

Honeycomb in Concrete



Structural Guide

What is Honeycomb



Honeycomb is the result of poor compaction of the concrete and the formation of cavities in the concrete. Generally, honeycombs in concrete are formed closed to the surface of the concrete.

However, due to the congestion in the reinforcement arrangements, there are possibilities of forming cavities internally. Further, there is minimal chance of noticing internal cavities.



Cause of Honeycomb in Concrete



- Lack of workability of concrete
- Inadequate vibration and compaction
- Reinforcement congestion
- Segregation
- Inadequate cover to the reinforcement



Effects of Honeycomb in Concrete



- Loss of strength / Reduce structural capacity
- Durability issues
 - Corrosion of reinforcement
 - Deterioration of concrete
- Water leaks in water retaining structures



How to Prevent Honeycomb

Reinforcement Detailing

Improve Workability of Concrete

Maintain Adequate Gap Between Bars

Adequate vibration and Compaction of Concrete



Repair Honeycomb Concrete



Loosen material shall be removed completely.

All the honeycombs shall be filled with non-shrink construction grouts.

When the size of the honeycomb on concrete is larger (like 100mm or more) repairing shall be done in several stages as recommended by the material supplier.

Further, when the volume required for repairing honeycomb concrete is higher, a 1: 1 mix of non-shrink construction grout and chip could be used as recommended by the grout supplier.

Mixing time and procedure shall be as specified by the supplier.

The content of water shall strictly be as specified in the specification of the construction grout.

Adequate curing shall be done. Generally, the construction grout develops strength in the range of 50-60N/mm² and it is a rapid strength-gaining process.

Curing shall be done correctly.

Thank you



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