

TITLE OF INVENTION: Holcim Super Ultra HS Concrete

SPECIFICATIONS / DESCRIPTION

Holcim Super Ultra HS concrete is a specialty product developed having ultra high strength, high performance, generally with specified compressive strength of 100 MPa and above, having anti-blast and high energy absorption characteristics.

This product has many specialties as described below:

1. It is an ultra high strength concrete (>100 MPa) which can act as a barrier to prevent any vehicles to enter the restricted area. It can also absorb any major impact of blast resulting from external forces like explosion.
2. Using this ultra high strength concrete have advantages such as increased in flexural strength and modulus of elasticity of the concrete.
3. Unlike normal high strength concrete, the Holcim Super Ultra HS concrete has low shrinkage even when compared with Grade 40 normal concrete. This is achieved by up to 65% replacement of Ordinary Portland cement by Ground granulated blast furnace (GGBS) and having very low water-cement ratio.
4. It consists of environment advantages, such as reduction of resources requirement compared with lower grades; Reduced CO₂ emission. This is a environment-friendly product using green cement and lower usage of aggregates.
5. This concrete contains very high proportions of fibers of different types. The fibers significantly increase both the tensile strength and ductility of the concrete.
6. The judicious use of the combination of different type of fibers gives the concrete high energy absorption.

Claims

Holcim Super Ultra HS concrete is a specialty product developed having ultra high strength, high performance, generally with specified compressive strength of 100 MPa and above, having anti-blast and high energy absorption characteristics.

This product has many specialties and characteristics as described below:

1. It is an ultra high strength concrete (>100 MPa) which can act as a barrier to prevent any vehicles to enter the restricted area. It can also absorb any major impact of blast resulting from external forces like explosion.
2. Using this ultra high strength concrete have advantages such as increased in flexural strength and modulus of elasticity of the concrete.
3. Unlike normal high strength concrete, the Holcim Super Ultra HS concrete has low shrinkage even when compared with Grade 40 normal concrete. This is achieved by up to 65% replacement of Ordinary Portland cement by Ground granulated blast furnace (GGBS) and having very low water-cement ratio.
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