

**MIX DESIGN OF SELF COMPACTING CONCRETE ON M30 GRADE**

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**ABSTRACT:**

Concrete occupies unique position among the modern construction materials, Concrete is a material used in building construction, consisting of a hard, chemically inert particulate substance, known as aggregate (usually made for different types of sand and gravel), that is bond by cement and water. Self – compacting concrete (SCC) is a high – performance concrete that can flow under its own weight to completely fill the form work and consolidates without any mechanical vibration. Such concrete an accelerate the placement, reduce the labor requirements needed for consolidation, finishing and eliminate environmental pollution. The so called first generation SCC is used mainly for repair application and for casting concrete in restricted areas, including sections that present limited access to vibrate. Such value added construction material has been used in applications justifying the higher material and quality control cost when considering the simplified placement and handling requirements of the concrete. The successful production of self – compacting concrete (SCC) for use, is depended on arriving at an appropriate balance between the yield stress and the viscosity of the paste. Specially formulated high range water reducers are used to reduce the yield stress to point to allow the designed free flowing characteristics of the concrete. However, this alone may result in segregation if the viscosity of the paste is not sufficient to support the aggregate particles in suspension. The process of selecting suitable ingredients of concrete and determining their relative amounts with an objective of producing a concrete of required strength, durability, and workability as economically as possible is termed as concrete mix design

**Keywords:** *No compaction is required, remain homogeneous during and after placing, slump test, vane shear test ,l box test.*