

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

Test Report No.: WRD/Q.C./F.6-4/ Aggr-T- 9515 & 9516, Sand-T-4961,4962, Cement-T-1127 & 1128 /Lab/ **374** / 2019-20 Dated:- 06 / 01 / 2020.

Laboratory: Bicholim –Goa.

Sub DivV/ (QC)/WRD/Bicholim – Goa.

Sub: Construction of Barrage and up gradation of Raw Water Pumping Station at Ganjem on Mhadei River for Augmentation of Raw Water for Opa water works .

Regarding : - Construction of Barrage , providing and laying 1000 mm dia D.I. Pipe Raising Main and Break Pressure Tank at Ganjem in Sattari - Taluka.

Ref to requisition No.: - WRD/ WD VI / SD I/ F. W.215 / 2019-20/ **575** Dated: - 23 /12 / 2019

Qty. Received: 1 bags each **Date of Receipt:** 24 / 12 / 2019 **Tested on:** 24 & 26/12/2019 **Ref to Specification:** CPWD 2009, Vol. I & IS: 4031, 1968,IS : 383 : 2016

Sample: 20mm, 12mm, size aggrt., Sand,. cement 43 grade **O.S. No. :** 1449/AF to 1454/AF **Lab. Sample No.:** 7328 TO 7333. **Tested by:** Mr. Anil R. Fadte,J.E.

Sr. No.	Description of sample	Tested for	Results	Max. /Min. value permissible	Remarks
1.	<u>20 mm Size Aggregate:</u>	Particle size distribution:	It is single sized aggregate of 20 mm nominal size	(Qty. - rep.)	
2.	<u>12 mm Size Aggregate:</u>	Particle size distribution:	It is not single sized aggregate of 12.5 mm nominal size.	(Qty. - rep.)	
<u>REMARK:</u> After blending 20 mm aggregate with 12.50 mm aggregates at the ratio of <u>1:2</u> by weight; it is satisfying the required criteria for graded aggregate of 20 mm nominal size.					
3.	<u>M - Sand:</u> -	i) Silt & Clay by S.A. method ii) Silt by sedimentation iii) Fineness Modulus iv) Grading Zone	: - 13. 60 % (Qty. rep Not mentioned.) : - 14. 00 % : - 2. 96 : - I.		
<u>REMARK:</u> - <u>The observed results are within the permissible limits of the Coarse Sand as per clause 5.2.1(ie Deleterious Materials) and Table 2 of IS 383 : 2016 .</u>					
4.	<u>Coarse Sand:</u> -	i) Silt & Clay by S.A. method ii) Silt by sedimentation iii) Fineness Modulus iv) Grading Zone	: - 4. 00 % (Qty. rep Not mentioned.) : - 4. 76 % : - 2. 47 : - II.		
<u>REMARK:</u> - <u>The observed results are within the permissible limits of the Coarse Sand .</u>					

Junior Engineer

Assistant Engineer

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Sr. No.	Description of sample	Tested for	Results	Max. /Min. value permissible	Remarks
5.	<u>Bharati Cement 43 Grade :</u> Ordinary Portland cement, Manuf. date: Week 45, Month 11, Year'2019. CM/L = 4578077 Qty. rep. To be used for – For PCC and RCC	i) Fineness of Cement ii) Consistency of cement iii) Initial Setting Time iv) Final Setting Time	: 1.416 % : 31.00 % : 90 Minutes : 260 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)	
<u>REMARK:- The observed results are within the permissible limit for tested Ordinary Portland cement.</u>					
6.	<u>Dalmia Cement 43 Grade :</u> Ordinary Portland cement, Manuf. date: Week 47, Month 11, Year'2019. CM/L = 8200022577 Qty. rep. To be used for – For PCC and RCC	i) Fineness of Cement ii) Consistency of cement iii) Initial Setting Time iv) Final Setting Time	: 1.327 % : 31.00 % : 135 Minutes : 390 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)	
<u>REMARK:- The observed results are within the permissible limit for tested Ordinary Portland cement.</u>					

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

Junior Engineer

Assistant Engineer