



ShotCrete

Material Description:

Quantity / m3 per unit

Cement OPC Type 1	442kg
Micro silica	28kg
Fly Ash	0
GGBFS	0
Free Water	188kg
34CA	0
3/8 CA	115kg
3/16 FA	1425kg
Natural Sand	140kg
Master gelnium /110	2./7.00kg
Crete Stabiliser	2kg
Meco Fibre / SP650	6kg

Course Aggregate Details:

Specific Gravity SSD	2.584 – 2.585
Absorption	1.7% - 1.8%
Moisture	0.2% - 0.3%
Breakdown	0% - 100%
W/C Ration	0.40

Fine Aggregate Test 3-16m

N Sand Specific Gravity SSD	2.587 – 2.644
Absorption	1.3% - 1.1%
Moisture	0.3% - 0.1%
Finess Modulus	5.6 – 0.75



Breakdown 91% - 9%

Mix Proportions:

Cement OPC Type

Free water

3 / 4 CA

3 / 8 CA

3 / 16 FA

Alumi Sand

Mix Description:

C40 / (94%) OPC + 6%MS

Strength Indicator:

28 days

Acceptance criteria as per ASTM C31

Quantity indicated in mix design above R41 1/2m³

Slump Concrete delivered to site as per ASTM C94

Dosage is varied as per working conditions

Moisture of concrete of aggregates are checked 2-3 times daily as required

Mix design requirement:

Comprehensive Strength 40 n/mm² @ 28 days

Total Cement content is kg/m³ 480

Cement type OPC Type 1 Micro Silica fine

% of OPC Type 1 93.8

% of micro silica 6.3

Maximum aggregate size 10mm

Aggregate cement ratio 3.57



Mix Grade	C40/10 shotcrete
Water cement ratio	0.395
10mm CRU Limestone aggregate	8.5%
5mm CRU washed limestone sand	71.1%
0% 3mm course sand	20.4%
Density kg/m ³	2394
The slump flow range mm	560-620
Slump range mm	215-15

The slump flow test has been in accordance with BS-EN 12650-2

Tolerance of slump flow for S4 and 55A when tested in accordance with BS-1881 part 5 and where part 55 it is recommended to use as indicated value as per BS-EN 206:2013 clause 5.4.1

The moisture content of the aggregate is monitored on daily basis and final mixing proportions for aggregate and water are to be connected depending on moisture content and values.