

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

**Test Report No.:** WRD/Q.C. / F.6-4 /Aggr-T- 261,262/Lab/282/2022-23    **Dated:** 16/02/2023.    **Laboratory:** Bicholim-Goa  
**Sand –T: 5352,5353. Cement-T: 1414. Laterite Stone-T:- 0459.**    **Sub Div: V (QC)/W.D.VIII/Bicholim Goa.**

**Sub:** Improvement to existing Irrigation Tank near St. Clara Church at Modola Vaddo in V.P. Assonora in Thivim Constituency.(Re-tender).

**Ref to requisition No:-** SDII/WDI/WRD/F.24/22-23/386    **Dated:** 02/02/2023.

**Qty. Received:** 1 bags each    **Date of Receipt:** 07/02/2023    **Tested on:** 14,15,16/02/2023    **Ref to Specification:** CPWD 2009, Vol. I&IS: 4031-4-1968

**Sample:** Sand, 20mm,    **O.S. No.** 953/RK & 199,200,209,190,210/SS.    **Lab. Sample No :** 6176 To 6181

12.5mm size Aggr, Cement and Laterite Stone    **Tested by:-** Mrs. R.R. Kadam A.E. & Mrs. S. B. Naik Shirodkar J.E.

**R E P O R T 01 OF 02**

Sr. No.	Description of sample	Tested for	Results	Max. /Min. value permissible	Remark
1.	<b>20 mm Size Aggregate:</b>	Particle size distribution:	It is single sized aggregate of 20.00 mm nominal size.	(Qty. rep. – m <sup>3</sup> )	
2.	<b>12.5 mm Size Aggregate:</b>	Particle size distribution:	It is not single sized aggregate of 12.5 mm nominal size.	(Qty. rep. – m <sup>3</sup> )	
<b>REMARK: After blending 20 mm aggregate with 12.5 mm aggregates at the ratio of 1:1 by weight; it is Satisfying the required criteria for graded aggregate of 20 mm nominal size.</b>					
3.	<b>Coarse Sand:</b> (L.S.No.6178)	i) Silt & Clay by S.A. method ii) Silt by sedimentation iii) Fineness Modulus iv) Grading Zone	: - 5.90 % : - 5.55 % : - 2.34 % : - III		
<b>REMARK: The observed results are within the permissible limits of the Coarse sand.</b>					
4.	<b>Cement:</b> JK 43 Grade Cement, bearing IS:269 Ordinary Portland cement, Manuf. date:W-Invisible, M-01, Y- 2023 CM/L =_0003401033 Qty. rep. – To be used for–	i) Fineness of Cement ii) Consistency of cement iii) Initial Setting Time iv) Final Setting Time	: 1.23 % : 32.50 % : 150 minutes : 265 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)	
<b>REMARK: The observed results are within the permissible limit for Ordinary Portland cement.</b>					

Junior Engineer

Assistant Engineer

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12.5mm size Aggr, and Cement

**Tested by:-** Mrs. R.R. Kadam A.E. & Mrs. S. B. Naik Shirodkar J.E.

**R E P O R T 02 OF 02**

Sr. No.	Description of sample	Tested for	Results	Max. /Min. value permissible	Remark
5.	<b>Crushed Sand:</b> (L.S.No.6180)	i) Silt & Clay by S.A. method ii) Silt by sedimentation iii) Fineness Modulus iv) Grading Zone	: - 12.50 % : - 11.76 % : - 2.42 % : - II	<b>(Limit of Deleterious material is 15.00% for crushed sand)</b>	

**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).

6.	<b>Laterite stone</b>	A) Compressive strength test: -	i) 38.50 Kg /cm <sup>2</sup> ii) 47.57 Kg /cm <sup>2</sup> iii) 38.50 Kg /cm <sup>2</sup> Avg. 41.52 Kg/cm <sup>2</sup>	<b>35.00kg/cm<sup>2</sup></b>	
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Remark: - The average Compressive strength achieved is **18.60 %**More than the specified value of **35 Kg/cm<sup>2</sup>**.

B) Water Absorption Test.	i) 9.64 % ii) 11.11 % iii) 9.89 % Avg. 10.21 %
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Remark: The average water absorption is **10.21 %**,less than the maximum permissible limit of **12%**.

- Copy to: 1. The Assistant Engineer, SDII, WDI,WRD, Mapusa Bardez-Goa.  
2. Copy Submitted to The Superintending Engineer, CPO, WRD,Sinchai Bhavan Porvorim-Goa for kind Information  
3. Copy Submitted to The Executive Engineer, WDI,WRD, Porvorim-Goa.  
4. Q.C. Lab file   5. Bill File.

**Junior Engineer**

**Assistant Engineer**