TITLE OF INVENTION: HOLCIM STRUCTURAL LIGHTCRETE

ABSTRACTS

Holcim Structural Lightcrete – is a light weight concrete having higher strength as required for structural needs. The normal light weight concrete compressive strength in the range of 10 to 20 MPa in place of expected minimum Grade 35 to 40 MPa concrete as per the specification requirement of structural concrete.

This unique product has been produced by judicious combination of light weight high strength aggregates, creating controlled annular air space, special mineral additives and producing the concrete by a specially designed process & equipment.

The density of concrete is in the range of 1600 to 1800 kg/m^3 against the normal concrete density of 2400kg/m^3. That means it has lower dead weight around 67 to 75% of the normal weight concrete and thus permitting additional floors or structural amendments on the old buildings where the foundation has limitation to take additional weight of normal weight concrete. Further, it can be used for the buildings / projects under design stage which will enable the Designer to have lesser load on foundation making it environment friendly and creating a possibility of constructive structures where there are problems of weak sub-soil conditions.

When use for structural light weight concrete walls, in addition to lower dead weights, it also provides improved insulation and acoustic properties of wall elements. This product also provides higher fire rated concrete structure as compared to normal concrete.

Using this product permits alternation and additions of the structural member with minimal possible dead weight load.

"No Suitable Figure"

TITLE OF THE INVENTION

STRUCTURAL LIGHTWEIGHT CONCRETE AND THE METHOD OF FABRICATION THEREOF

ABSTRACT OF THE DISCLOSURE

A structural lightweight concrete comprising:(a) expanded shale / clay coarse aggregate which is 5 – 15 mm in size, or 10 – 23 mm in size, and 1.30 SG or 0.6 SG; (b) a small quantity of washed copper slag (WCS); (c) a cementitious material conforming to CEM I (conforming to 52.5 N Grade) varying between 500 – 650 kg/m^3 and undensified silica fume varying between 50 and 60 kg/m3; (d) a SNF based superplasticizer to achieve the desired consistency; (e) an air entraining agent being added to achieve an air content of 8 – 10%. The present invention also relates to a fabrication method for structural lightweight concrete.

(FIG. 1)