

EXPOSED AGGREGATE CONCRETES

PRODUCT DESCRIPTION

Exposed aggregate concretes are special-class concretes incorporating selected coarse aggregates for the purpose of producing an exposed aggregate surface. Natural round gravels are commonly used, however crushed aggregates may also be used.

The compressive strength is expected to exceed 20 MPa. Concrete with higher compressive strength can be made available. The product is generally not tested fully to the production assessment provisions of AS 1379.

The most commonly supplied round aggregate is 10mm (nominal size), and of various colours. Our staff can provide details of the exposed aggregates currently available.

PRODUCT IDENTIFICATION

The product identification will be established for each project. Usually it includes the compressive strength and the colour of the aggregate.

The size of the aggregate and slump must be specified.

SLUMP

The concretes are designed to achieve strength at up to 80 mm specified slump, assuming proper curing.

The placement of concrete at higher slump will result in lower strength, increased shrinkage, increased risk of cracking and increased loss of aggregate from the surface.

The placing contractor should be consulted before the slump is specified.

APPLICATION

Exposed aggregate concrete is generally designed to produce an attractive surface finish in light duty concrete pavements.

The concretes are not designed for use in structures. Designers should not specify them for structural purposes without prior technical assessment.

Due to a high coarse aggregate content, exposed aggregate concrete mixes are not normally suitable for placement by concrete pump.

PLACING AND FINISHING

The exposed aggregate appearance is obtained by washing the surface with water before the concrete finally sets.

The successful placing and finishing of exposed aggregate concrete requires appropriate planning, skill and experience.

The concretes have a higher than normal coarse aggregate content and a low sand content and hence can be more difficult to work with than normal concrete.

AGGREGATE VARIABILITY

Varying sources of aggregate are used and supply is not always reliable. We change our source from time to time and colour, grading and texture changes will therefore occur.

Aggregates are naturally occurring and material suppliers do not guarantee product consistency for aggregates used in exposed aggregate concrete applications. Variations may therefore be apparent in colour, grading & texture from load to load.

Aggregates may at times contain minerals which can be weak and/or cause staining.

CURING

Proper moist curing is necessary for full strength development of concrete. Curing of exposed aggregate concrete is also important to minimise the loss of aggregate from the surface. It is recommended that the concrete be cured in accordance with the appropriate Australian Standard.

LOSS OF AGGREGATE FROM SURFACE

Some loss of aggregate from the surface of a pavement under service should be expected.

Higher loss may occur if the aggregate particles are flat or highly polished. When a greater depth of aggregate is exposed by washing, more loss of aggregate will occur.

Wash-off water can also damage and weaken downstream fresh concrete.

SEALING

As concrete is a porous material, applying a sealer will enhance the appearance of the finish and protect the concrete from stains and inhibit the growth of mold.

SLURRY

Slurry washed off the surface is alkaline. It can cause skin burn and eye injury and appropriate safety precautions should be taken.

Washed off slurry can also cause damage to drains and pollution to the environment. Proper collection and disposal of slurry is mandatory.

It is the responsibility of the concrete finisher to ensure concrete or washdown residue does not contaminate the environment, drains, the waterways or stormwater system. Severe fines can be imposed. For further information, please contact your local authority.

SUPPLY CONDITIONS

Exposed aggregate concretes are sold by Nucon Pty Limited only in accordance and subject to its Standard Conditions of Sale.

Whilst the information contained in this Product Guide is to the best of our knowledge, accurate and reliable at the time of preparation, no responsibility can be accepted by Nucon for errors and omissions.

Due to numerous variables which are beyond Nucon's control it is not possible to guarantee the quality of finish, appearance or performance of exposed aggregate concrete. Nucon also cannot guarantee against the occurrence of weak particles and staining.

“Furthermore Nucon highly recommends that when the purchaser decides on their preferred product that they request a site visit to Nucon recently supplied project so that the purchaser may view a similar product in situ.”

FURTHER INFORMATION

If you require further product information please call Nucon on 07 5573 8000.