

LIST OF LAB EQUIPMENTS - RISDA

TEST	Test Description	Name of Equipment	Range & Least Count / Accuracy	Make / Model	Qty	Sl.No of Equipment
Fineness	IS:4031 Part-2 To test the Fineness of cement	1.Blaine's Apparatus.	-	AIMIL / AIM-390	4	159954
		2.Permeability Cell with perforated metal disc	-	AIMIL/AIM-39003	4	159954
		3. Blaine Paper	No.42,12.7 mm	Whatman	40	-
		4.Mercury for calibration	-	Merck	500 gm	-
		3.Stop watch with start - stop machanism	0-30 minute	Racer	1	-
		4.Mercury for calibration	-	-	100 gms	-
		Balance electrical cap. 220 gm	200 gm/0.01 mg	Sartorius	1	32892163
		6.Standard Cement for Standardiazation of Blaine Cell for OPC	-	NCCBM	40 gm	CRM-1001A16
		6.Standard Cement for Standardiazation of Blaine Cell for OPC	-	NCCBM	40 gm	CRM-1001A-400
		6.Standard Cement for Standardiazation of Blaine Cell for PPC	-	NCCBM	40 gm	CRM-1002A9
		6.Standard Cement for Standardiazation of Blaine Cell for PSC	-	NCCBM	40 gm	CRM-1002C2
		6.Standard Cement for Standardiazation of Blaine Cell for Flyash	-	NCCBM	40 gm	CRM-1001FC6
		6.Standard Cement for Standardiazation of Blaine Cell for GBF Slag	-	NCCBM	40 gm	CRM-1002B1
		7.Manometer Liquid(250ml)	-	-	400 ML	-
		8.Light Grease & oil	-	-	50gm	-
		9.Le- Chatlier Flask	250ml/0.1 ml	AIMIL/ AIM-401	2	-
10.kerosene/Naptha(5Lt)	-	-	2 lit	-		



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Soundness	IS:4031 Part-3	1.Digital Auto clave mechine with PID control to maintain pressure of 2.1 Mpa for 3 Hours.Pressure i.e. attain with 1-1i/4 hrs	0-300 Deg.C/0.1 Deg.C	AIMIL/ AIM-408-2	1	152165	
		2.Auto Clavee Machine Pressure Gauge	0-42 kg/cm ² /0.4kg/cm ²	AIMIL	1	20174	
		3.Standard Bar	300.64.mm	AIMIL	1	20174	
		4.Bar Moulds	25mmx25mm x282 mm	AIMIL/ AIM-402	10	-	
		5.Length Comparator with Digital dial gauge	-	AIMIL/ AIM-374-1-DG	1	15724	
		6.Hand Gloves (Heat resistant)	-	-	20 pair	-	
		7. Autoclave reference point pin	-	AIMIL / AIM-40201	40	-	
	IS:4031 Part-3	Le-Chatlier expansion	1.Le-Chat water bath preferably with thermostatic control (To maintain temp, of 27+2'C & up to boiling)	200 gm/0.01 mg	AIMIL/ AIM-9173-S2	1	20015
			2.Le-Chat mould with weights and cover glass	-	AIMIL/ AIM-400	50	-
			3.Steel Scale	0-300mm	kristeel	1	-
			4.Steel Scale	0-600mm	kristeel	1	-
			5. Vernier caliper	0-150 mm/0.02 mm	AEROSPAC E	1	20078
	Setting Time	IS:4031 Part-5 To test the Setting tile of cement	1.Vicot Apparatus	-	AIMIL/ AIM-394	2	150965/150981
			2.Needles for IST & FST	-	AIMIL	10	-
3.Vicat Moulds			40mmx80mm	AIMIL/ AIM-39301	20	-	
4. Base Plate			-	AIMIL/ AIM-39306	20	-	
Lime reactivity	IS 1727 CLAUSE-9	1.Mortor Mixer	-	AIMIL/ AIM-412-4	1	15860	
		2. Flow table	-	AIMIL/ AIM-411-1	1	15777	
		5.Cube moulds	50mmx50mm x50mm	AIMIL/ AIM-417	60	-	



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Compressive Strength	To test the Compressive strength of Cube	1.CST machine	1000KN/0.5 KN	AIMIL / AIM-314-FA-1	1	14103
		2.CST machine	50KN/0.2 KN	AIMIL / AIM-302E-MU-1	1	15057
		3.CST machine	500 KN/0.2 KN	AIMIL / AIM-311E-MU-1	1	16117
		4.ProviNG Ring for calibration of CST 1000 KN	1000KN	AIMIL / AIM-279	1	15125
		5.ProviNG Ring for calibration of CST 50 KN	50KN	AIMIL / AIM-274	1	1534
		6.Tachometer Non contact type	0-20000 RPM	AIMIL / AIM-9272-1	2	S015050 /S016129
		7.Gauging Trowels	210 gm & length 100mm	AIMIL / AIM-418-2	8	-
		8.Cube moulds	200 gm/0.01 mg	AIMIL / AIM-428	150	-
		9.Poking rod	-	AIMIL / AIM-41816	10	-
		10.Gauging plate, Stainless steel (non-perforated)	-	Local Make	2	-
		11.Standard sand Gr.I,II&III (as per IS:650)	-	TAMIN Minerals	2 ton each	-
		12.Curing tank of appropriate size with water circulaion arrangement	Automatic temp Humidity	Classic Scientific	1	-
		13. Vibration Machine with Timer and cube mould fitting assembly	RPM 1200 +/- 400	AIMIL / AIM-418-2	2	153230 /153231



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General	To control Humidity & Temp., in Laboratory	1a. Humidity chamber with temp., & RH control	RH min 90% at 27±2°C	REMI, Model-CHM-12 Plus	1	ZBFH-15969
		1b. Humidity chamber with temp., & RH control	RH min 50% at 27±2°C	REMI, Model-CHM-10 Plus	1	ZBLH-34456
		1c. Humidity chamber with temp., & RH control	RH min 90% at 50±2°C	REMI, Model-CHM-6 Plus	1	ZBLH-34901
		2. Hygrometer	0-100%	AIMIL / AIM-9274	4	-
		3. Suitable arrangement to demonstrate maintenance of Temp., of 27±2 OC s RH of 65±5% constantly	Centralised AC	-	1	-
	For Sampling cement	1. Swing Mill , Pelletiser	-	FLS	Each 1	-
		2. Mixing Trays-Adequate size including trays of 24 partitions for keeping hourly samples	-	AIMIL / AIM-9314	40	-
		3. Sample Splitter	-	AIMIL / AIM-445	2	-
		4. Scoop	2 Kg	AIMIL / AIM-9206	3	-
		5. Scoop	5 Kg	AIMIL / AIM-9207	3	-
		6. Scoop	500 gms	AIMIL / AIM-9202	2	-
		7. sampling Tray	1000 mm X 1000 mm X 100 m	Local make	4	-
	To control the residue of cement	1. Sieves of size 45,90,212 microns	-	AIMIL	10 each	-
		2. Sieves of size 75 ,300 microns	-	AIMIL	4 each	-
		3. Sieves of size 1 mm,2 mm,3.35 mm,38,53,63,150,500,850 microns	-	AIMIL	4 each	-



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General	To measure the Temperature	1.Thermometers	0-150 DegC/0.5 deg C	Zeal	1	-
		2.Thermometers	0-250 DegC/0.5 deg C	Dimple	2	-
		3.Thermometers	0-360 DegC/0.5 deg C	Zeal	1	-
		4.Thermometers	0-50 DegC/0.5 deg C	Dimple	2	-
	To grind the clinker, Slag and Gypsum sample in a lab ball mill for testing (As applicable)	1.Lab Ball mill (Motorised)	10 kg Capacity	AIMIL / AIM-441-10	1	15414
		2.Pulverizer	-	AIMIL / AIM-443-1	2	15436 /15420
		3.Jaw Crusher	-	AIMIL / AIM-442-1	1	15354
		4. Heat of Hydration Equipment	-	AIMIL / AIM-9934	1	20048
	To weigh the material	1.Platform type Balance (3200gm)	3200 gm/1gm	AIMIL / AIM-9017-1-NEW-CAS	1	D470600623
		2.Platform type Balance (10Kg)	10 kg/20gm	AIMIL / AIM-9006-1-NEW-CAS	1	141154645
		3.Platform type Balance (150Kg)	150 Kg /500gm	AIMIL / AIM-9003-1-NEW-CAS	1	D150790663
		4.Platform type Balance (300 gm)	300 gm/0.2gm	CAS	1	140900271
		5.Weight box with weights	1mg-1000Grams	Wensar	1	-



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Chemical Testing	IS:4032	1.Muffle Furnace with thermostatic control	0-1200°C /1 deg C	10710915 /10710916	Lab Tech	2
		2.Oven with thermostatic control	250°C / 0.5 deg .C	9/2015	-	2
	To perform chemical testing as per IS:4032,IS 12803. and Other related ISS	3.Moisture Balance	300 deg C	B 452425223	Mettler T	1
		4.Hot plate	300°C	-	Lab Tech	5
		5.Distillation aassembly	10Lt/Hour	-	Borosil	1
		6.Sulphide sulphur appliance	-	-	Borosil	1
		7.Desicators with cover and Dessicant	200mmDia &250mmDia	-	Borosil	2
		8.PH Meter / Papers	-	-	EI	1
		9.Paltinum crucibles	20-35ml	-	-	4
		10.Porcelain crucibles	20-25ml	-	-	20
		11.Filter papers (No: 40,41 &42,540) Boxes	-	-	Whatman	20 each
		12.Cutting punch machine blaine papers cutting	-	-	AIMIL	2
		13.Spectro photometer	-	142710478	Merck	1



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Chemical Testing	To perform chemical testing as per IS:4032,IS 12803. and Other related ISS	14.Glasswares(Volumetric flask 250ml, Beaker250ml,Measuring cylinder50,100,500,1000ml, Burette 25/50ml,Conical flasks 250ml,Pipette5,10,25&50ml)	-	-	Borosil	
		15.All chemicals required for complete Chemical Analysis of cement	-	-	Merck	
		16.Silica crucibles	-	-	Borosil	40
		17.Wash bottles	-	-	Borosil	20
		18.Vacum pump	1/2 HP	A13060504	Value-VE115N	1
		19. Cross belt analyser	-	-	RTI	1
		20 XRF	-	-	Bruker	1
		21 XRD	-	-	Bruker	1
		22 Particle Size Analyser	-	-	Helos	1
		23 Flame photometer	Na:0-100 PPM K:0-100 PPM	1506095	ESICO-1882	1
Water Analysis	To check-PH	1. PH meter	0-14	1508026	EI	1
HDPE/PP	Tensile strength	1. Tensile testing machine	250 KGF	1806/2015	AIMIL / AIM-9227	1

