Experimental Study of Laser Modified Concrete with Partial Replacement of Fine Aggregate with Foundry Sand and Brick

[redacted]

[redacted]

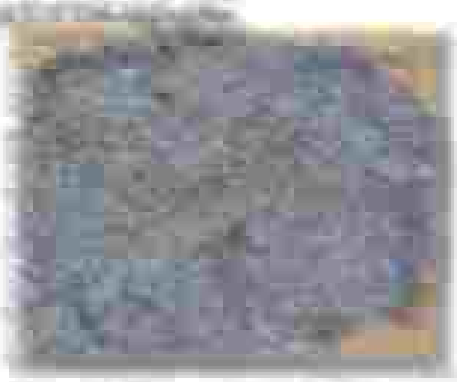
Abstract - [redacted]

I. [redacted]

[redacted]

(a) [redacted]

[redacted]



[redacted]

(b) [redacted]

[redacted]

[redacted]

II. MATERIALS AND ITS PROPERTIES

A. Cement

The type of cement used in this work is 43 – grade OPC. The specific gravity of the cement is 3.15 and normal consistency of 32%. The initial setting time of cement was [illegible] minutes while the final setting time of cement was [illegible] minutes. The compressive strength of cement was found to be 43.3 MPa at a curing of 28 days.

B. Fine aggregate

The fine aggregate used was locally available river sand passed through 4.75mm IS sieve and having the specific gravity of 2.62. The Fineness Modulus of fine aggregate was found to be 2.767. The zone of fine aggregate was [illegible] by sieve analysis. As per Indian standard [illegible] is Zone - II. The silt content was found to be [illegible]%.

C. Coarse aggregate

[illegible]

III. METHODOLOGY

[illegible]

[illegible]

[illegible]

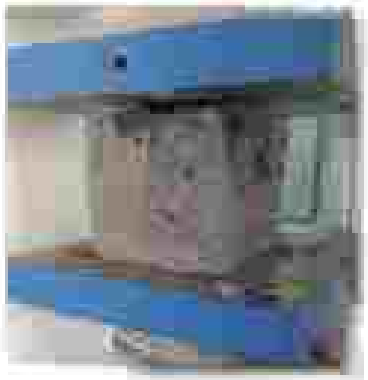
[illegible]

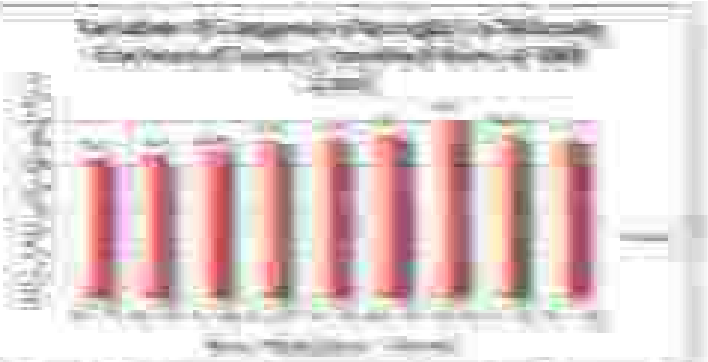
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

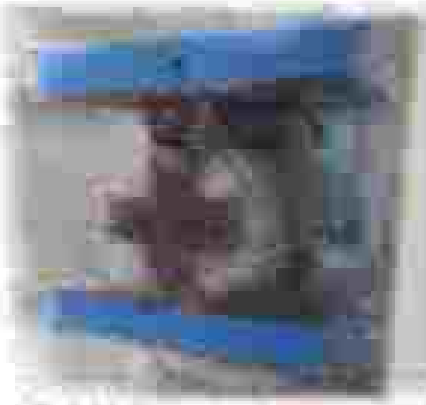
IV. TESTING OF CONCRETE

A. Compressive Strength Test: The most important test which is made on concrete is compressive strength as concrete is strong in compression and weak in tension. So, the concrete is tested in compression testing machine (CTM) at 28 days of curing.

Compressive strength = Load at failure (N) / Surface area of cube (mm2)







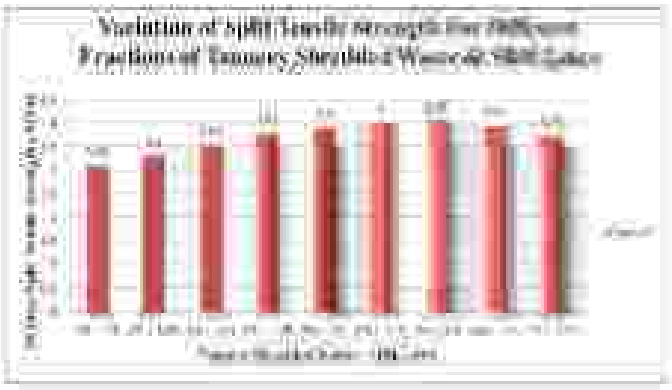


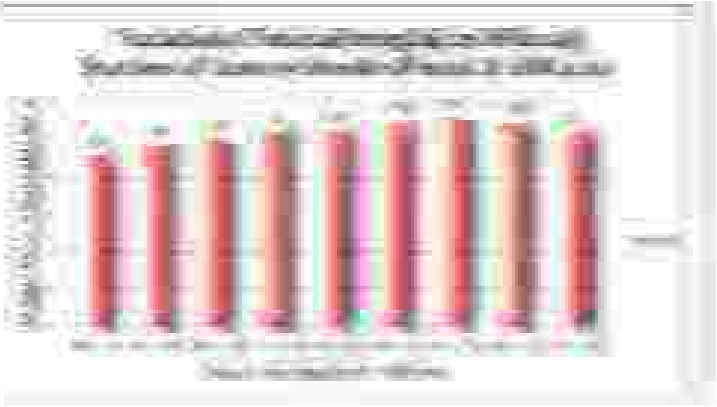
Chart-2: Variation of Split Tensile Strength at 28 days of Curing

c. **Flexural Strength Test :** The test which is conducted to flexural testing machine to four point loading using a beam of size 100mm x 100mm x 500mm. The load applied gradually at the rate of [illegible] till the specimen fails.

Flexural strength = [illegible]

[illegible]

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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