibres to increase the possibility that crack meets the fibre (bridging effect).
- c. Avoid increasing crack-width, thanks to high creep control.
- d. The tensile strength of steel fibres (1000 Mpa) = 2 times the tensile strength of rebar or mesh (500 Mpa).

2. Defining the minimum total fibre length for optimum crack control

The minimum network effect should result in a crack controlling process and consequently in a redistribution of the loads through the crack-bridging steel. For composite metal decks, a minimum total steel fibre length of 5000 meter/m³ is required.

Examples

Type	L (mm)	D (mm)	# fibres/kg	Dosage kg/m ³	Total Wire length meter/m ³
RL-45/50-BN	50	1.05	2.800	40	5.600
RC-80/60-BN	60	0.75	4.600	20	5.520

3. Design the required total deck system

Together with our partner Kingspan, and the Steel Construction Institute, we offer easy to use load span tables or designs tailored to your projects.



Load span tables

4. Deliver the required fire resistance



5. Deliver the required execution details with a full support on site

We do not just deliver products and designs. Benefit from our expertise in concrete composition tailored for your project and make use of our standard solutions for all detailed reinforcement.

The fastest and easiest way for a steel reinforced composite slab



1 A safe and optimal design made and signed off by Bekaert and Kingspan



2 Together with your concrete professional we deliver a "pre-reinforced concrete"



3 A homogeneously mixed Dramix® concrete is delivered on the jobsite



4 No problem to pump, even 200 meters high



5 Easy to float. No fibres at the surface.



6 Perfect to finish. Time saving and efficient.

How can we help you?



**Contact your local Bekaert sales office
via www.bekaert.com/building**

- Benefit from our load span tables
- Benefit from our design tools
- Make use of our handling, dosing and mixing guidelines

**Join our Dramix® club.
Sign up now via www.bekaert.com/building**

As a member of Bekaert's online Dramix® club, you will be kept up to date on a regular basis of all Dramix® related news and knowledge.

So make sure to sign up now and you will get free access to:

- our extensive library of execution drawings
- free design software tools
- and much more...

Dramix® also offers quality solutions for your...

- Saw cut industrial floors
- Jointless floors
- Pile supported floors
- Seamless floors
- Fluid tight floors
- Rafts and clad racks
- Heavy duty pavements
- Footings
- Compression layers
- Tunnel projects

Ask your Bekaert contact for specialised information

© 2009 Bekaert



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

Bekaert Limited Gateway Business Centre

Unit 7, 5 Leeds Road
Sheffield S93TY
England
T +44 1142 427 485
F +44 1142 427 490

building.uk@bekaert.com
www.bekaert.com/building