Laboratory	**Scientific and Industrial Testing and Research Centre, 83 & 84, Avarampalayam Road, K. R. Puram Post, Coimbatore, Tamil Nadu**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**TC-5324** ***(in lieu of T-0061, T-0068, T-0078 & T-2935)*** **Page 1 of 30**
Validity	**04.11.2016 to 03.11.2018** **Last Amended on 13.01.2017**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection

BIOLOGICAL TESTING

I.	**WATER**			
1.	**DRINKING WATER**	*E.coli*	IS 15185:2002 Reaffirmed 2009	Present/Absent (250ml)
			IS 5887(Part I)-1976 Reaffirmed 2009 FDA-BAM 2001	Present/Absent/ml Present /Absent/10ml
			IS 5887(Part I)-1976 Reaffirmed 2009	≥1 CFU/ 0.1ml
		Total *Coliforms*	IS 15185:2002 Reaffirmed 2009 FDA-BAM 2001	Present/Absent (250ml) Present /Absent/10ml
			IS 5401(Part I) : 2002 Reaffirmed 2007	≥1 CFU/ml
		Faecal streptococci	IS 15186:2002 Reaffirmed 2009	Present/Absent (250 ml)
		Staphylococcus aureus	IS 5887 (Part 2)1976 Reaffirmed 2009	Present/Absent (250 ml)
		Sulphite Reducing Anaerobes	IS 13428:2005(ANNEX-C) Reaffirmed 2014	Present/Absent (50ml)
		Pseudomonas aeruginosa	IS 13428:2005(ANNEX-D) Reaffirmed 2014	Present/Absent (in 250ml)
		Aerobic Microbial Count at 37˚c for 24 hrs)	IS 5402:2012 Reaffirmed 2012	≤ 1-300 CFU/ml
		Aerobic Microbial Count at 22 ˚c for 72 hrs.)	IS 5402:2012 Reaffirmed 2012	≤ 1-300 CFU/ml
		Yeast & Mould	IS 5403-1999 Reaffirmed 2009	Present/Absent (250 ml)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Salmonella	IS 15187:2002 Reaffirmed 2009	Present/Absent (250 ml)
			IS 5887(Part 3) : 1999 Reaffirmed 2009	
		Shigella	IS 5887 (Part 7):1999 Reaffirmed 2009	Present/Absent (250 ml)
		Vibrio cholerae	IS 5887(Part 5)-1976 Reaffirmed 2009	Present/Absent (250 ml)
		Vibrio parahaemolyticus	IS 5887(Part 5)-1976 Reaffirmed 2009	Present/Absent (250 ml)
2.	**PACKAGED DRINKING WATER**	*E.coli*	IS 15185:2002 Reaffirmed 2009	Present/Absent (250ml)
		Total *Coliforms*	IS 15185:2002 Reaffirmed 2009	Present/Absent (250ml)
		Faecal streptococci	IS 15186:2002 Reaffirmed 2009	Present/Absent (250ml)
		Staphylococcus aureus	IS 5887 (Part 2) 1976 Reaffirmed 2009	Present/Absent (250ml)
		Sulphite Reducing Anaerobes	IS 13428:2005 (ANNEX- C) Reaffirmed 2014	Present/Absent (50ml)
		Pseudomonas aeruginosa	IS 13428:2005 (ANNEX-D) Reaffirmed 2014	Present/Absent (250ml)
		Aerobic Microbial Count at 37˚c for 24 hrs)	IS 5402:2012 Reaffirmed 2012	≤ 1-300 CFU/ml
		Aerobic Microbial Count at 22 ˚c for 72 hrs.)	IS 5402:2012 Reaffirmed 2012	≤ 1-300 CFU/ml
		Yeast & Mould	IS 5403-1999 Reaffirmed 2009	Present/Absent (250ml)
		Salmonella	IS 15187:2002 Reaffirmed 2009	Present/Absent (250ml)
			IS 5887(Part 3) : 1999 Reaffirmed 2009	

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Shigella	IS 5887 (Part 7):1999 Reaffirmed 2009	Present/Absent (250ml)
		Vibrio cholerae	IS 5887(Part 5)-1976 Reaffirmed 2009	Present/Absent (250ml)
		Vibrio parahaemolyticus	IS5887(Part 5)-1976 Reaffirmed 2009	Present/Absent (250ml)
3.	**PACKAGED NATURAL MINERAL WATER**	*E.coli*	IS 15185:2002 Reaffirmed 2009	Present/Absent(in 250 ml)
			IS 5887(Part I)-1976 Reaffirmed 2009	Present/Absent/ml
			IS 5887(Part I)-1976 Reaffirmed 2009	≥1 CFU/0.1ml
		Total *Coliforms*	IS 15185:2002 Reaffirmed 2009	Present/Absent (in 250 ml)
			IS 5401(Part I) : 2002 Reaffirmed 2007	≥1 CFU/ml
		Faecal streptococci	IS 15186:2002 Reaffirmed 2009	Present/Absent (in 250 ml)
		Staphylococcus aureus	IS 5887 (Part 2) 1976 Reaffirmed 2009	Present/Absent (in 250 ml)
		Sulphite Reducing Anaerobes	IS 13428:2005 (ANNEX- C) Reaffirmed 2014	Present/Absent (50ml)
		Pseudomonas aeruginosa	IS 13428:2005 (ANNEX-D) Reaffirmed 2014	Present/Absent (250ml)
		Aerobic Microbial Count at 37˚c for 24 hrs)	IS 5402:2012 Reaffirmed 2012	≤ 1-300 CFU/ml
		Aerobic Microbial Count at 22 ˚c for 72 hrs.)	IS 5402:2012 Reaffirmed 2012	≤ 1-300 CFU/ml
		Yeast & Mould	IS 5403-1999 Reaffirmed 2009	Present/Absent (250ml)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Salmonella	IS 15187:2002 Reaffirmed 2009	Present/Absent (250ml)
			IS 5887(Part 3) : 1999 Reaffirmed 2009	
		Shigella	IS 5887 (Part 7):1999 Reaffirmed 2009	Present/Absent (250ml)
		Vibrio cholerae	IS 5887(Part 5)-1976 Reaffirmed 2009	Present/Absent (250ml)
		Vibrio Parahaemolyticus	IS5887(Part 5)-1976 Reaffirmed 2009	Present/Absent (in 250 ml)
4.	**GROUND WATER/ SURFACE WATER**	*E.coli*	IS 15185:2002 Reaffirmed 2009	Present/Absent(in 250 ml)
			IS 5887(Part I)-1976 Reaffirmed 2009 FDA-BAM 2001	Present/Absent/ml Present /Absent/10ml
			IS 5887(Part I)-1976 Reaffirmed 2009	≥1CFU/0.1ml
		Total *Coliforms*	IS 15185:2002 Reaffirmed 2009 FDA-BAM 2001	Present/Absent (in 250 ml) Present /Absent/10ml
			IS 5401(Part I) : 2002 Reaffirmed 2007	≥1 CFU/ml
		Faecal streptococci	IS 15186:2002 Reaffirmed 2009	Present/Absent (in 250 ml)
		Staphylococcus aureus	IS 5887 (Part 2) 1976 Reaffirmed 2009	Present/Absent (in 250 ml)
		Sulphite Reducing Anaerobes	IS 13428:2005 (ANNEX- C) Reaffirmed 2014	Present/Absent (in 50 ml)
		Pseudomonas aeruginosa	IS 13428:2005 (ANNEX-D) Reaffirmed 2014	Present/Absent (in 250ml)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Aerobic Microbial Count at 37˚c for 24 hrs)	IS 5402:2012 Reaffirmed 2012	≤ 1-300 CFU/ml
		Aerobic Microbial Count at 22 ˚c for 72 hrs.)	IS 5402:2012 Reaffirmed 2012	≤ 1-300 CFU/ml
		Yeast & Mould	IS 5403-1999 Reaffirmed 2009	Present/Absent (in 250ml)
		Salmonella	IS 15187:2002 Reaffirmed 2009	Present/Absent (in 250ml)
			IS 5887(Part 3) : 1999 Reaffirmed 2009	
		Shigella	IS 5887 (Part 7):1999 Reaffirmed 2009	Present/Absent (in 250 ml)
		Vibrio cholerae	IS 5887(Part 5)-1976 Reaffirmed 2009	Present/Absent (in 250 ml)
		Vibrio parahaemolyticus	IS5887(Part 5)-1976 Reaffirmed 2009	Present/Absent (in 250 ml)
II	**FOOD & AGRICULTURAL PRODUCTS**			
1.	**TEA**	*Escherichia coli*	IS :5887(Part 1)-1976 (Reaffirmed 2009)	Present/Absent 25 g
		Coliforms	IS 5401(Part 1):2002 ISO 4832:1991 Reaffirmed 2007	≥1CFU/g
		Total bacterial Count	IS 5402:2012 ISO 4833:2003 (Reaffirmed 2012)	≥1CFU/g
		Yeast & Mould	IS 5403-1999 (Reaffirmed 2009)	≥1CFU/g
		Salmonella	IS 15187:2002 Reaffirmed 2009	Present/Absent 25 g
			IS 5887(Part 3) : 1999 Reaffirmed 2009	

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			CHEMICAL TESTING	
I.	**METALS / ALLOYS**			
1	**CAST IRON**	C	IS:12308 (Part 4) : 1988 IS:12308 (Part 11) : 1991	1.5 % to 4.5 %
		S	IS:12308 (Part 2)- 1987	0.01 % to 0.25%
		Mn	IS:12308 (Part 10) : 1991	0.1% to 7.0 %
		P	IS:12308 (Part 5) : 1991	0.01 % to 0.6%
		Si	IS:12308 (Part 6) : 1991	0.1 % to 6.0 %
		Ni	IS:12308 (Part 7) : 1991	0.5 % to 36.0 %
		Cu	IS:12308 (Part 12) : 1992	0.01 % to 0.5 %
		Mg	IS:12308 (Part 13) : 1992	0.001 % to 0.1 %
2	**STEEL**	C	IS:228 (Part 1) : 1987	0.05 % to 2.5 %
		Mn	IS:228 (Part 2) : 1987	0.1 % to 1.5 %
		Ni	IS:228 (Part 5) : 1987	0.1% to 35 %
		Cr	IS:228 (Part 6) : 1987	0.1% to 35 %
		Mo	IS:228 (Part 7) : 1990	1 % to 5 %
		S	IS:228 (Part 9) : 1989	0.01 % to 0.25 %
		Si	IS:228 (Part 8) : 1989	0.05 % to 5.0 %
3	**FERRO SILICON**	Si	IS : 1559 (Part 1) : 1988	15 % to 85 %
		C	IS : 1559 (Part 2) : 1982	0.05 % to 1.5 %
4	**FERRO CHROMIUM**	Cr	IS:13452 (Part 5) : 2003 IS:13452 (Part 6) : 1997	45 % to 70 %
5	**COPPER & ITS ALLOYS**	Cu	IS:440 – 1964 Reprint 1993, IS 4027 (Part 1) : 1987 IS 7212 – 1974	40 % to 99.5 % Up to 99.99 %
		Pb	IS:440 – 1964 Reprint 1993, IS 4027 (Part 1) : 1987	0.1% to 20%
		Ni	IS:440 – 1964 Reprint 1993 IS 4027 (Part 4) : 1987	0.1% to 4 %
		Fe	IS 4027 (Part 8) : 1991	0.01 % to 2.0 %

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
II.	**WATER**			
1	**Drinking water /Borewell water/ Packaged Drinking water and Natural Mineral water**	Colour	IS:3025(Part-4)-1983 Reaffirmed 2012 (First revision)	1- 50 colour units
		Odour	IS:3025(Part-5)-1983 Reaffirmed 2012 (First revision)	Agreeable/Non agreeable
		Taste	IS:3025(Part-8)-1984 Reaffirmed 2012 (First revision)	Agreeable,[AT Scale a) or b) or c)] /Non agreeable
		Turbidity	IS:3025 (Part-10)-1984 Reaffirmed 2012 (First revision)	0-400 NTU
		Total dissolved solids	IS:3025 (Part-16)-1984 Reaffirmed 2012 (First revision)	5 mg/l to10000 mg/l
		pH	IS:3025 (Part-11)-1983 Reaffirmed 2012 (First revision)	4 -12
		Barium	Annex F of IS 13428-2005 Reaffirmed 2014	0.5 mg/l to 5mg/l
		Copper	IS:3025 (Part-42)-1992 Reaffirmed 2014 (First revision)	0.02 mg/l to 5.0 mg/l
		Iron	IS:3025 (Part 53)-2003 Reaffirmed 2014 (First revision)	0.01 mg/l to 10 mg/l
			IS 15303-2003 Reaffirmed 2009	
		Manganese	IS:3025 (Part 59)-2006 Reaffirmed 2012	0.05 mg/l to 0.5 mg/l
		Nitrate	IS:3025 (Part 34)-1988 Reaffirmed 2014 (First revision)	0.5 mg/l to 50mg/l

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Nitrite (as NO2)	IS:3025 (Part 34)- 1988 Reaffirmed 2014 (First revision)	0.01 mg/l to 5mg/l
		Fluoride (as F)	IS:3025 (Part 60)-2008 Reaffirmed 2013 (First revision)	0.05 mg/l to 5 mg/l
		Zinc (as Zn)	3025(Part 49)-1994 Reaffirmed 2014 (First revision)	0.01mg/l to 10mg/l
		Silver (as Ag)	Annex J of IS 13428-2005, Reaffirmed 2014 (Second revision)	0.004 mg/l to 20 mg/l
		Aluminium (as Al)	IS 15302-2003 Reaffirmed 2009 by AAS method	0.01 mg/l to 2 mg/l
			IS:3025 (Part 55) – 2003 Reaffirmed 2014 (First Revision)	0.02 mg/l to 2mg/l
		Chloride (as Cl)	IS:3025 (Part 32)-1988 Reaffirmed 2014 (First revision) by wet method	2 mg/l to 2000mg/l
		Selenium (as Se)	IS 15303-2003 Reaffirmed 2009 by AAS method	0.005 mg/l to 1mg/l
			IS:3025 (Part 56)-2003 Reaffirmed 2014 (First revision)	0.005 mg/l to 1mg/l
		Sulphate (as SO4)	IS:3025 (Part 24)-1986 Reaffirmed 2014 (First revision)	1 mg/l to 1500mg/l
		Alkalinity (as HCO3)	IS:3025 (Part 23)-1986 Reaffirmed 2014 (First revision)	1 mg/l to 1000mg/l

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Calcium (as Ca)	IS:3025 (Part 40)-1991 Reaffirmed 2014 (First revision)	1 mg/l to 500mg/l
		Magnesium (as Mg)	IS:3025 (Part 46)-1994 Reaffirmed 2014 (First revision)	2 mg/l to 200mg/l
		Sodium (as Na)	IS:3025 (Part 45)-1993 Reaffirmed 2014 (First revision)	0.1 mg/l to 200mg/l
		Residual Free chlorine	IS:3025 (Part 26)-1986 Reaffirmed 2014 (First revision)	0.1mg/l to 5mg/l
		Phenolic compounds (as C6H5OH)	IS:3025 (Part 43)-1992 Reaffirmed 2014 (First revision)	0.001mg/l to 1mg/l
		Mineral Oil	IS:3025 (Part 39)-1991 Reaffirmed 2014 (First revision)	0.1 mg/l to 1mg/l
		Anionic surface active agents (as MBAS)	Annex K of IS 13428-2005 Reaffirmed 2014 (Second revision)	0.05mg/l to 2mg/l
		Sulphide (as H2S)	IS:3025 (Part 29)-1986 Reaffirmed 2014 (First revision)	0.04mg/l to 5mg/l
		Antimony (as Sb)	IS 15303-2003 Reaffirmed 2009	0.005mg/l to 5 mg/l
		Borates (as B)	Annex F of IS 13428-2005 Reaffirmed 2014 (Second revision)	0.001mg/l to 1mg/l
		Mercury (as Hg)	IS:3025 (Part-48)–1994 Reaffirmed 2014 (First revision)	0.001mg/l to 5mg/l
		Cadmium (as Cd)	IS:3025 (Part 41)-1992 Reaffirmed 2014 (First revision)	0.003mg/l to 1mg/l

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Arsenic (as As)	IS:3025 (Part 37)-1988 Reaffirmed 2014 (First revision)	0.005mg/l to 5mg/l
		Cyanide (as CN)	IS:3025 (Part 27)-1986 Reaffirmed 2014 (First revision)	0.005mg/l to 5mg/l
		Lead (as Pb)	IS:3025 (Part 47)-1994 Reaffirmed 2014 (First revision)	0.01mg/l to 1mg/l
		Chromium (as Cr)	Annex J of IS 13428-2005 Reaffirmed 2014 (Second revision)	0.01mg/l to 3mg/l
		Nickel (as Ni)	Annex L of IS 13428-2005 Reaffirmed 2014 (Second revision)	0.015mg/l to 2mg/l
		Polychloro biphenyles (PCB) 2,6- Dichlorobiphenyl 2,4,4′-Trichlorobiphenyl 2,2′,5,5′-Tetrachlorobiphenyl 2,2′,4,4′,5,5′-Hexachlorobiphe 2,2′,3,4,4′,5′-Hexachlorobiphe 2,2′,3,4,4′,5,5′ Heptachlorobi	Annex M of IS 13428-2005 Reaffirmed 2014 (Second revision)	0.01µg/l to 100 µg/l

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Polynuclear aromatic hydrocarbons 1. Acenaphtnene 2. Acenaphthlylene 3. Anthracene 4. Benzo (A) Anthrackene 5. Benzo (A) Pyrene 6. Benzo (B) Fluoranthene 7. Benzo (G,H,I) Perylene 8. Benzo (K) Fluoranthene 9. Chrysene 10. Dibenze (A,H) Anthracene 11. Fluoranthene 12. Fluorene 13. Indeno (1,2,3-CD) Pyrene 14. Naphthalene 15. Phenathrene 16. Pyrene	APHA 6440 ,22nd Edition	0.015µg/l to 100 µg/l
		DDT a.2,4 DDT b.2,4 DDE c.2,4 DDD d.4,4 DDT E.4,4 DDE F.4,4 DDD	USEPA 508 Revision 3.0, (1989)	0.01µg/l to 100 µg/l
		Lindane	USEPA 508 Revision 3.0, (1989)	0.01µg/l to 100 µg/l

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		BHC(HCH) a.alpha HCH b.beta HCH C.delta HCH	USEPA 508 Revision 3.0 (1989)	0.01µg/l to 100 µg/l
		Endosulphan a.alpha endosulphan b.beta endosulphan c.Endosulphan sulphate	USEPA 508 Revision 3.0 (1989)	0.01µg/l to 100 µg/l
		Monocrotophos	USEPA 8141A Revision 1.0 (Sep-1994)	0.01µg/l to 100 µg/l
		Ethion	USEPA 1657A - Revision A, (Sep-2000), USEPA 525.2- Revision 2.0 (1995)	0.01µg/l to 100 µg/l
		Chlorpyrifos	USEPA 525.2- Revision 2.0 (1995), USEPA 8141A- Revision 1.0 (Sep-1994)	0.01µg/l to 100 µg/l
		Phorate a.phorate b.phorate sulphone c.phorate sulphoxide	USEPA 8141A Revision 1.0 (Sep-1994)	0.01µg/l to 100 µg/l
		2,4 D	USEPA 515.1- Revision 4.0 (1989), USEPA 555- Revision 1.0 (1992)	0.01µg/l to 100 µg/l
		Butachlor	USEPA 525.2- Revision 2.0 (1995), USEPA 8141A- Revision 1.0 (Sep-1994)	0.01µg/l to 100 µg/l
		Isoproturon	USEPA 532- Revision 1.0 (June 2000)	0.01µg/l to 100 µg/l

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Alachlor	USEPA 525.2- Revision 2.0 (1995), USEPA 507- Revision 2.0 (1989)	0.01µg/l to 100 µg/l
		Atrazine	USEPA 525.2 - Revision 2.0 (1995), USEPA 8141A- Revision 1.0 (Sep-1994)	0.01µg/l to 100 µg/l
		Methyl parathion a.Methyl paraoxon b.Methyl parathion	USEPA 8141A Revision 1.0 (Sep-1994)	0.01µg/l to 100 µg/l
		Malathion a.Malaoxon b.Malathion	USEPA 8141A Revision 1.0 (Sep-1994)	0.01µg/l to 100 µg/l
		Aldrin **a**.Aldrin b.dieldrin	USEPA 525.2- Revision 2.0 (1995)	0.01µg/l to 100 µg/l
		Total solids	IS 3025 (Part-15)-1984 Reaffirmed 2014	5 mg/l to 10000 mg/l
		Total suspended solids	IS 3025 (Part-17)-1984 Reaffirmed 2012	5 mg/l to 1000 mg/l
		Total hardness	IS 3025 (Part-21)-2009 Reaffirmed 2014	1 mg/l to 2000mg/l
		Conductivity	IS 3025 (Part-14)-1984 Reaffirmed 2013	0.1 to 6000 µmhos/cm
		Total Kjeldahl nitrogen	IS 3025 (Part-34)-1988 Reaffirmed 2014	1 mg/l to 500mg/l
		Silica	IS 3025 (Part-35)-1988 Reaffirmed 2014	1 mg/l to 50mg/l
		Potassium	IS 3025 (Part-45)-1993 Reaffirmed 2014	0.05 mg/l to 200mg/l
		Ammonia (as NH_3-N)	IS 3025 (Part-34)-1988 Reaffirmed 2014	0.1 mg/l to 500 mg/l
		Bromate (as Bro_3)	ISO15061:2001	0.005 mg/l to 5.0 mg/l

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
II.	**FOOD & AGRICULTURAL PRODUCTS**			
1.	**TEA**	Total Ash	IS 13854:1994 (Reaffirmed 2009), ISO1575:1987	1 g/100g to 25 g/100g
		Water soluble Ash	IS 13855:1993 (Reaffirmed 2009), ISO1576:1988	10 g/100g to 80g/100g
		Water insoluble Ash	IS 13855:1993 (Reaffirmed 2009), ISO1576:1988	10 g/100g to 80g/100g
		Alkalinity of water soluble Ash	IS 13856:1993 (Reaffirmed 2009), ISO1578:1975	0.3 g/100g to 20g/100g
		Acid insoluble Ash	IS 13857:1993 (Reaffirmed 2009), ISO1577:1987	0.1 g/100g to 20g/100g
		Loss in mass at 103˚C	IS 13853:1994 (Reaffirmed 2009), ISO1573:1980	0.1 g/100g to 25g/100g
		Water extract	IS 13862:1999 (Reaffirmed 2009), ISO 9768 :1994	10 g/100g to 70g/100g
		Crude fibre	IS 10226(Part-1):1982 (Reaffirmed 2015) ISO 5498-1981	2 g/100g to 50g/100g
		Copper	IS 11123:1984 (Reaffirmed 2010)	1 mg/kg to 250 mg/kg
		Lead	IS 12074:1987 (Reaffirmed 2010)	1 mg/kg to 50mg/kg
		Ethion	AOAC Official Method 2007.01 ,19th edition	0. mg/kg 1 to 10mg/kg
		Dicofol	AOAC Official Method 2007.01, 19th edition	0.1 mg/kg to 10mg/kg
2.	**Edible Oil Ground-nut Oil / Mustard Oil / Rice bran Oil / Sunflower Oil / Soybean Oil / Coco-nut Oil / Sesame Oil / Palmolein Oil**	Moisture	IS 548 (part-1):1964 (Reaffirmed 2015)	0.1 g/100g to 20 g/100g
		Insoluble Impurities	IS 548 (part-1):1964 (Reaffirmed 2015)	0.05 g/100g to 5g/100gm
		Specific gravity 30º/30ºC	IS 548 (part-1):1964 (Reaffirmed 2015)	0.85 to 2.0
		Refractive index at 40ºC	IS 548 (part-1):1964 (Reaffirmed 2015)	1.3000 to 2.000

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Saponification value	IS 548 (part-1):1964 (Reaffirmed 2015)	50 to 300 Unit
		Iodine value(Wijs)	IS 548 (part-1): 1964 (Reaffirmed 2015)	5 to 200
		Acid value	IS 548 (Part-1):1964 (Reaffirmed 2015)	0.2 g/100g to 20 g/100g
		Unsaponifiable matter	IS 548 (part-1):1964 (Reaffirmed 2015)	0.35 g/100g to 6.0 g/100g
		Peroxide value	IS 548 (part-1):1964 (Reaffirmed 2015)	0.5 milli eq/kg to 20 milli eq/kg
		Bellier turbidity temperature	IS 548 (Part-2):1976 (Reaffirmed 2010)	10°c to 55°c
		Phosphorous	IS 4276 : 2014	5 mg/kg to 2000 mg/kg
		Flash point-penski martens(closed)	IS 1448 (part-21):2012	100°c to 400°c
		Mineral oil	IS 15642 (part-1&2):2006 (Reaffirmed 2011)	Present/Absent
		Castor oil	IS 15642 (part-1&2):2006 (Reaffirmed 2011)	Present/Absent
		Argemone oil	IS 15642 (part-1&2):2006 (Reaffirmed 2011)	Present/Absent
		Rancidity	FSSAI Lab Manual-2, 2012 –Oil & Fats	Present/Absent
		Lead	IS 1699:1995 (Reaffirmed 2009)	0.05 mg/kg to 10 mg/kg
		Arsenic	IS 1699:1995 (Reaffirmed 2009)	0.05 mg/kg to 10 mg/kg
		Cadmium	IS 1699:1995 (Reaffirmed 2009)	0.05 mg/kg to 10 mg/kg
		Mercury	IS 1699:1995 (Reaffirmed 2009)	0.05 mg/kg to 10 mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection

ELECTRICAL TESTING

I.	**ROTATING ELECTRICAL MACHINES**			
1.	**Motors & Pumps** **Three phase induction motor- (upto & including 37kW,up to 600V)** **Single phase small AC and universal electric motors, (upto & including 1500 W for AC induction motors, upto & including 750 W for universal motors)** **Single phase small AC motors, (upto & including 2200 W for AC induction motors)** **Specification for textile motors - part 1-loom motors (upto & including 3.7kW)**	Insulation resistance test @ 500V DC Resistance	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 8034 : 2002 IS 8472 : 1998 IS 9079 : 2002 IS 9283 : 2013 IS 12225 : 1997 IS 12615 : 2011 IS 14220 : 1994 IS 14582 : 1998	1 MΩ to19.99GΩ
		High voltage test Voltage	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 8034 : 2002 IS 8472 : 1998 IS 9079 : 2002 IS 9283 : 2013 IS 12225 : 1997 IS 12615 : 2011 IS 14220 : 1994 IS 14582 : 1998	0.02 to 5 kV

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Three phase squirrel cage induction motors for centrifugal pumps for agricultural applications. (Upto & including 15 kW) **Submersible pump sets. (upto & including 75 kW)** **Pumps - regenerative for clear, cold water upto & including 2200 W for AC induction motors for single phase motors (upto & including 15 kW for three phase motors)** **Electric monoset pumps for clear, cold water for agriculture and water supply purpose, (upto & including 15 kW for three phase**	Current		100 mA 600 mA
		Resistance of Winding	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 8034 : 2002 IS 8472 : 1998 IS 9079 : 2002 IS 9283 : 2013 IS 12225 : 1997 IS 12615 : 2011 IS 14220 : 1994 IS 14582 : 1998	19.9 mΩ to 1 Ω
		Resistance		1Ω to 1 kΩ
		Reduced voltage running up test	IS 325 : 1996 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 8034 : 2002 IS 9079 : 2002 IS 9283 : 2013 IS 12225 : 1997 IS 12615 : 2011 IS 14220 : 1994	2 rpm to3000 rpm
		Speed		
		No load test	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 8034 : 2002 IS 8472 : 1998 IS 9079 : 2002 IS 9283 : 2013 IS 12225 : 1997 IS 12615 : 2011 IS 14220 : 1994 IS 14582 : 1998	0.2 to 600V
		Voltage		

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	motors, upto & including 1500 W for single phase motors)	Current		0 to 100A
		Input Power		1 to 60kW
		Speed		2 to 3000 rpm
		Frequency		1 to 65 Hz
	Motors for submersible pumpsets. (Upto & including 75 kW.)	Load test Voltage	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 9283 : 2013 IS 12615 : 2011 IS 14582 : 1998	0.2 to 600V
	Centrifugal jet pump, upto & including 15 kW for three phase motors, (upto & including 1500 W for single phase motors)	Current		0 to 100A
		Input Power		1 to 60kW
		Load Torque		0.5 to 55 kgm
		Speed		2 to 3000 rpm
		Power Factor		0.1 to 1.0
		Efficiency		Upto 95%
		Frequency		1 to 65 Hz
	Energy efficient 3 phase squirrel cage induction motor. (upto & including 37kW)	Leakage current Test	IS 996 : 1979 IS 996 : 2009 IS 8034 : 2002 IS 9283 : 2013	0.1 to 20 mA
		Current		0.01 to 200 mA
	Open well submersible pump sets, (upto & including 50 kW) **Single phase small AC electric motors for centrifugal pumps for agricultural**	Locked rotor test Torque	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 8034 : 2002 IS 8472 : 1998 IS 9079 : 2002 IS 9283 : 2013 IS 12225 : 1997 IS 12615 : 2011	0.5 to 100 kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	applications, (upto & including 1500W)		IS 14220 : 1994 IS 14582 : 1998	
		Current		0.1 to 100A
		Pull up torque test Torque	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 8472 : 1998 IS 12615 : 2011	0 to 900% of full load torque
		Pull out torque test Torque	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 12615 : 2011	0 to 900% of full load torque
		Momentary overload test Torque	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 9283 : 2013 IS 12615 : 2011 IS 14582 : 1998	0 to 60% of full load torque
		Temperature rise test Temperature	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 8034 : 2002 IS 8472 : 1998 IS 9079 : 2002 IS 9283 : 2013 IS 12225 : 1997 IS 12615 : 2011 IS 14220 : 1994 IS 14582 : 1998	20 to 150°C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Moisture proofness test Temperature	IS 996 : 1979 IS 996 : 2009	Temp : 40 ± 5°C
		Relative Humidity		RH = ≥ 95%
		Vibration measurement test Displacement	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 9283 : 2013 IS 12615 : 2011 IS 14582 : 1998	1 to 1000 Microns pk to pk
		Velocity		1 mm/sec to 4.5 mm/sec
		Dimensions	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 8034 : 2002 IS 9283 : 2013 IS 12615 : 2011 IS 14582 : 1998	0 to 50 mm 51 mm to 100 mm 101 mm to 500 mm
		Terminal markings	IS 325 : 1996 IS 996 : 1979 IS 996 : 2009 IS 2972 (Pt I) : 1979 IS 7538 : 1996 IS 9283 : 2013 IS 12615 : 2011 IS 14582 : 1998	Visual examination
		Over Speed test	IS 325 : 1996 IS 996 : 1979 IS 7538 : 1996 IS 12615 : 2011	2 to 3600 rpm 1 to 65 Hz

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Commutation Test	IS 996 : 1979	Visual examination
		Pump Performance test	IS 8034 :2002 IS 8472 : 1998 IS 9079 : 2002 IS 12225 : 1997 IS 14220 : 1994 IS:11346: 2002	Pumps of capacity up to 0.03 to 75 lps
		Hydrostatic pressure test		Head 0.5 to 70 kg/cm^2
				Power 50 kW
		Self priming test		Efficiency
				Current- 0 to 100A
				Pipe Size 15 to 150 mm NB
II	**CABLES & ACCESSORIES**			
1.	**PVC insulated cables for working voltages upto & Including 1100V**	Cl.11) Core Identification		Visual examination
		Test on Conductor Cl.15.1a i) Annealing test (For copper)	IS 10810 (Pt.1) : 1984	0.01 to 500 N
		Cl.15.1a ii) Tensile test (For Aluminium)	IS 10810 (Pt.2) : 1984	0.01 to 500 N
		Cl.15.1a iii) Wrapping test (For Aluminium)	IS 10810 (Pt.3) : 1984	0 mm to 25 mm
		Cl.15.1a iv) Resistance test	IS 10810 (Pt.5) : 1984	3 mΩ to 30 kΩ
		Cl.15.1b) Test for overall dimensions	IS 10810 (Pt.6) : 1984	0.01 mm to 50 mm
		Cl.15.1b) Test for Thickness of insulation	IS 10810 (Pt.6) : 1984	0.01 mm to 50 mm
		Cl.15.1b) Test for Thickness of sheath	IS 10810 (Pt.6) : 1984	0.01 mm to 50 mm
		Physical test for insulation and sheath Cl.15.1c i) Tensile strength and elongation at break	IS 10810 (Pt.7) : 1984	0.01 N to 500 N

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Cl.15.1c ii) Loss of mass	IS 10810 (Pt.10) : 1984	0.1 to 5 mg /cm^2
				20 ^{o} C to 250 ^{o} C
		Cl.15.1c iii) Ageing in air oven	IS 10810 (Pt.11) : 1984	0.01 N to 500 N
				20 to 300 ^{o}C
		Cl.15.1c iv) Shrinkage test	IS 10810 (Pt.12) : 1984	0.1 to 10 mm
				20 ^{o} C to 300^{o} C
		Cl.15.1c v) Heat shock test	IS 10810 (Pt.14) : 1984	20 ^{o} C to 300^{o} C
		Cl.15.1c vi) Hot deformation test	IS 10810 (Pt.15) : 1984	20 ^{o} C to 250 ^{o} C
		Cl.15.1d) Insulation resistance	IS 10810 (Pt.43) : 1984 Volume Resistivity @ 500V	10 to 1000 x 10^6 MΩ
				20 to 100°C
		Cl.15.1 e) High voltage test at room temp	IS 10810 (Pt.45) : 1984	0.01 to 28 kV AC
				0.01 to 12 kV DC
		Cl.15.1 e) High voltage test (Water immersion test) at elevated temp	IS 10810 (Pt.45) : 1984	20 ^{o} C to 100°C,
				0.01 to 28kV AC
				0.01 to 12 kV DC
2.	**PVC Insulated (Heavy Duty) Electric Cables for working voltage upto & Including 1100V**	Cl.10) Core Identification		Visual examination
		Test on Conductor 15.1a 1) Annealing test (For copper)	IS 10810 (Pt.1) : 1984	0.01 N to 500 N
		Cl.15.1a 2) Tensile test (For Aluminium)	IS 10810 (Pt.2) : 1984	0.01 N to 500 N
		Cl.15.1a 3) Wrapping test (For Aluminium)	IS 10810 (Pt.3) : 1984	0 to 25 mm
		Cl.15.1a 4) Resistance test	IS 10810 (Pt.5) : 1984	3 mΩ to 30kΩ

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Cl.15.1c) Test for Thickness of insulation	IS 10810 (Pt.6) : 1984	0.01 mm to 50 mm
		Cl.15.1c) Test for Thickness of sheath	IS 10810 (Pt.6) : 1984	0.01 mm to 50 mm
		Physical test for insulation and sheath Cl.15.1d 1) Tensile strength and elongation at break	IS 10810 (Pt.7) : 1984	0.01 N to 500N
		Cl.15.1d 2) Ageing in air oven	IS 10810 (Pt.11) : 1984	0.01 N to 100N
				20 to 300 ^{0}C
		Cl.15.1d 3) Shrinkage test	IS 10810 (Pt.12) : 1984	0.01 mm to 10 mm
				20 ^{0} C to 300 ºC
		Cl.15.1d 4) Hot deformation test	IS 10810 (Pt.15) : 1984	20 ^{0} C to 250 ^{0} C
		Cl.15.1d 5) Loss of mass in air oven	IS 10810 (Pt.10) : 1984	0.01 to 5 mg /cm^{2}
				20 ^{0} C to 250 ^{0} C
		Cl.15.1 d 6) Heat shock test	IS 10810 (Pt.14) : 1984	20 ^{0} C to 300°C
		Cl.15.1e) Insulation resistance (Volume Resistivity @ 500V)	IS 10810 (Pt.43) : 1984	10 to 1000 x 10^{6} MΩ
				20 ^{0} C to 100°C
		Cl.15.1 g) High voltage test at room temp	IS 10810 (Pt.45) : 1984	0.01 to 28 kV AC
				0.01 to 12 kV DC
		Cl.15.1 f) High voltage test (Water immersion test) at elevated temp	IS 10810 (Pt.45) : 1984	0 to 100°C
				0.01 to 28 kV AC
				0.01 12 kV DC

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	**Cross linked Polyethylene insulated thermoplastic sheathed cables for working voltages upto & including 1100 volts**	Cl.10 Core Identification		Visual examination
		Test on Conductor Cl.15.1a i) Annealing test (For copper)	IS 10810 (Pt.1) : 1984	0.01 N to 500 N
		Cl.15.1a ii) Tensile test (For Aluminium)	IS 10810 (Pt.2) : 1984	0.01 N to 500 N
		Cl.15.1a iii) Wrapping test (For Aluminium)	IS 10810 (Pt.3) : 1984	0.01 mm to 25 mm
		Cl.15.1a iv) Resistance test	IS 10810 (Pt.5) : 1984	3 mΩ to 30kΩ
		Cl.15.1c) Test for Thickness of insulation	IS 10810 (Pt.6) : 1984	0.01 mm to 50 mm
		Cl.15.1c) Test for Thickness of sheath	IS 10810 (Pt.6) : 1984	0.01 mm to 50 mm
		Physical test for insulation Cl.15.1d i) Tensile strength and elongation at break	IS 10810 (Pt.7) : 1984	0.01 N to 500 N
		Cl.15.1d ii) Ageing in air oven	IS 10810 (Pt.11) : 1984	0.01 N to 500 N
				20 to 300^{o} C
		Cl.15.1d iv) Shrinkage test	IS 10810 (Pt.12) : 1984	20 to 300^{o} C
				0.01 mm to 10 mm
		Cl.15.1d v) Water absorption (Gravimetric)	IS 10810 (Pt.33) : 1984	0.01 mg /cm^{2}to 5 mg /cm^2
				20 to 250 ^{o} C
		Physical test for sheath Cl.15.1e i) Tensile strength and elongation at break	IS 10810 (Pt.7) : 1984	0.01 N to 500N
		Cl.15.1e ii) Ageing in air oven	IS 10810 (Pt.11) : 1984	0.01 N to 500N
				Upto 300^{o} C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Cl.15.1e iii) Loss of mass in air oven	IS 10810 (Pt.10) : 1984	0.01 mg /cm^2 to 5 mg /cm^2
				20 ^{o} C to 250 ^{o} C
		Cl.15.1e iv) Shrinkage test	IS 10810 (Pt.12) : 1984	0.01 to 10 mm
				20 ^{o} C to 300 ºC
		Cl.15.1d v) Hot deformation test	IS 10810 (Pt.15) : 1984	20 ^{o} C to 250 ^{o} C
		Cl.15.1d vi) Heat shock test	IS 10810 (Pt.14) : 1984	20 ^{o} C to 300^o C
		Cl.15.1f) Insulation resistance (Volume Resistivity @ 500V)	IS 10810 (Pt.43) : 1984	10 to 1000 x 10^6 MΩ
				20 ^{o} C to 100°C
		Cl.15.1 g) High voltage test at room temp	IS 10810 (Pt.45) : 1984	0.01 kV AC to 28 kV AC
				0.01 kV AC to 12 kV DC
				0 to 5min
III.	**POWER CAPACITORS**			
1.	**Motor capacitors IS 2993 : 1998 AC Motor capacitors**	Sealing test	Cl.2.12 of IS 2993 : 1998	20°C to 250°C
		Voltage test between terminals	Cl. 2.7 of IS 2993 : 1998	0.01 kV AC to 1.0 kV AC
		Voltage test between terminals & case	Cl. 2.8 of IS 2993 : 1998	0.01 kV AC to 20 kV AC
IV.	**ELECTRICAL MATERIALS –CONDUCTORS**			
1.	**Winding wires Polyester enameled round copper wire class 155** **Polyestermide enameled round**	Dimensions: Cl 4.1 Conductor diameter, Cl 4.2 Out of roundness of diameter, Cl.4.3 minimum increase in diameter Cl 4.4 Overall diameter	IS 13778 (Part 2) : 2013	0.01 mm to 5 mm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	copper wire class 180 Polyester enameled round Aluminium wire Class 130	Cl.5 Resistance measurement	IS 13778 (Part 5) : 2012	3 mΩ to 30kΩ
		Cl.6 Elongation test	IS 13778 (Part 3) : 2012	0.01 mm to 500 mm
		Cl.7 Springiness test	IS 13778 (Part 3) : 2012	72 Degree Angular
		Cl.8.1 Mandrel winding test	IS 13778 (Part 3) : 2012	0.18 to 25mm dia
	Polyester or Polyestermide over coated with polyamide-imide enameled round copper wire, class 200	Cl.8.2 Stretching test	IS 13778 (Part 3) : 2012	100 to 500 mm / min
		Cl.8.3 Jerk test	IS 13778 (Part 3) : 2012	0.5 mm to 250 mm
		Cl.8.4 Peel test	IS 13778 (Part 3) : 2012	0.01 N to 400N
		Cl.9 Heat shock	IS 13778 (Part 6) : 2011	20 to 250°C
		Cl.10 Cut through	IS 13778 (Part 6) ; 2011	1 N to 72 N
				20 to 400°C
		Cl.11 Resistance to abrasion	IS 13778 (Part 3) : 2012	0.1 N to 50 N
	Particular types of winding wires part 34 Polyester enameled round copper wire class 130	Cl.12 Solvent test	IS 13778 (Part 4) : 2011	20 °C to 300°C
				0.1 mm to 150 mm
		Cl.13 Breakdown voltage at room temp	IS 13778 (Part 5) : 2012	0.1 to 11 kV AC
		Cl.13 Breakdown voltage at elevated temp	IS 13778 (Part 5) : 2012	0.1 kV to 11 kV AC 0 to 250ºC
		Cl.14Continuity of insulation	IS 13778 (Part 5) : 2012	350 V to 2 kV DC
	Polyester enameled round copper wire Class 130	High temperature Test	IS 13778 (Part 6) : 2011	upto 5 mm
				Upto 300 V
				upto 600°C
2.	**Winding wires for submersible motors -** **Winding Wires for submersible motor , Part-4**	Cl 4 Material Cl 4.1 Conductor Cl 4.1.2 Form of Conductor 4.1.2 Joints in conductor Cl 5 Conductor Composition	IS 8783 (Pt1) : 1995	Visual examination.

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Specification for individual wires Sec 1 HR PVC Insulated wires.	IS:8783 (Pt1) -1995 Cl 6 Conductor diameter	IS 8783 (Pt 3) : 1995, Annex A	0.01 mm to 5 mm
		IS:8783 (Pt1) -1995 Cl.6 Annealing test	IS 10810 (Pt.1) : 1984	0.01 mm to 500 mm
	IS 8783 (Part 4 Sec2) Winding Wires for submersible motor , Part-4 Specification for individual wires Sec 2 Cross linked polyethylene insulated and polyamide jacketed wires.	IS:8783 (Pt1) -1995 Cl.6 Resistance measurement	IS 10810 (Pt.5) : 1984	3 mΩ to 30kΩ
		IS 8783(Part 2):1995 Table-1 i) Volume Resistivity @ 500V room temper and elevated temp	IS 10810 (Pt.43) : 1984	10 to 1000 x 10^6 MΩ
				20 to 100°C
		iii) Before Ageing	IS 10810 (Pt 7) : 1984	0.01 N to 1000N
		Tensile Strength Elongation at break		
		iv) Ageing in air oven	IS 10810 (Pt 11) : 1984	0.01 N to 1000N
		Temperature		
	IS 8783 (Part 4 Sec3) Winding Wires for submersible motor , Part-4 Specification for individual wires Sec 3 Polyester and polypropylene insulated winding wires.	Tensile Strength		20 to 300°C
		Elongation at break		
		v) Shrinkage test	IS 10810 (Pt.12) : 1984	0.01 mm to 10 mm
				20°C to 300°C
		vi) Water absorption (Gravimetric)	IS 10810 (Pt 33) : 1984	20 °C to 300°C
		Temperature		
		Water Absorption		0.01 mg /$cm^2$to 5 mg /cm^2
		viii) Hot deformation test	IS 10810 (Pt 15) : 1984	20°C to 300°C
		Temperature		
		ix) Heat shock test	IS 10810 (Pt.14) : 1984	20°C to 300°C
		Temperature		
		Sign of Cracks, Scales, Separation of layers		Visual examination

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		IS 8783 (Pt 4)-1995 Cl 4.1 Thickness of insulation	IS 10810 (Pt.6) : 1984	0.01 mm to 5 mm
		Cl.4.2 Application of insulation	IS 8783 (Pt 4) : 1995	Visual examination.
		Cl.4.3 Colour	IS 8783 (Pt 4) : 1995	Visual examination.
		Cl.4.4 Overall diameter	IS 8783 (Pt1) : 1995	0.01 mm to 5mm
		Cl.4.5 High Voltage test (Water immersion test at room temp.)	IS 10810 (Pt.45) : 1984	0.1 to 28 kV AC

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		MECHANICAL TESTING		
I.	**MECHANICAL PROPERTIES OF MATERIALS**			
1	**Ferrous & Non Ferrous Alloys**	Tensile Test Tensile stress(UTS) Yield stress % elongation % reduction in area 0.2%Proof Stress	IS : 1608 - 2005	400 kN Capacity 0-40 kN, LC = 80N 0-100 kN, LC = 200N 0-200 kN, LC = 400N , 0.1 to 80% 0-400 kN, LC = 800N , 0.2 to 80% (50 mm GL only) 10 kN Capacity 0-10kN, LC = 1N (50 mm GL only)
		Hardness test by Rockwell 'C' scale	IS : 1586 – 2012	20 to 70 HRC
		Hardness Test by - Brinell	IS : 1500 – 2013	Upto 650 HBW 5 mm / 750 kg 10 mm / 3000 kg
		Bend Test	IS : 1599 - 2012	Mandrel dias 20, 32 mm & 90^0, 180^0 bend upto 400 kN applied load
		Transverse Root and Face Bend test on welded joints Transverse Side Bend test on welded joints Longitudinal Root and Face Bend test on welded joints	IS : 3600 (pt 5) - 1983 IS : 3600 (pt 6) - 1983 IS : 3600 (pt 7) - 1985	Mandrel dias 20, 32 mm & 90^0, 180^0 bend upto 400 kN applied load

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Static Load Test on Helical Compression Springs (Characteristic Curve)	IS : 7906 (pt 2) - 1975	upto 400 kN
2.	**Horizontal Centrifugal Pumps/ Horizontal centrifugal Monoset pumps / Self-priming Pumps**	Pump Performance test for Flow, Head, Current & Power and Efficiency	IS 11346: 2015	Pumps of capacity upto Flow : 75 l/s Head : 70 kg/cm^2 Power : 11 kW Efficiency up to 80%
3.	**Foot valves, Reflux valves and Bore valves**	Performance test K Value	IS 10805: 1986	Pipe Size : 150 mm NB Up to 150mm NB Diff Head – 1 bar
4.	**Domestic Water Meter**	Water Meter Performance test Pressure Tightness Loss of Pressure Metering Accuracy Temperature Suitability Life Test (For tests given above a, b, c &d)	IS 6784: 1996	Upto 40 kg/cm² LC : 1 kPa Upto 25 lps Upto ± 5% Upto 100 Deg C Upto ± 5%