

	ACCREDITATION DOCUMENT	F-06/02 Issue Date : 25/06/08 Rev No: 05 LAB 035
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Testing Laboratory

Accreditation Scope of, Pakistan Institute of Technology for Minerals & Advanced Engineering Materials (PITMAEM) Pakistan Council of Scientific & Industrial Research Laboratories Complex, Lahore, Pakistan

Permanent laboratory premises

Materials/ Products tested	Types of test/ Properties measured	Range of measurement	Minimum detection limit	Uncertainty of Measurement (where applicable) MU (+)	Standard specification/ Techniques/ equipment used
Metal Testing					
Metallic Materials	Standard guide for preparation of metallographic	Metallic materials	Not Applicable	Not Applicable	ASTM E 3-01
	Standard practice for Microetching of	Metallic materials	Not Applicable	Not Applicable	ASTM E 407-99
	Macroetching	Metallic materials	Not Applicable	Not Applicable	ASTM E 340-00
	Determining Average grain size	ASTM Grain size No. 1-10	1	Not Applicable	ASTM E 112-96
	Measurement of metals & oxide coating thickness of cross section.	1µm – 1mm	1µm	Not Applicable	ASTM B 487-85
	Evaluating the microstructure of graphite (flakes) in iron casting	All types of flakes & size	1	Not Applicable	ASTM A 247-67
	Optical Emission Vacuum Spectrometric analysis of carbon and low alloy steel	C 0.0 – 1.1 Mn 0.0 – 2.0 Si 0.0 – 1.15 S 0.0 – 0.055 P 0.0 – 0.085	0.001%	0.03%	ASTM E 415-99 a

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Materials/ Products tested	Types of test/ Properties measured	Range of measurement	Minimum detection limit	Uncertainty of Measurement (where applicable) MU (+)	Standard specification/ Techniques/ equipment used
	Test Method for Optical Emission Vacuum Spectrometric analysis of Stainless Steel by Point to Plane Excitation Technique	C 0.005 – 0.25 Mn 0.01- 2.0 Si 0.01 – 0.9 S 0.003-0.065 P 0.003 – 0.15 Cr 17.0 – 23.0 Ni 7.5 – 13.00 Mo 0.01 – 3.0	0.001%	0.197%	ASTM E1086-94 (Reapproved 2000)
	Test Method for Analysis of Manganese Steel using Atomic Emission Spectrometry	C 0.3 – 1.4 Mn 8.0 – 16.2 Si 0.25 – 1.5 P 0.025-0.06 Cr 0.25 – 2.0 Ni 0.05 – 4.0	0.001%	0.412%	ASTM E 2209-02
	Test Method for Analysis of Cast Iron using Optical Emission Spectrometer	C 1.9 – 3.8 Mn 0.0 – 1.8 Si 0.0 – 2.5 S 0.0 – 0.08 P 0.0 – 0.04	0.001%	0.872%	ASTM E1999-99
OPTICAL EMISSION SPECTROMETER LABORATORY					
Metallic Materials	Test Method for Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the argon atmosphere Point to Plane, unipolar self-Initiating Capacitor Discharge	Si 0.001 -24.0 Cu 0.001- 20.0 Mg 0.001- 11.0 Zn 0.001- 10.0 Ni 0.001- 4.0 Sn 0.001- 7.5 Fe 0.001- 3.5 Mn 0.001- 2.0 Pb 0.002- 0.7	0.001%	0.872%	ASTM E 1251-94
	Practice for Sampling of steel & iron for determination of Chemical Composition	Diameter. (12mm -100 mm)	12mm	Not Applicable	ASTM E1806-96 (Reapproved 2001)

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