DURUS® EasyFinish

Synthetic macro fibres

The solution for floors and concrete toppings:
concrete and reinforcement in one

ADFIL
Construction Fibres

Reinforced concrete reinvented

Durus® EasyFinish
Synthetic macro fibre

The solution for floors and concrete toppings: concrete and reinforcement in one

The performance of the reinforcement applied is key to the durability of interior floors and pavements as well as concrete toppings. It controls shrinkage cracks and increases the impact and abrasion resistance of the finished concrete surface. In most designs Durus EasyFinish macro fibres can replace steel mesh reinforcement. This saves costs, enables faster construction and makes for improved safety.

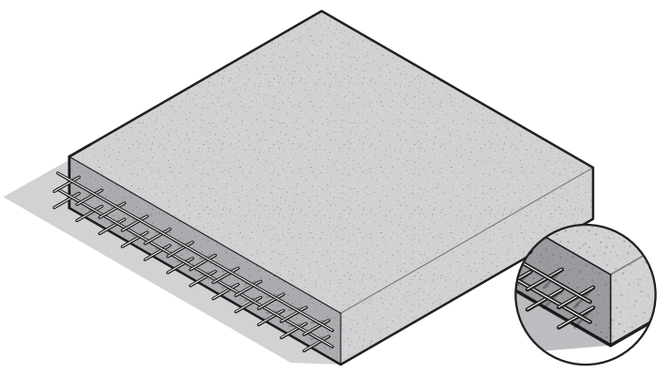
Reinforced concrete floors

Fig. 1 / **Calculation example with concrete class C35/45 (EE4), 200 mm thick**

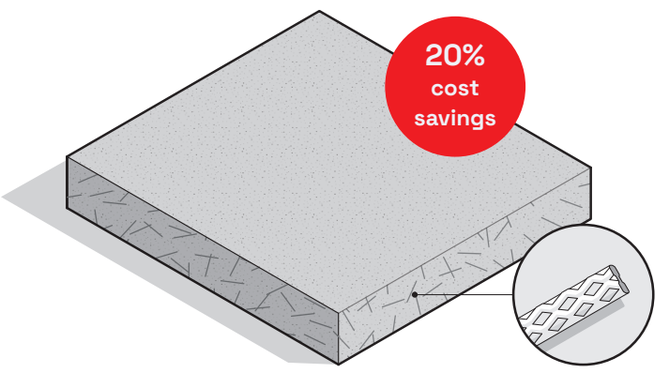
Steel reinforcement		**Price**
Concrete		17 €/m²
Reinforcement	Upper steel mesh 150/150/8/8 mm	4,6 €/m²
	Under steel mesh 150/150/8/8 mm	4,6 €/m²
	Installation, waste	2,6 €/m²
Total reinforcement cost		11,8 €/m²
Total price/m²		**28,8 €/m²**

Durus EasyFinish		**Price**
Concrete		17 €/m²
Reinforcement	Durus EasyFinish 4 kg/m³	6,5 €/m²
Total reinforcement cost		6,5 €/m²
Total price/m²		**23,5 €/m²**

Concrete + Double steel mesh



Concrete + EasyFinish (200mm)



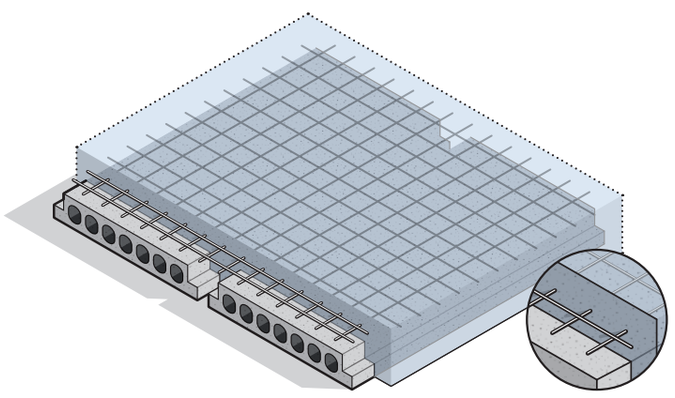
Reinforced concrete toppings

Fig. 2 / **Calculation example with concrete class C25/30, 50 mm thick**

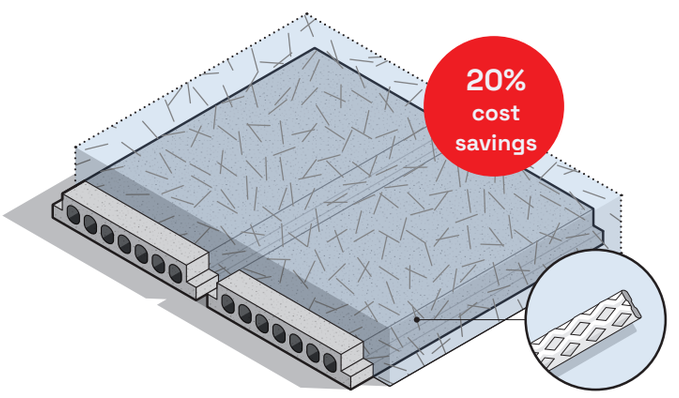
Steel reinforcement		**Price**
Concrete		4,2 €/m²
Reinforcement	Staalnet 150/150/5/5 mm	1,8 €/m²
	Insallatiekosten, afval	0,8 €/m²
Total price/m²		**6,8 €/m²**

Durus EasyFinish		**Price**
Concrete		4,2 €/m²
Reinforcement	Durus EasyFinish 3 kg/m³	1,2 €/m²
Total price/m²		**5,4 €/m²**

Pre-stressed layers + 1 Steel mesh



Pre-stressed layers + EasyFinish



Three-dimensional reinforcement

More and more contractors and designers prefer synthetic fibres over conventional steel mesh reinforcement. They not only deliver major advantages at the design stage of a project and during construction. Three-dimensional rust and corrosion-free synthetic fibre reinforcement also makes for a longer service life of the finished concrete structure.

Certified technology

Durus EasyFinish synthetic macro fibres have obtained BBA and KIWA approval via BBA third party testing for beam & block floors. Leading floor system companies have Durus EasyFinish on their certificates.Additional national certificates include the Belgian ATG and SECO Attest certificates endorsing the product's processability and homogeneous distribution throughout the full volume of concrete mixes.

Cost efficient

Durus EasyFinish delivers cost savings on material and working hours. In most cases no more than 3 kg/m3 are needed in the concrete (see figures 1 and 2).

Safe & ergonomic

Durus EasyFinish is a safe reinforcement solution, no matter whether the product is added at the concrete plant or on site. Unlike with steel fibres, the use of this flexible synthetic product avoids cuts during dosing. With Durus EasyFinish fibres protruding from the concrete after curing are a thing of the past. And there are no more trips, falls or cuts resulting from the handling and placement of steel mesh.

Environmentally sustainable

Polymer fibres are one of the most sustainable concrete reinforcement currently (see figure 3). Durus EasyFinish not only controls the concrete's post-crack behaviour. It also is a proven solution to plastic shrinkage cracking. Significantly more efficient than steel fibres or mesh.

Proven performance

Testing according to ASTM C1579-13 has shown that only 3 kg/m³ of Durus EasyFinish reduce plastic shrinkage by at least 65 %. The residual flexural strength has been evaluated at the WTCB (see figure 4). In addition to independent laboratories, actual and prospective clients can have Durus EasyFinish tested in their specific concrete mix at our in-house Adfil concrete laboratory.

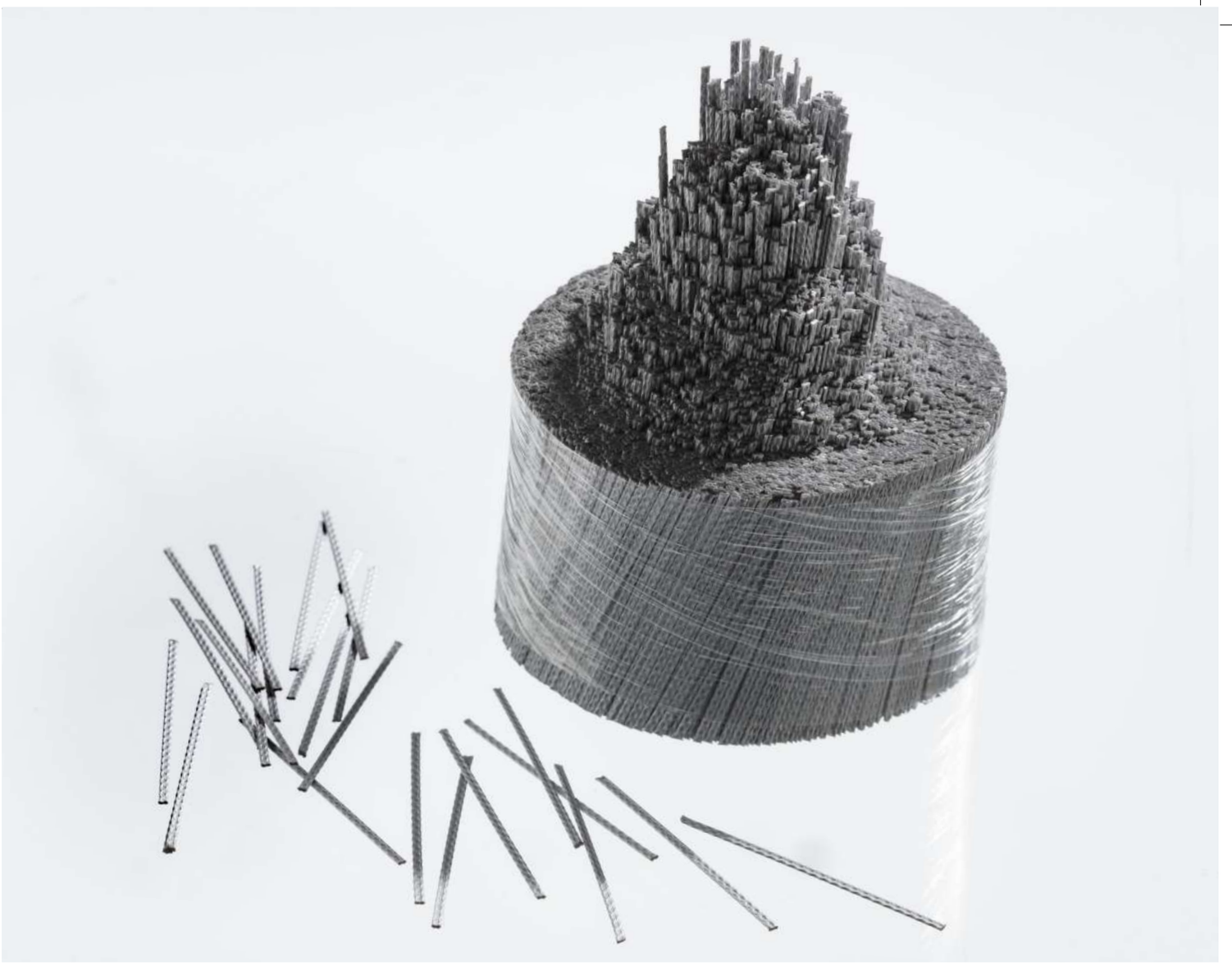
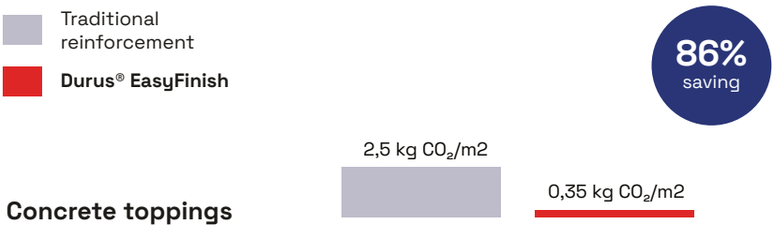


Fig. 3 / **CO2 equivalent for reinforced concrete**



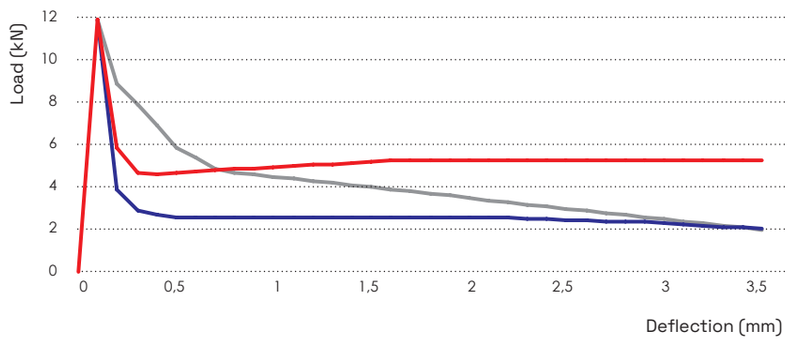
Traditional design

C30/37 - 6/6/150/150 - 6 cm thickness
3,5 x 0,7 = **2,5 kg CO_2e/m2**

Durus® EasyFinish

C30/37 - 3 kg Durus® EasyFinish - 6 cm
0,18 kg/m2x 1,95 = **0,35 kg CO_2e/m2**

Fig. 4 / **Three-point flexural bending test according to EN 14651**



- **Durus EasyFinish (3 kg)**
- Conventional fibre (3 kg)
- Steel fibre (20 kg)

Finishing

The processability of Durus EasyFinish has been tested in different applications and concrete mix designs for flooring. The dosages shown below have been calculated according to TR 34 4th edition 2013, at a subgrade reaction modulus of k = 40 MN/m³ and under a typical load. Our concrete technologists are at your disposal to calculate the ideal dosage for your specific project. If and as required, professional indemnity insurance can be offered on designs done
by our qualified consultant engineers.

For more information contact us at info@adfil.com

Dosing

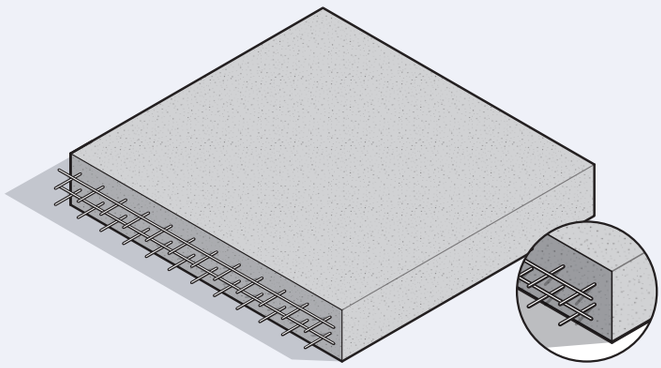
Fig. 5 / **Example of dosing**

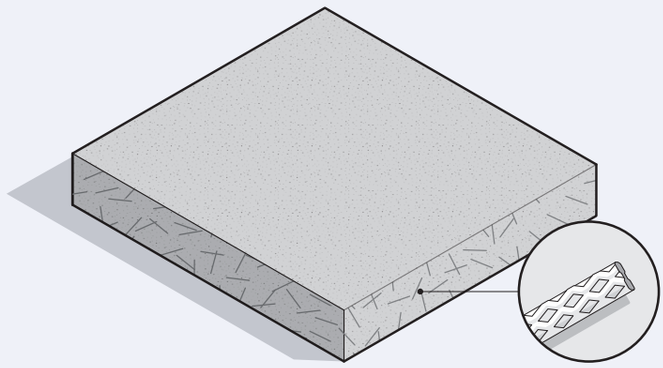
Steel reinforcement

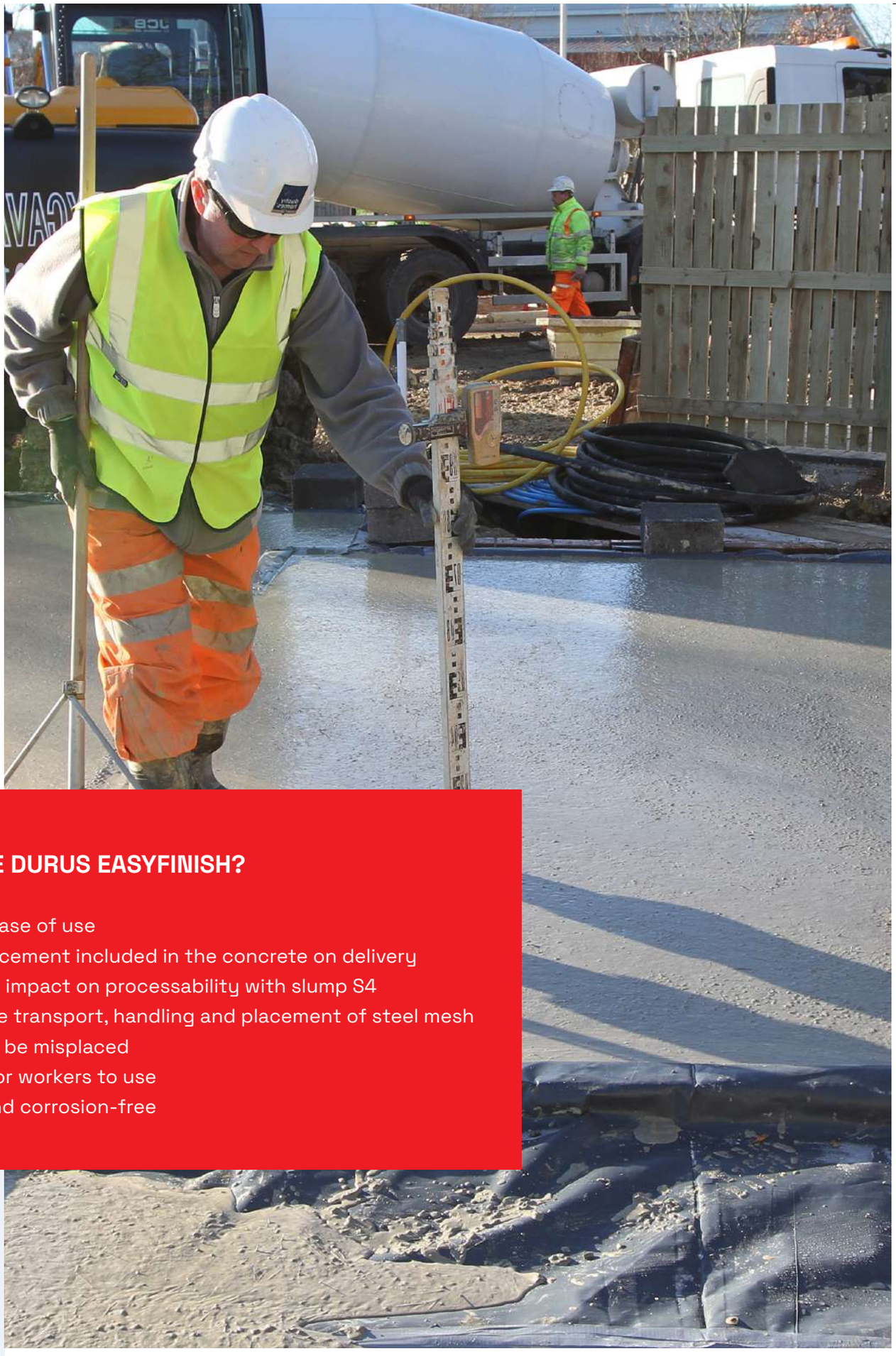
	Reinforcing	
150 mm C25/30	Upper steel mesh	150/150/6/6 mm
150 mm C25/30	Upper steel mesh	150/150/8/8 mm
150 mm C35/45	Upper & lower steel mesh	2 x 150/8 mm
200 mm C35/45	Upper & lower steel mesh	2 x 150/8 mm

Durus EasyFinish

Concrete	Reinforcing
150 mm C25/30	3 kg
150 mm C25/30	3 kg
150 mm C35/45	4 kg
200 mm C35/45	4 kg







WHY USE DURUS EASYFINISH?

- Great ease of use
- Reinforcement included in the concrete on delivery
- Limited impact on processability with slump S4
- No more transport, handling and placement of steel mesh
- Cannot be misplaced
- Safer for workers to use
- Rust and corrosion-free

Left: Measuring plastic shrinkage cracks by digital microscope

Right: Concrete topping built with Durus EasyFinish concrete reinforcement

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