

Specification for SYNTEC/ Durus S300



General

Syntec/Durus S300 is a macro synthetic fibre for concrete reinforcement. The product is embossed along its length and is rectangular in shape. This fibre is available in lengths from 45 mm to 55m.

Coatings

- No coatings are used in the production of the Syntec/Durus S300.

Raw Material

- Polypropylene with a density of 910 Kg /m³.

Tape around the fibres

- The fibres are delivered in pucks and the tape holding the pucks together is made of cold water soluble PVA.

Fibre properties

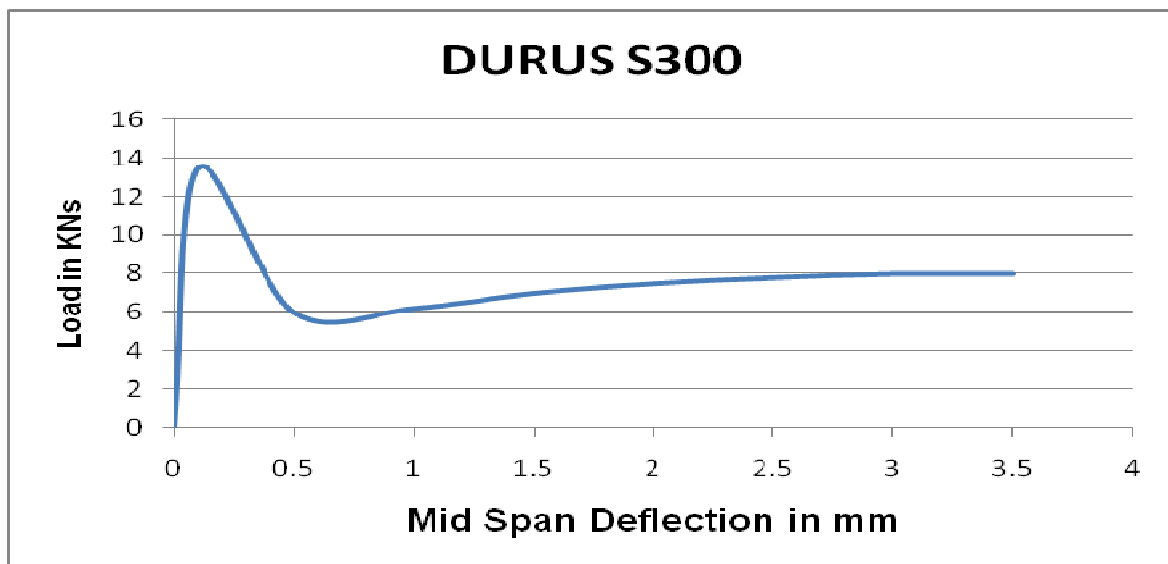
Fibre	Average width in mm	Length in mm	Tensile strength MPa	Modulus of elasticity MPa 10 -30 %	Imprint frequency
Syntec/Durus S300	0.9	45 to 55	475	4500	55 %

Factory production control.

We confirm that our factory production control procedures include control of the tenacity, modulus of elasticity, length and shape of the Syntec/Durus. In addition for each batch of fibres produced information is recorded on the diameter of the fibre and crimp depth together with the machine control parameters.

Effect on the Flexural strength.

Beam tests to NBN EN 14651 were conducted on prototype samples resulting in an average load- deflection curve



Results compared to the Limits set by EN 14889 -2 -2006

	Crack mouth opening displacement 0.5	Crack mouth opening displacement 3.5
Minimum allowable values	1.5 MPa	1.0MPa
5Kg Syntec/Durus S300	1.9 MPa	2.2MPa

Effect on the consistency of the concrete.

Vebe test on the control mix 2 seconds

Vebe test on the control + 5 Kg Syntec/Durus S300 fibres 3 seconds

Packaging

- The fibres are supplied in pucks which have a diameter of approximately 10 cm. The fibres are delivered in boxes of which weigh 8,10 or 12 Kg. The pallets are one way pallets and have a dimension (H X L X W) 2000 mm X 1100 mm X 1300 mm we can get and 972 Kg on a pallet .
- Alternatively we can supply in 4,5 or 6 Kg paper sacks



Identification

- All boxes have a label which has a batch number. This number is so that we can trace the fibre back to our production and testing records.

Storage and transport.

- The fibres should be transported and stored in dry rain free conditions at all times
- Handling and loading should be by use of a forklift truck.
- Pallets should be transported a maximum one pallet high.

Emission of dangerous substances.

- We can confirm that there will be no dangerous emissions of substances from our Syntec/Durus fibre and confirm that all of the constituent materials where relevant have been registered under the new reach regulations. For your perusal also find attached the MSDS for the product.

Mixing Procedure

When adding /SyntecDurus fibre into a concrete mix, careful attention must be taken in the batching and mixing procedure to order to achieve optimum results. Therefore the following procedures are recommended depending on the individual situation:

Wet Batch Concrete Plants.

For wet batch plants, the fibre should be added to the concrete plant mixer with the other concrete ingredients. On previous contracts this has done by adding the DURUS fibre pucks directly into the plant mixer or onto the aggregate conveyor belt.

If the Syntec/DURUS cannot be added to the plant mixer then the fibres should be added to the truck mixer as the first ingredient and then mixed for a minimum of 3 minutes with a minimum of 150 litres, or one third of the total batching water; whichever is greater. The premixed concrete should then be discharged from the plant mixer into the truck mixer.

Dry Batch Concrete Plants.

For dry batch plants the Syntec/DURUS fibre should be added as the first ingredient into the truck mixer and mixed for a minimum of 3 minutes with a minimum of 150 litres, or one third of the total batching water; whichever is greater. After 3 minutes the other ingredients should be ribbon fed into the truck mixer.

❑ **Mixing Syntec/DURUS and Micro Fibres.**

If the concrete mix design specifically requires both DURUS and one of our micro monofilament fibres then it is important that the two different fibre types are added to the concrete separately. The Syntec/DURUS should be added as the first ingredient into the truck mixer and then a minimum of 150 litres of water, or one third of the total batching water; whichever is greater. The Syntec/DURUS and the initial batch water should then be mixed for 3 minutes prior to the other ingredients being ribbon fed into the truck mixer. If possible, it is recommended that before the final batch of concrete is added to the truck then the degradable bags of Confiber micro fibre are added into the mixing process.