

**GOVERNMENT OF GOA
QUALITY CONTROL LABORATORY
WATER RESOURCES DEPARTMENT**

TEST REPORT No.: WRD/Q.C./F.6-4/AGGR-T-9705 & 9706, SAND-T: 5072 & 5073, /LAB/ 176/2020-21 DT: 28 / 12/2020 Laboratory: Bicholim
CEMENT-T-1205 Sub Div: V (QC)/WRD/Bicholim Goa.

Sub: Construction of Barrage and up gradation of Raw Water Pumping Station at Ganjem on Madei River for Augmentation of Raw Water for Opa water works.
Part III Construction of bank protection wall on u/s of barrage at Ganjem.

Ref to requisition No: SDII/WDVI/WRD /WF.62/2020-21/333 Dated: 17-12-2020

Qty. Received: 1 bags each **Date of Receipt:** 22/12/2020 **Tested on:** 23, 24 & 25/12/2020 **Ref to Specification:** CPWD 2009, Vol. I&IS: 4031-4-1968

Sample: 20mm, 12.50 mm size aggrt, M.Sand, **O.S. No.** 4454,4455,4463,4470 & 4456 /SS **Lab. Sample No.** 9797 TO 9801 **Tested by:** Mrs. S.B. Naik Shirodkar, JE.
Coarse sand, Dalmia cement, **REPORT 01 OF 02**

Sr. No.	Description of sample	Tested for	Results	Max. /Min. value permissible	Remarks
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1.	20 mm Size Aggregate:	Particle size distribution:	It is single sized aggregate of 20 mm nominal size.	(Qty. rep. – m ³)	
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2.	12.5 mm Size Aggregate:	Particle size distribution:	It is not single sized aggregate of 12.5 mm nominal size.	(Qty. rep. – m ³)	
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REMARK: After blending 20 mm aggregate with 12.5 mm aggregates at the ratio of **1:2** by weight; it is Satisfying the required criteria for graded aggregate of 20 mm nominal size.

3.	Crushed. Sand:	i) Silt & Clay by S.A. method	: - 11.20%	(Limit of Deleterious material is 15.00% for crushed sand)	
		ii) Silt by sedimentation	: - 12.76%		
		iii) Fineness Modulus	: - 3.20		
		iv) Grading Zone	: - I		

REMARK: The observed results are within the permissible limits for crushed sand (Fine Aggregate) vide table 2 of IS 383: 2016(Clause 5.2.1).

4.	Coarse Sand:	i) Silt & Clay by S.A. method	: - 5.40%		
		ii) Silt by sedimentation	: - 5.68%		
		iii) Fineness Modulus	: - 2.53		
		iv) Grading Zone	: - II		

REMARK: The observed results are within the permissible limits of the coarse sand.

- Copy to:
1. The Assistant Engineer, SDII, WDVI, WRD, Valpoi- Sattari Goa.
 2. Copy Submitted to The Superintending Engineer, CPO, WRD, Porvorim – Goa for kind information.
 3. Copy Submitted to The Executive Engineer, W.D.VI, WRD, Bicholim – Goa.
 4. Q.C. Lab file
 5. Bill File

Junior Engineer

Assistant Engineer

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Coarse sand, Dalmia cement, **R E P O R T 01 OF 02**

Sr. No.	Description of sample	Tested for	Results	Max. /Min. value permissible	Remarks
5.	Cement: Dalmia cement , bearing IS:269 CM/L = <u>620002577</u> Manuf. date: Week 50, Month Dec., Year'2020. To be used for – Concrete mix 1:1.5:3.		i) Fineness of Cement : 1.38 % ii) Consistency of cement : 32.00 % iii) Initial Setting Time : 160 minutes iv) Final Setting Time : 295 minutes	----- (It should not be more than 10%) (It should be in the neighborhood of 35%) ---- (It should not be less than 30 minutes) -- (It should not be more than 600 minutes)	

REMARK: The observed results are within the permissible limit for Ordinary Portland cement.

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Junior Engineer

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