



## Specification of Concrete Toppings for use with All-in-One (NST)

### 50mm overall depth of concrete above the services

The concrete can be either C28/35 standard concrete (see note 2, below) with maximum 20 mm aggregate (see note 4, below), or C28/35 self-compacting concrete (see note 3, below) with maximum 10 mm aggregate (see note 4, below).

#### REINFORCEMENT

##### Plain concrete<sup>(1)</sup>

One layer of D49<sup>(1)</sup>, D98<sup>(1)</sup> or A142<sup>(2)</sup> steel mesh to BS 4483 : 2005 with a characteristic yield strength (fyk) of 500 N mm<sup>2</sup>. Reinforcement should be placed mid height of the concrete slab

Durus S400<sup>(6)</sup> (macro-polymer fibre), dosage rate 4.0 kg m<sup>3</sup>, 45 mm long, 0.9 mm diameter, tensile strength 465 N mm<sup>2</sup> and modulus of elasticity 3350 N mm<sup>2</sup>

Novomesh B&BA<sup>(6)</sup> (steel fibre), dosage rate 17.5 kg m<sup>3</sup>, steel flat end, steel fibres, fibre length 50 mm, diameter 1.0 mm, tensile strength 1150 N mm<sup>2</sup>

Novomesh B&BA<sup>(5)</sup> (macro-polymer and micro polyolefin fibre), dosage rate 3.84 kg m<sup>3</sup>, shape of macro fibre: continuously deformed, 60 mm long, 0.56 mm diameter, tensile strength 600 N mm<sup>2</sup>, modulus of elasticity 7000 N mm<sup>2</sup>

Adfil SF86<sup>(6)</sup> (steel fibre), dosage rate 17.5 kg m<sup>3</sup>, 60 mm long, diameter 0.75 mm, tensile strength 1225 N mm<sup>2</sup>, modulus of elasticity 200000 N mm<sup>2</sup>

Durus Easy Finish<sup>(5)</sup> (macro-polymer fibre), dosage rate 3.50 kg m<sup>3</sup>, 40 mm long, 0.7 mm equivalent diameter, tensile strength 470 N mm<sup>2</sup>, modulus of elasticity 6000 N mm<sup>2</sup>

Fibrin X-T (monofilament polypropylene micro fibre), minimum dosage rate 0.91 kg m<sup>3</sup>, 12 mm long, 22 microns diameter, tensile strength 280 N mm<sup>2</sup>

Fibrin 23 (polypropylene micro fibre), dosage rate 0.90 to 0.91 kg m<sup>3</sup>, 12 mm long, 19.5 microns diameter, tensile strength 312 N mm<sup>2</sup>

Fibremesh 120-12 (polypropylene micro fibre), dosage rate 0.90 kg m<sup>3</sup>, 12 mm long, 56 microns diameter

Fibremesh 150-e3 (polypropylene micro fibre), dosage rate 0.90 kg m<sup>3</sup>, 12 to 19 mm long, 31 to 56 microns diameter

- 1) Plain concrete topping is adequate in all situations mentioned in this Certificate. Concrete incorporating fibre or steel mesh reinforcement is also acceptable.
- 2) (For standard concrete the slump should be Class S3 (100 to 150 mm) or S4 (for spot samples taken from initial discharge, 140 to 230 mm).
- 3) For self-compacting concrete the slump flow class should be SF1 (550 mm to 650mm) or SF2 (660 mm to 750mm). The sand content should be greater than 45%.
- 4) The aggregate for concrete must comply with BS EN 12620 : 2013.
- 5) For fresh concrete, macro-polymer fibres content should be measured in accordance with BS EN 14488-7 : 2007
- 6) For fresh and hardened concrete, steel fibres content should be measured in accordance with BS EN 14721 : 2005.

