

UNSPSC CODE :															
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Commodity : Stone Dust UNSPSC CODE :															
Selling Unit :															
S.No.	Parameters	Type	Value 1	Value 2	Value 3	Value 4	Value 5	Value 6	Value 7	Validation	Unit	M	F	G	Demand aggregation
Properties of Materials															
1	Characteristics Value	CH	Fineness Modulus	Specific Gravity								✓	✓		1
2	Fine Aggregate	N	2.76	2.3								✓	✓		2
3	Coarse Aggregate, 10 mm	N	6.9	2.6								✓	✓		3
4	Coarse Aggregate, 20 mm	N	7.7	2.6								✓	✓		4
5	Stone Dust	N	2.83	2.4								✓	✓		5
Sieve Analysis of Stone dust															
6	Sieve Size (mm)	N	<0.150	0.15	0.3	0.6	1.18	2.36	*			✓	✓		6
7	Weight retained (gm)	N	0	8	82	121	138	162	**			✓	✓		7
8	Cumulative Weight Retained (gm)	N	0	8	90	294	456	741	***			✓	✓		8
9	Cumulative %Weight Retained	N	0	0.8	9	29.4	45.6	74.1	****			✓	✓		9
10	Cumulative % Passing	N	0	12.1	25.9	54.4	70.6	91	*****			✓	✓		10
11	*	N	4.75	10								✓	✓		11
12	**	N	204	294								✓	✓		12
13	***	N	879	1000								✓	✓		13
14	****	N	87.9	100								✓	✓		14
15	*****	N	99.2	100								✓	✓		15
Variation of Slump with replacement level															
16	Stone dust (%)	N	0	10	20	30	40	50	*			✓	✓		16
17	Slump with Fixed dose of Superplasticizer (0.8%), mm	N	84	70	55	40	30	20	**			✓	✓		17
18	Slump with required dose of Superplasticizer given in bracket, mm	N	60(0.60%)	55(0.70%)	55(0.80%)	50(0.90%)	48(1.00%)	45(1.20%)	***			✓	✓		18
19	*	N	60	70	80	90	100					✓	✓		19
20	**	N	15	5								✓	✓		20
21	***	N	45(1.50%)	40(1.60%)	40(1.80%)	38(2.00%)	35(2.20%)					✓	✓		21

Variation of compressive strength with stone dust (%)															
22	Concrete Cube Designation	EN	C1	C2	C3	C4	C5	C6	*			v	v		22
23	Replacement Level of Fine Aggregate with Stone dust (%)	N	0	10	20	30	40	50	**			v	v		23
24	7 days Average Compressive Strength (MPa)	N	24.79	25.99	27.7	28.41	27.34	31.64	***			v	v		24
25	28 days Average Compressive Strength (MP)	N	35.25	38.64	38.16	40.53	41.71	42.23	****			v	v		25
26	*	N	C7	C8	C9	C10	C11					v	v		26
27	**	N	60	70	80	90	100					v	v		27
28	***	N	31.1	28.17	26.83	27.46	25.04					v	v		28
29	****	N	40.17	41.21	41.87	44.86	42.88					v	v		29
Workability of Concrete															
30	Slump test for workability for the placing condition of concrete was conducted as per IS:1199-1991 specification. Degree of workability maintained was low, that is, slump was maintained between 25 mm to 75 mm throughout the investigation by adding the required doses of superplasticizer by weight of cement, because of abrupt fall in slump with adding stone dust as gradual increase replacement of sand in concrete mix. The maintained slump (mm) with required dose of superplasticizer and Slump (mm) at fixed dose of superplasticizer were evaluated with gradual increase percentage of stone dust as fine aggregate replacement in concrete	CH	YES									v			30

