

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

**Test Report No.:** WRD/Q.C./ F.6-4 /Aggr-T-9907,9908 /Lab/208/2021-22 **Dated:** 18/ 11/2021. **Laboratory:** Bicholim  
**Sand –T:5192,5193 ,5194. Laterite –T: 0447 Cement-T:1291 Sub Div: V(QC)/W.D.VIII/Bicholim Goa.**

**Sub:** Construction of Protection wall for Nalla on both sides from main road to Sagun Sinari House and Govind Parab house to shekri, at Pimpalwada, Amona in Bicholim Taluka.

**Ref to requisition No.:** -F.226/WDVI/SDI/321/21-22 **Dated:** 05/11/2021.

**Qty. Received:** 1 bags each **Date of Receipt:** 08/11/2021 **Tested on:** 10,11 & 09 /11/2021 **Ref to Specification:** CPWD 2009, Vol. I&IS:4031-4-1968

**Sample:** Sand, 20mm, **O.S. No.** 104,105,108,109,106 , 110 & 103/R.K. **Lab. Sample No.:** 2337 To 2343 **Tested by:** Mrs. R.R. Kadam. A.E.  
12.5mm size aggrt., Cement , Laterite Stone

**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 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:</b> After blending 20 mm aggregate with 12.5 mm aggregates at the ratio of <b>1:1</b> by weight; it is satisfying therequired criteria for graded aggregate of 20 mm nominal size.					
3.	<b>Coarse Sand:</b> (L.S.No.2339)	i) Silt & Clay by S.A. method ii) Silt by sedimentation iii) Fineness Modulus iv) Grading Zone	: - 4.40% : - 5.12% : - 2.57% : - II	<b>4. Fine Sand:</b> (L.S.No.2340)	i) Silt & Clay by S.A. method : - 4.60% ii) Silt by sedimentation : - 5.31 iii) Fineness Modulus : - 1.736% iv) Grading Zone : - IV
<b>REMARK:</b> The observed results are within the permissible limits of the coarse & fine sand.					
5.	<b>Crushed Sand:</b> (L.S.No.2241)	i) Silt & Clay by S.A. method ii) Silt by sedimentation iii) Fineness Modulus iv) Grading Zone	: - 13.80% : - 12.19% : - 3.11 : - 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).

Assistant Engineer

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**Laboratory:** Bicholim

**Sand –T:5192,5193, 5194. Laterite - T:0447 Cement-T:1291**

**Sub Div:** V(QC)/W.D.VIII/Bicholim Goa.

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**Sample:** Sand, 20mm, **O.S. No.** 104 ,105,108,109 ,106 , 110 & 103/R.K. **Lab. Sample No.:** 2337 To 2343 **Tested by:** Mrs. R.R. Kadam. A.E.

12.5mm size aggrt., Cement, Laterite Stone

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

Sr. No.	Description of sample	Tested for	Results	Max. /Min. value permissible	Remark
6	<u>Laterite stone</u>	A) Compressive strength test: -	i) 31.71 Kg /cm <sup>2</sup> ii) 39.45 Kg /cm <sup>2</sup> iii) 45.30 Kg /cm <sup>2</sup> Avg. <b>38.82</b> Kg/cm <sup>2</sup>	<b>35.00kg/cm<sup>2</sup></b>	<b>Remark:</b> - The average Compressive strength achieved is <b>10.91% More</b> than the specified value of <b>35.00 Kg/cm<sup>2</sup></b> .
		B) Water Absorption Test.	i) 10.00 % ii) 8.80 % iii) 9.00 % Avg. <b>9.26</b> %	<b>12 .00 %</b>	<b>Remark:</b> The average water absorption is <b>9.26 % ,less than</b> the maximum permissible limit of <b>12.00%</b> .
7.	<u>Cement:</u> Jyoti Cement, bearing IS:269 Ordinary Portland cement, Manuf. date: W- M- 11 . Y-2021 CM/L =6894808 Qty. rep. – _____.		i) Fineness of Cement : 1.25% ii) Consistency of cement : 32.00 % iii) Initial Setting Time : 155 minutes iv) Final Setting Time : 315 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)	To be used for – <b>REMARK: The observed results are within the permissible limit for Ordinary Portland cement.</b>

Copy to: 1. The Assistant Engineer, SDI,WDVI,WRD, Bicholim-Goa.

2. Copy Submitted to The Superintending Engineer, CPO, WRD, Sinchai Bhavan Porvorim-Goa for kind Information

3. Copy Submitted to The Executive Engineer, WDVI, WRD, Bicholim – Goa

4. Q.C. Lab file 5. Bill File.

**Assistant Engineer**