CHEMICAL TESTING AND ANALYTICAL LABORATORY
DEPARTMENT OF INDUSTRIES AND COMMERCE
GOVERNMENT OF TAMILNADU
INDUSTRIAL ESTATE, GUINDY, CHENNAI -32
PHONE : (044) – 22501641

CTAL

CERTIFICATE No.:	2	5	0	7	0	4	7	3	DATE	0	3	/	0	7	/	2	5	TOTAL PAGES	0	4

CLIENT'S PARTICULARS:

Name of the client : **M/s JCK Blue Metals.**

Address : S.F. No. 257/3A, 257/3B, 257/4A to 258/5B, Chithatoor village, Cheyyar Taluk, Thiruvannamalai District.

Reference : Testing of M Sand, P Sand and Water – Reg.

Client Letter No : ----

Date : 23.05.2025

Office File No : 1679/CW4/2025

SAMPLE PARTICULARS:

Nature of sample: **M Sand, P Sand and Water**

Sample identification : Mark – JCK Blue Metals

Date of Receipt : 23.05.2025

Standards/ References of test methods if any : IS 456-2000
IS 383-2016
IS 1542-1992 (Reaffirmed 2003)

Quantity : 3 Nos.

இயக்குநர் (பொறியியல்) அலுவலகம் கிண்டி நாள்: 3/7/25 சென்னை-32

3/7/25

AUTHORISED SIGNATORY
SENIOR CHEMIST
Chemical Testing And
Analaytical Laboratory
GUINDY, CHENNAI-32.

Note:
1. Any correction in the certificate not attested shall invalidate this certificate.
2. This certificate is issued for tests conducted on samples tendered only.
3.This report shall not be reproduced except in full without the written approval of the Laboratory.

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TEST RESULTS

CERTIFICATE No.:	2	5	0	7	0	4	7	3	DATE	0	3	/	0	7	/	2	5	TOTAL PAGES	0	4

Sample : Water
Mark : JCK

Sl. No.	Constituents	Sample	Requirements as per IS.456-2000	Method of Test
1.	pH at 27^0C	**7.96**	Not less than 6	IS:3025(Part-11)1983
2.	Organic solids, mg/1.	**156**	Max.200 mg/1	IS:3025(Part-18)1984
3.	Inorganic solids, mg/1	**630**	Max.3000 mg/1	IS:3025(part-18) 1984
4.	Sulphates (as SO_4), mg/1	**224**	Max.400 mg/1	IS.3025(Part-24)1986
5.	Chlorides (as C1), mg/1	**143**	Max.2000 mg/1 for concrete and 500 mg/1 for reinforced concrete	IS:3025(Part-32) 1988
6.	Suspended matter, mg/1	**Nil**	Max.2000 mg/1	IS:3025 (Part-17) 1984
7.	Amount of 0.02N NaOH required to neutralize 100ml sample of water in (ml)	**Nil**	Not more than 5.0 ml.	IS:3025 (Part-22) 1986
8.	Amount of 0.02 N H_2SO_4 required to neutralize 100ml sample of water in (ml)	**23.6**	Not more than 25.0ml	IS:3025 (Part-23)1986

Remarks: The given Sample conforms to **IS:456-2000** (Plain and reinforced concrete - code of practice) with respect to above tests.

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TEST RESULTS

CERTIFICATE No.:	2	5	0	7	0	4	7	3	DATE	0	3	/	0	7	/	2	5	TOTAL PAGES	0	4

Sample : M Sand

S.No.	Characteristics	Result	Requirements as per IS 383 -2016
1.	Sieve Analysis:		**Zone –II**
	i) Percent Passing Through IS Sieve 10 mm	100	100
	ii) Percent Passing Through IS Sieve 4.75 mm	100	90-100
	iii) Percent Passing Through IS Sieve 2.36 mm	88.30	75-100
	iv) Percent Passing Through IS Sieve 1.18 mm	60.30	55-90
	v) Percent Passing Through IS Sieve 600 microns	44.10	35-59
	vi) Percent Passing Through IS Sieve 300 microns	27.90	8-30
	vii) Percent Passing Through IS Sieve 150 microns	9.40	0-10
2.	Deleterious materials		
	i) Coal and Lignite, percent by mass	Nil	Not more than 2.0 Percent
	ii) Clay lumps, percent by mass	Nil	
	iii) Materials finer than 75 µm IS Sieve, percent by mass	4.80	Max.10 Percent
3.	Total alkali content as Na_2O, Percent by mass	0.03	Max.0.3%
4.	Total Sulphate content as SO_3, percent by mass	0.005	Max.0.5%
5.	Water soluble chloride content, percent by mass	0.003	Max.0.04%
6.	Water absorption, percent by mass	1.57	Max.5.0%
7.	Specific gravity	2.68	2.1 to 3.2

8. Soundness data for M- Sand in Sodium Sulphate (5 Cycles):

Sieve Size		Grading of Original Sample Percent	Weight of Test fraction before test	Percentage passing finer sieve after test (actual % loss)	Weighted average (corrected % loss)	Requirements as per IS 383 -2016
Passing	Retained on					
150 micron	-	9.40	--	--	--	Shall not be more than 10%
300 micron	150 micron	18.50	--	--	--	
600 micron	300 micron	16.20	100	2.94	0.48	
1.18 mm	600 micron	16.20	100	2.30	0.37	
2.36 mm	1.18 mm	28.00	100	2.71	0.76	
4.75 mm	2.36 mm	11.70	100	2.63	0.31	
10 mm	4.75 mm	--	--	--	--	
--	10 mm	--	--	--	--	
TOTAL		100	400	--	1.92	

Remarks: The given sample conforms to **grading Zone – II** of IS 383-2016 (Specification for Coarse and fine aggregate for concrete-) with respect to above tests.

9. Organic Impurities : Passes the test
10. Potential Reactivity
    a) Concentration of Silica in millimoles/litre : 17.98
    b) Reduction in Alkalinity in millimoles/litre : 72.24
11. Silt Content, Percent by mass : 0.92
12. Bulk Density
    a) Loose, kg/l : 1.61
    b) Compact, kg/l : 1.79
13. Bulking of sand in percentage : 7.53

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TEST RESULTS

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Sample : P Sand

S.No.	Characteristics	Result	Requirements as per IS 1542:1992
1.	Sieve Analysis		
	i) Percent Passing Through IS Sieve 10.0 mm	100	100.0
	ii) percent Passing Through IS Sieve 4.75 mm	100	95-100
	iii) percent Passing Through IS Sieve 2.36 mm	95.30	95-100
	iv) percent Passing Through IS Sieve 1.18 mm	90.40	90-100
	v) percent Passing Through IS Sieve 600 microns	80.50	80-100
	vi) percent Passing Through IS Sieve 300 microns	47.60	20-65
	vii) percent Passing Through IS Sieve 150 microns	14.50	0-20
2.	Deleterious materials		
	i) Coal and lignite, percent by mass	Nil	Nil
	ii) Clay, silt and dust, percent by mass	1.02	Not more than 5%
	iii) Organic Impurities	Passes the Test	Colour of liquid below that indicated by comparison with standard solution
3.	Compressive strength of cement mortar cubes casted using OPC 43 grade at 28 days, N/mm^2	5.23	Not less than 3 N/mm^2

REMARKS: The given sample conforms to IS 1542-1992 (Reaffirmed 2003) (Specification for Sand for Plaster) with respect to above tests.

4. Materials finer than 75 μ IS Sieve, percent by mass : 5.20
5. Bulk density, kg/l : 1.67

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