Semi dry concrete

The Essential Characteristics for compliance with the European Standard are dimensional tolerances, crushing strength, watertightness including joints and durability. National Complimentary standards specify the actual values or characteristics required with additional requirements such as straightness, surface evenness and resistance to high pressure jetting.

The surface finish of precast concrete will vary, depending on the method of manufacture. Concrete made with high slump / self- compacting concrete will have a high quality, smooth finish with very little surface voids. Precast production using instantaneously de-moulded semi dry concrete will have visible surface pit holes on the finish of the concrete. Most precast concrete drainage products are made using this method. They are not detrimental to the durability of the drainage components and are not of structural concern as full compaction has been achieved. The Standard applies limitations to assure this the case. The drainage products must comply with the following assessment criteria:

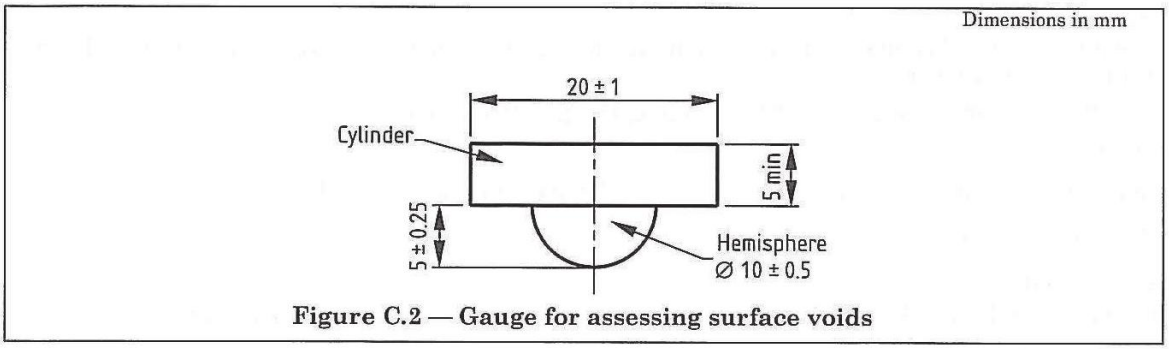

Figure C.2 — Gauge for assessing surface voids

C.2.3 *Procedure*

Apply the ball of the gauge to the void.

C.2.4 *Expression of result*

Record whether diametrically opposite points in the rim of the gauge simultaneously touched the surface of the unit.

The Standards permit the use of repair materials to rectify damage and 'make good' areas of grout loss or poor formation. Obviously, the working design life of the product cannot be impaired and compliance with the performance criterion must be assured.

The materials are carefully selected for any work undertaken at the factory and the manufacturers' guidelines are followed to ensure that the repairs are robust and have the same properties as the concrete.

The colour of the repair material can often be problematic, as the final colour can be dependent on factors such as material preparation, temperature, weather the age of the repair and where or when it has been completed. The variance in colour that is caused by the cement and aggregate can also give disparity with the colour of repairs. Care is taken to control this; sanding or smoothing the repair with a carborundum stone can improve colour match once the repair is cured, but this is not always practicable.

In the case of reinforced pipes cracks can form tensile zones of pipes, i.e., in the crown or invert.

Cracks of this kind can be expected in reinforced concrete and should not be deemed as defective. Pipes that have cracks with widths of 0.15mm and less remain compliant with BS EN 1916 and BS5911-1. The cracks have stabilised and remain dormant; they are not of structural

concern and will heal autogenously. Cracks with widths greater than 0.15mm will also heal autogenously, dependent on their size, but can also be repaired if the chosen repair materials and methods are not deleterious to the precast concrete pipes and the design life has not been impaired.