



National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



SCOPE OF ACCREDITATION

Laboratory Name AMARA RAJA BATTERIES LTD TESTING AND CALIBRATION LABORATORY,
KARAKAMBADI, TIRUPATI, CHITTOOR, ANDHRA PRADESH , INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-8516 Page No. : 1 / 29

Validity 29/05/2019 to 28/05/2021 Last Amended on -

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
Permanent Facility					
1	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Barium Sulfate	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 500 mg/L
2	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Barium Sulfate	Manganese	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
3	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Battery Flux	Acid number	IS 553 1984 RA: 2004	130 mg NaOH/g to 530 mg NaOH/g
4	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Carbon black	Acetone Absorption	IS 12178: 2003	4 ml/5g to 10 ml/5g
5	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Carbon black	Ash Content	ASTM D1506 - 15: 2012	0.3 % to 0.8 %
6	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Carbon black	Magnesium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
7	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Carbon Black	Moisture	ASTMD 1509: 2018	0.1 % to 2 %
8	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Carbon black	pH	IS 12178: 2003	2 to 10
9	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Aluminum	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 10 mg/L



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10	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Antimony	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 10 mg/L
11	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Arsenic	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 10 mg/L
12	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Bismuth	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 300 mg/L
13	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Calcium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
14	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Chromium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1 mg/L
15	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Copper	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 15 mg/L
16	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
17	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Nickel	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1 mg/L
18	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Silver	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 30 mg/L
19	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Tellurium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 5 mg/L



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20	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Tin	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 5 mg/L
21	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Gray oxide(PbO)	Zinc	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 5 mg/L
22	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Ortho phosphoric acid	Assay	IS 798:1986 RA: 2003	80 % to 90 %
23	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Ortho phosphoric acid	Specific gravity @ 20°C	IS 798:1986 RA: 2003	1.65 g/cc to 1.75 g/cc
24	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Plate analysis (Lead and Lead compounds), Lithium Salts	Alpha PbO (Litharge)	ARBL TSC/STP/030 (Issue Dt: 24.07.2016, Rev.no:00): 2016	0 % to 50 %
25	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Plate analysis (Lead and Lead compounds), Lithium Salts	Lead	ARBL TSC/STP/030 (Issue Dt: 24.07.2016, Rev.no:00): 2016	0 % to 15 %
26	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Plate analysis (Lead and Lead compounds), Lithium Salts	Lead Oxide Sulphate (4(PbO).PbSO ₄)	ARBL TSC/STP/030 (Issue Dt: 24.07.2016, Rev.no:00): 2016	25 % to 90 %
27	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Antimony	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 10 mg/L
28	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Arsenic	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 10 mg/L
29	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Bismuth	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 300 mg/L



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30	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Chromium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1 mg/L
31	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Cobalt	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1 mg/L
32	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Copper	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 15 mg/L
33	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
34	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Nickel	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1 mg/L
35	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Selenium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 5 mg/L
36	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Silver	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 30 mg/L
37	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Sulphur	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 15 mg/L
38	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Tellurium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 5 mg/L
39	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Red lead	Tin	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 5 mg/L



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40	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Red lead	Zinc	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 5 mg/L
41	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO34H 2O)	Arsenic	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 10 mg/L
42	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO34H 2O)	Bismuth	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 20 mg/L
43	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO34H 2O)	Cadmium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
44	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO34H 2O)	Chromium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 3 mg/L
45	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO34H 2O)	Copper	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 20 mg/L
46	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO34H 2O)	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 100 mg/L
47	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO34H 2O)	Manganese	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 3 mg/L
48	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO34H 2O)	Mercury	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	1.0 mg/L to 10.0 mg/L
49	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO34H 2O)	Nickel	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 3 mg/L



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50	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO ₃ 4H ₂ O)	pH	ARBL TSC/STP/032(issue Dt: 20.05.2017; Rev no. 00): 2017	2 to 12
51	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO ₃ 4H ₂ O)	Silver	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
52	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium perborate tetrahydrate(NaBO ₃ 4H ₂ O)	Zinc	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 4 mg/L
53	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium sulfate	Aluminum	IS 255 : 1982 RA: 2010	0.0005 mg/L to 200 mg/L
54	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium sulfate	Chromium	IS 255 : 1982 RA: 2010	0.0005 mg/L to 200 mg/L
55	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium sulfate	Insolubility in water	IS 255 : 1982 RA: 2010	0.1 % to 2.0 %
56	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium sulfate	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 50 mg/L
57	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium sulfate	Iron	IS 255 : 1982 RA: 2010	0.0005 mg/L to 200 mg/L
58	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sodium sulfate	Moisture content	IS 255 : 1982 RA: 2010	0.01 % to 2 %



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59	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Sodium sulfate	pH	IS 255 : 1982 RA: 2010	2 % to 10 %
60	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Sodium sulfate	Purity	IS 255 : 1982 RA: 2010	98 % to 102 %
61	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Sulfuric acid	Antimony	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 1 mg/L
62	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Sulfuric acid	Arsenic	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 200 mg/L
63	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Sulfuric acid	Chromium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
64	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Sulfuric acid	Cobalt	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 3 mg/L
65	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Sulfuric acid	Copper	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 500 mg/L
66	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Sulfuric acid	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 500 mg/L
67	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Sulfuric acid	Manganese	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 100 mg/L
68	CHEMICAL-INDUSTRIAL & FINE CHEMICALS	Sulfuric acid	Nickel	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 500 mg/L



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69	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sulfuric acid	Selenium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 250 mg/L
70	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Sulfuric acid	Zinc	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 20 mg/L
71	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Vanisperse	Calcium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1600 mg/L
72	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Vanisperse	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 500 mg/L
73	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Vanisperse	Mn	ARBL TSC/STP/029 (ICP-OES Manufacturer manual): 2016	0.025 mg/L to 100 mg/L
74	CHEMICAL- INDUSTRIAL & FINE CHEMICALS	Vanisperse	pH	ARBL TSC/STP/032: 2015	2 to 10
75	CHEMICAL- METALS & ALLOYS	Lead	Tellurium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 5 mg/L
76	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Aluminum	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 550 mg/L



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77	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Antimony	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 0.5 mg/L
78	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Barium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 2 mg/L
79	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Bismuth	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 500 mg/L
80	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Cadmium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L



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81	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Calcium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 0.12 mg/L
82	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Cobalt	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 30 mg/L
83	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Copper	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 800 mg/L
84	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 20 mg/L



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85	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Manganese	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1 mg/L
86	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Nickel	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 3 mg/L
87	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Platinum	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 1 mg/L
88	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Silver	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 150 mg/L



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89	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Sulphur	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 10 mg/L
90	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Tellurium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 30 mg/L
91	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Tin	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 50 mg/L
92	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Zinc	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 20 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
93	CHEMICAL- METALS & ALLOYS	0.4% Tin lead alloy 1.25% Tin lead alloy 1.5% Tin lead alloy 2% Tin lead alloy High Tin Silver Lead Alloy 40/60 Tin lead alloy	Arsenic	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 25 mg/L
94	CHEMICAL- METALS & ALLOYS	Cadmium	Cadmium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 99.99 %
95	CHEMICAL- METALS & ALLOYS	Cadmium	Copper	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 20 mg/L
96	CHEMICAL- METALS & ALLOYS	Cadmium	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 60 mg/L
97	CHEMICAL- METALS & ALLOYS	Cadmium	Lead	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.1 mg/L to 500 mg/L
98	CHEMICAL- METALS & ALLOYS	Cadmium	Silver	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
99	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead Alloy ACSC (Advanced Comminco strip casting) Lead Alloy PCA (Positive casting alloy) Lead Alloy 1.1% Calcium Lead alloy	Aluminum	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 500 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
100	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Antimony	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 15 mg/L
101	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Arsenic	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 15 mg/L
102	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Barium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 80 mg/L
103	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Bismuth	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 250 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
104	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Calcium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1.2 mg/L
105	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Chromium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
106	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Cobalt	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 15 mg/L
107	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Copper	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 100 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
108	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Gold	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 15 mg/L
109	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 20 mg/L
110	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Magnesium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 80 mg/L
111	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Manganese	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
112	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Nickel	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
113	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Selenium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 5 mg/L
114	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Silver	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 40 mg/L
115	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Strontium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
116	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Tellurium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 5 mg/L
117	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Tin	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 8000 mg/L
118	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Vanadium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1 mg/L
119	CHEMICAL- METALS & ALLOYS	LCA (Lead Calcium Aluminum) Lead AlloyACSC (Advanced Comminco strip casting) Lead AlloyPCA (Positive casting alloy)Lead Alloy1.1% Calcium Lead alloy	Zinc	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
120	CHEMICAL- METALS & ALLOYS	Lead	Aluminum	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 5 mg/L
121	CHEMICAL- METALS & ALLOYS	Lead	Antimony	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 5 mg/L
122	CHEMICAL- METALS & ALLOYS	Lead	Arsenic	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 5 mg/L
123	CHEMICAL- METALS & ALLOYS	Lead	Bismuth	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 320 mg/L
124	CHEMICAL- METALS & ALLOYS	Lead	Cadmium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
125	CHEMICAL- METALS & ALLOYS	Lead	Calcium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 3 mg/L
126	CHEMICAL- METALS & ALLOYS	Lead	Chromium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 10 mg/L
127	CHEMICAL- METALS & ALLOYS	Lead	Cobalt	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 30 mg/L
128	CHEMICAL- METALS & ALLOYS	Lead	Copper	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 10 mg/L
129	CHEMICAL- METALS & ALLOYS	Lead	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 5 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
130	CHEMICAL- METALS & ALLOYS	Lead	Manganese	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 1 mg/L
131	CHEMICAL- METALS & ALLOYS	Lead	Mercury	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	1.0 mg/L to 10 mg/L
132	CHEMICAL- METALS & ALLOYS	Lead	Nickel	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 3 mg/L
133	CHEMICAL- METALS & ALLOYS	Lead	Platinum	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 1.0 mg/L
134	CHEMICAL- METALS & ALLOYS	Lead	Selenium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 5.0 mg/L
135	CHEMICAL- METALS & ALLOYS	Lead	Silver	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 30 mg/L
136	CHEMICAL- METALS & ALLOYS	Lead	Sulphur	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 15 mg/L
137	CHEMICAL- METALS & ALLOYS	Lead	Tin	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 7 mg/L
138	CHEMICAL- METALS & ALLOYS	Lead	Zinc	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 5 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
139	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Antimony	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 6.25 mg/L
140	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Arsenic	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 700 mg/L
141	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Bismuth	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 450 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
142	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Cadmium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 2.5 mg/L
143	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Cobalt	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 30 mg/L
144	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Copper	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 500 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
145	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 500 mg/L
146	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Manganese	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 100 mg/L
147	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Nickel	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 500 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
148	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Selenium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 250 mg/L
149	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Silver	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 350 mg/L
150	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5%	Sulphur	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 1000 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
151	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5% Antimony lead alloy	Tellurium	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 500 mg/L
152	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5% Antimony lead alloy	Tin	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 7000 mg/L
153	CHEMICAL- METALS & ALLOYS	MFX (Maintenance Free Alloy) lead alloy1.47% Antimony lead alloy2.5% Antimony lead alloy3.1% Antimony lead alloy3.4% Antimony lead alloy5% Antimony lead alloy	Zinc	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 20 mg/L
154	CHEMICAL- METALS & ALLOYS	Tin	Arsenic	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 2000 mg/L
155	CHEMICAL- METALS & ALLOYS	Tin	Bismuth	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 400 mg/L



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KARAKAMBADI, TIRUPATI, CHITTOOR, ANDHRA PRADESH , INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-8516 Page No. : 26 / 29

Validity 29/05/2019 to 28/05/2021 Last Amended on -

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
156	CHEMICAL- METALS & ALLOYS	Tin	Copper	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 400 mg/L
157	CHEMICAL- METALS & ALLOYS	Tin	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 100 mg/L
158	CHEMICAL- METALS & ALLOYS	Tin	Lead	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.1 mg/L to 800 mg/L
159	CHEMICAL- METALS & ALLOYS	Tin	Tin	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.05 mg/L to 99.95 mg/L
160	CHEMICAL- PLASTIC & RESINS	PVC Shims	Water Absorption	ASTMD-570-98: 2018	0.01 % to 0.2 %
161	CHEMICAL- WATER	DM/RO water	Conductivity	IS 3025 Part 14 RA: 2019	1.0 μ s / cm to 80.0 μ s / cm
162	CHEMICAL- WATER	DM/RO water	Iron	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 0.5 mg/L
163	CHEMICAL- WATER	DM/RO water	Lead	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.1 mg/L to 0.5 mg/L
164	CHEMICAL- WATER	DM/RO water	Manganese	ARBL TSC/STP/029 (Issue Dt: 05.12.2016, Rev.no:00): 2016	0.025 mg/L to 0.5 mg/L
165	CHEMICAL- WATER	DM/RO Water	pH	IS 3025 Part 11 RA: 2017	4.0 to 10
166	CHEMICAL- WATER	DM/RO Water	Total Dissolved Solids	IS3025 Part 16 RA: 2017	1.0 mg/L to 40.0 mg/L



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
167	MECHANICAL- MECHANICAL PROPERTIES OF METALS	Metals and alloys	Vickers Hardness testing	ASTM E92: 2017	3 HV1 to 25 HV1
168	MECHANICAL- METALLOGRAPHY TEST	Lead and its compounds , Lithium salts & Absorptive Glassmate seperator	Morphology	ASM Hand Book Vol-9- Metallography and Microstructures: 2004	Qualitative(Magnificatio n: 50x to 50000x)
169	MECHANICAL- METALLOGRAPHY TEST	Lead and Lead Alloys	Microstructure	ASM Hand Book Vol-9- Metallography and Microstructures: 2004	Qualitative(Magnificatio n: 50x,100x,200x,500x& 1000x)
170	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(polypropylene copolymer)	Density	ASTM D 792-86: 2008	0.895 g/cc to 1.150 g/cc
171	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(polypropylene copolymer)	Glass transition temperature-Mid (Tmg)	ASTM D 3418: 2015	120 to 180
172	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(polypropylene copolymer)	Melting peak temperature(Tpm)	ASTM D 3418: 2015	120 to 180
173	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(polypropylene copolymer)	MFI (Melt Flow Index)	ASTM D 1238: 2013	7 g/10min. to 15 g/10min.
174	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(polypropylene copolymer)	Crystallization Enthalpy/Area	ASTM D3418: 2015	80 J/g to 120 J/g
175	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(polypropylene copolymer)	Crystallization Extrapolated End Temperature (T efc)	ASTM D3418: 2015	100 °C to 150 °C



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
176	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(Polypropylene copolymer)	Crystallization Extrapolated Onset Temperature (T _{oic})	ASTM D3418: 2015	90 °C to 130 °C
177	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(Polypropylene copolymer)	Crystallization Peak Temperature (T _{pc})	ASTM D3418: 2015	100 °C to 140 °C
178	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(polypropylene copolymer)	Elongation	ASTM D638: 2015	5 % to 20 %
179	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(Polypropylene copolymer)	Flexural Modulus	ASTM D 790M: 2017	5000 kg/cm ² to 20000 kg/cm ²
180	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(polypropylene copolymer)	Melting Enthalpy/Area	ASTM D3418: 2015	-100 J/g to -60 J/g
181	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(Polypropylene copolymer)	Melting Extrapolated End Temperature (T _{efm})	ASTM D3418: 2015	130 °C to 190 °C
182	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(Polypropylene copolymer)	Melting Extrapolated Onset Temperature (T _{eim})	ASTM D3418: 2015	120 °C to 180 °C
183	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(polypropylene copolymer)	Oxygen index	ASTM D 2863: 2017	15 % to 29 %
184	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Plastics PPCP(polypropylene copolymer)	Tensile Strength	ASTM D 638-14: 2015	185 kg/cm ² to 270 kg/cm ²
185	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Porous polyethylene separator	Width	IS 3651 Part 2: 1985	116.5 mm to 162 mm



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
186	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Porous polyethylene separator	Thickness	IS 2092: 1983	0.75 mm to 1.80 mm
187	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	Porous Polyethylene separator	Web Thickness	IS 2092: 1983	0.17 mm to 0.23 mm
188	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	PVC(Polyvinyl chloride) shims	Thickness	IS 2967: 1983	0.23 mm to 0.45 mm
189	MECHANICAL- PLASTICS AND PLASTIC PRODUCTS	PVC(Polyvinyl chloride) shims	Width	IS 3651 Part 2: 1985	42 mm to 177 mm