

GOVERNMENT OF GOA  
QUALITY CONTROL LABORATORY  
WATER RESOURCES DEPARTMENT

Test Report No: WRD/QC/F.6-2/Cube -T : 6981,6982,6991,6992,7005,7006/Lab/96/2023 - 24 Dated:- 13/06/2023.

Laboratory : Bicholim - Goa.

7013,7014,7029,7030,7033,7034,7043,7044,7051,7052,7055,7056,7065,7066,7077,  
7078,7089,7090,7098,7099,7113,7119,7137,7152,7166,7177.

Sub Division V (QC)/WRD/ Bicholim- Goa.

Name of work : Anti Sea erosion and beach protection measures in State of Goa.Reg.Anti Sea erosion and protection measures from Ch.25.00m to 390.00mt at Keri Beach, V.P.Keri Teracol, Pernem Taluka North Goa.

Ref. to Requisition No : MI/SDIII/WDI/F.58/2023-24/55 Dt.:- 18/05/2023

Qty. Recived : 32 Sets of cube Date of Receipt:- 19/05/2023.

Tested on: 22,23,24,25,26,27,28,29,30,31/05/2023 & 01,02,03,04,05,06,07,08,09/06/2023. as per due dates. Ref to CPWD :2009, Vol. I

Sample: Cube Mix **M-30 & 1:1.5:3** O.S No: 1266,1279,1293,1305,1322,1330,1341,1349,1353,1363,1375,1387,1396,1411,1417,1435,1450,1464,1475,1267,1280,1294,1306,1323, 1331,1342,1350,1354,1364,1376,1388,1397/RK. Lab. Sample No: 7115 to 7146 Tested By: Mrs. R.R. Kadam A.E.

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SR. NO	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
1	Cement concrete cube of mix <b>M-30</b> , cast on 24/04/2023. for 50 Tetrapods.	28 th day compressive strength	362.44	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	3.30	Qty represents - 20.85 cum
			346.59	Kg/Cm <sup>2</sup>			
			360.18	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>356.40</b>	<b>Kg/Cm<sup>2</sup></b>			
2	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 24/04/2023. for 50 Rect Blocks.	28 th day compressive strength	271.83	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	2.58	Qty represents - 21.60 cum
			267.30	Kg/Cm <sup>2</sup>			
			276.36	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>271.83</b>	<b>Kg/Cm<sup>2</sup></b>			
3	Cement concrete cube of mix <b>M-30</b> , cast on 25/04/2023. for 50 Tetrapods.	28 th day compressive strength	362.44	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	3.09	Qty represents - 20.85 cum
			337.52	Kg/Cm <sup>2</sup>			
			366.97	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>355.65</b>	<b>Kg/Cm<sup>2</sup></b>			
4	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 25/04/2023. for 50 Rect Blocks.	28 th day compressive strength	280.89	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	2.58	Qty represents - 21.60 cum
			255.97	Kg/Cm <sup>2</sup>			
			278.63	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>271.83</b>	<b>Kg/Cm<sup>2</sup></b>			

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<b>SR. NO</b>	<b>DISCRIPTION OF SAMPLE</b>	<b>TESTED FOR</b>	<b>RESULTS</b>		<b>Max./Min.Value permissable</b>	<b>% above or below</b>	<b>REMARK</b>
5	Cement concrete cube of mix <b>M-30</b> , cast on 26/04/2023. for 50 Tetrapods.	28 th day compressive strength	339.79	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	5.27	Qty represents - 20.85 cum
			373.77	Kg/Cm <sup>2</sup>			
			376.03	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>363.20</b>	<b>Kg/Cm<sup>2</sup></b>			
6	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 26/04/2023. for 50 Rect Blocks.	28 th day compressive strength	265.04	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	3.72	Qty represents - 21.60 cum
			274.10	Kg/Cm <sup>2</sup>			
			285.42	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>274.85</b>	<b>Kg/Cm<sup>2</sup></b>			
7	Cement concrete cube of mix <b>M-30</b> , cast on 27/04/2023. for 50 Tetrapods.	28 th day compressive strength	357.91	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	3.74	Qty represents - 20.85 cum
			364.71	Kg/Cm <sup>2</sup>			
			351.12	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>357.91</b>	<b>Kg/Cm<sup>2</sup></b>			
8	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 27/04/2023. for 50 Rect Blocks.	28 th day compressive strength	269.57	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	1.44	Qty represents - 21.60 cum
			274.10	Kg/Cm <sup>2</sup>			
			262.77	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>268.81</b>	<b>Kg/Cm<sup>2</sup></b>			
9	Cement concrete cube of mix <b>M-30</b> , cast on 28/04/2023. for 50 Tetrapods.	28 th day compressive strength	355.65	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	2.21	Qty represents - 20.85 cum
			339.79	Kg/Cm <sup>2</sup>			
			362.44	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>352.63</b>	<b>Kg/Cm<sup>2</sup></b>			
10	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 28/04/2023. for 50 Rect Blocks.	28 th day compressive strength	283.16	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	1.44	Qty represents - 21.60 cum
			251.44	Kg/Cm <sup>2</sup>			
			271.83	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>268.81</b>	<b>Kg/Cm<sup>2</sup></b>			
11	Cement concrete cube of mix <b>M-30</b> , cast on 29/04/2023. for 50 Tetrapods.	28 th day compressive strength	360.18	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	3.09	Qty represents - 20.85 cum
			339.79	Kg/Cm <sup>2</sup>			
			366.97	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>355.65</b>	<b>Kg/Cm<sup>2</sup></b>			
12	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 29/04/2023. for 50 Rect Blocks.	28 th day compressive strength	296.75	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	16.82	Qty represents - 21.60 cum
			299.01	Kg/Cm <sup>2</sup>			
			332.99	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>309.59</b>	<b>Kg/Cm<sup>2</sup></b>			

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SR. NO	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
13	Cement concrete cube of mix <b>M-30</b> , cast on 30/04/2023. for 50 Tetrapods.	28 th day compressive strength	369.24	Ka/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	7.03	Qty represents - 20.85 cum
			376.03	Ka/Cm <sup>2</sup>			
			362.44	Ka/Cm <sup>2</sup>			
		<b>Average</b>	<b>369.24</b>	<b>Ka/Cm<sup>2</sup></b>			
14	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 30/04/2023. for 50 Rect Blocks.	28 th day compressive strength	271.83	Ka/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	5.14	Qty represents - 21.60 cum
			294.48	Ka/Cm <sup>2</sup>			
			269.57	Ka/Cm <sup>2</sup>			
		<b>Average</b>	<b>278.63</b>	<b>Ka/Cm<sup>2</sup></b>			
15	Cement concrete cube of mix <b>M-30</b> , cast on 01/05/2023. for 50 Tetrapods.	28 th day compressive strength	346.59	Ka/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	4.40	Qty represents - 20.85 cum
			369.24	Ka/Cm <sup>2</sup>			
			364.71	Ka/Cm <sup>2</sup>			
		<b>Average</b>	<b>360.18</b>	<b>Ka/Cm<sup>2</sup></b>			
16	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 01/05/2023. for 50 Rect Blocks.	28 th day compressive strength	269.57	Ka/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	2.01	Qty represents - 21.60 cum
			262.77	Ka/Cm <sup>2</sup>			
			278.63	Ka/Cm <sup>2</sup>			
		<b>Average</b>	<b>270.32</b>	<b>Ka/Cm<sup>2</sup></b>			
17	Cement concrete cube of mix <b>M-30</b> , cast on 02/05/2023. for 50 Tetrapods.	28 th day compressive strength	371.50	Ka/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	3.96	Qty represents - 20.85 cum
			362.44	Ka/Cm <sup>2</sup>			
			342.05	Ka/Cm <sup>2</sup>			
		<b>Average</b>	<b>358.67</b>	<b>Ka/Cm<sup>2</sup></b>			
18	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 02/05/2023. for 50 Rect Blocks.	28 th day compressive strength	253.71	Ka/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	7.71	Qty represents - 21.60 cum
			314.87	Ka/Cm <sup>2</sup>			
			287.69	Ka/Cm <sup>2</sup>			
		<b>Average</b>	<b>285.42</b>	<b>Ka/Cm<sup>2</sup></b>			
19	Cement concrete cube of mix <b>M-30</b> , cast on 03/05/2023. for 50 Tetrapods.	28 th day compressive strength	369.24	Ka/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	3.96	Qty represents - 20.85 cum
			355.65	Ka/Cm <sup>2</sup>			
			351.12	Ka/Cm <sup>2</sup>			
		<b>Average</b>	<b>358.67</b>	<b>Ka/Cm<sup>2</sup></b>			
20	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 03/05/2023. for 50 Rect Blocks.	28 th day compressive strength	262.77	Ka/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	1.15	Qty represents - 21.60 cum
			267.30	Ka/Cm <sup>2</sup>			
			274.10	Ka/Cm <sup>2</sup>			
		<b>Average</b>	<b>268.06</b>	<b>Ka/Cm<sup>2</sup></b>			

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SR. NO	DISCRIPTION OF SAMPLE	TESTED FOR	RESULTS		Max./Min.Value permissable	% above or below	REMARK
21	Cement concrete cube of mix <b>M-30</b> , cast on 04/05/2023. for 50 Tetrapods.	28 th day compressive strength	344.32	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	3.30	Qty represents - 20.85 cum
			364.71	Kg/Cm <sup>2</sup>			
			360.18	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>356.40</b>			
22	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 04/05/2023. for 50 Rect Blocks.	28 th day compressive strength	326.20	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	6.00	Qty represents - 21.60 cum
			246.91	Kg/Cm <sup>2</sup>			
			269.57	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>280.89</b>			
23	Cement concrete cube of mix <b>M-30</b> , cast on 05/05/2023. for 50 Tetrapods.	28 th day compressive strength	364.71	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	5.06	Qty represents - 20.85 cum
			369.24	Kg/Cm <sup>2</sup>			
			353.38	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>362.44</b>			
24	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 05/05/2023. for 50 Rect Blocks.	28 th day compressive strength	271.83	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	3.15	Qty represents - 21.60 cum
			294.48	Kg/Cm <sup>2</sup>			
			253.71	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>273.34</b>			
25	Cement concrete cube of mix <b>M-30</b> , cast on 06/05/2023. for 50 Tetrapods.	28 th day compressive strength	342.05	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	3.30	Qty represents - 20.85 cum
			360.18	Kg/Cm <sup>2</sup>			
			366.97	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>356.40</b>			
26	Cement concrete cube of mix <b>1:1.5:3</b> , cast on 06/05/2023. for 50 Rect Blocks.	28 th day compressive strength	274.10	Kg/Cm <sup>2</sup>	265.00 Kg/cm <sup>2</sup>	2.86	Qty represents - 21.60 cum
			278.63	Kg/Cm <sup>2</sup>			
			265.04	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>272.59</b>			
27	Cement concrete cube of mix <b>M-30</b> , cast on 07/05/2023. for 50 Tetrapods.	28 th day compressive strength	362.44	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	5.06	Qty represents - 20.85 cum
			369.24	Kg/Cm <sup>2</sup>			
			355.65	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>362.44</b>			
28	Cement concrete cube of mix <b>M-30</b> , cast on 08/05/2023. for 50 Tetrapods.	28 th day compressive strength	371.50	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	3.96	Qty represents - 20.85 cum
			337.52	Kg/Cm <sup>2</sup>			
			366.97	Kg/Cm <sup>2</sup>			
			<b>Average</b>	<b>358.67</b>			

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<b>SR. NO</b>	<b>DISCRIPTION OF SAMPLE</b>	<b>TESTED FOR</b>	<b>RESULTS</b>		<b>Max./Min.Value permissable</b>	<b>% above or below</b>	<b>REMARK</b>
29	Cement concrete cube of mix <b>M-30</b> , cast on 09/05/2023. for 50 Tetrapods.	28 th day compressive strength	376.03	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	3.52	Qty represents - 20.85 cum
			328.46	Kg/Cm <sup>2</sup>			
			366.97	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>357.16</b>	<b>Kg/Cm<sup>2</sup></b>			
30	Cement concrete cube of mix <b>M-30</b> , cast on 10/05/2023. for 50 Tetrapods.	28 th day compressive strength	376.03	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	5.49	Qty represents - 20.85 cum
			346.59	Kg/Cm <sup>2</sup>			
			369.24	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>363.95</b>	<b>Kg/Cm<sup>2</sup></b>			
31	Cement concrete cube of mix <b>M-30</b> , cast on 11/05/2023. for 50 Tetrapods.	28 th day compressive strength	357.91	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	4.18	Qty represents - 20.85 cum
			364.71	Kg/Cm <sup>2</sup>			
			355.65	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>359.42</b>	<b>Kg/Cm<sup>2</sup></b>			
32	Cement concrete cube of mix <b>M-30</b> , cast on 12/05/2023. for 50 Tetrapods.	28 th day compressive strength	357.91	Kg/Cm <sup>2</sup>	345.00 Kg/cm <sup>2</sup>	6.15	Qty represents - 20.85 cum
			366.97	Kg/Cm <sup>2</sup>			
			373.77	Kg/Cm <sup>2</sup>			
		<b>Average</b>	<b>366.22</b>	<b>Kg/Cm<sup>2</sup></b>			

Copy to: 1. The Assistant Engineer, SDIII, WDI, WRD, Pernem - 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. QC Lab File.      5. Bill File.

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