

List of in house testing facilities

Chemical analysis	
Spectrometer	2 x Stationery metal analyzer for chemical analysis with ICAL calibration system. Model: SPECTROMAXx LM04 & SPECTROMAXx 07 LMM07 <u>Make:</u> Spectro (AMTEK), Germany Instrument No: 122497/07 Date: 13 Apr 2007 & 147966 Dtd 25.10.2018 <u>Software:</u> SPECTROMAXx Ver: 1.2.7 <u>Calibration:</u> With CRM Samples (MBH Analytical Ltd, England) <u>Range of Ferrous Programs installed (Upgradable with software):</u> Cast Iron, Low Alloy, Cr-Cr/Cr-Ni Steel, Mn. Steel, Cr Hard Cast, Ni-Resist <u>Analysis</u> on liquid metal chill cast sample poured in Copper base metallic dies
Accessories for spectrometer	1. Argon Gas Purifier Model: Argon Gas Purifier MP 2000 S.No.: 201 3445 230 2. Specimen (Spectro sample) Abrasive Polishing Machine
Thermal Analysis of liquid iron (C, Si, CE)	Model: Ferrolab Excel S.No.: - 060201
Microstructure	1 x Inverted Stage metallurgical microscope Model: INBT-2 Make: Vardhan Works (P) Ltd, India 1 x Inverted Metallurgical Microscope with built in CCD Camera and Image Analyzer Software Type: RV3 USB Accessories: Disc Polishing Machines for sample preparation
Tensile testing	Servo Controlled Digital Universal Testing Machine with Software Make: FIE Model: UTES-60 S. No.: 4/2006-3396 Capacity: 600 kN
Hardness Testing Machine	Brinell Hardness Testing Machine with Standard Test Block Model: TKB -3000 Cap: 3000 kN S.No.: 002 Year: 2002 Make: Fine Testing Machines, India
Load Testing Machine	Electrical Pump Driven Hydraulic Press Type Load Testing Machine (In combination with Digital Load Indicator and transducer) Capacity: 1000 kN Max Platform Size: 1500x1500 mm <u>Hydraulic Cylinder</u> Make: Hi-Force Model: HSS 1006 S.No.: AK 8739 Cap: 109 Ton (1086 kN) <u>Transducer:</u> <u>Digital indicator</u> Make: GEFRA, Italy Make: HENGSTLER, UK Model: TPS-4-V-807C-T Model: 0735A61000 S.No.: 07100622 S.No.: 035666001003

Sand testing	1. Digital Universal Strength Machine For Green Compression Strength and Green Splitting Strength Make: Kelson's Testing Equipment, India S.No.: 0279 Year: 2012 2. Digital Wet Tensile Testing Machine Make: Versatile Equipments (Pvt) limited, India Model: VWT S.No.: 080101 3. Digital Absolute Permeter (Permeability Test) Make: Simpson Technologies, USA Model: 46367 S.No.: 0511311 (2011) 4. Rapid Sand Drier with Digital Weighing Scale (For Moisture test) <u>Sand drier:</u> Make: Versatile Equipments (Pvt) limited, India Model: VRD S.No.: 990702 <u>Digital Weighing Scale</u> Make: SHIMADZU Model: UX 620 H S.No.: D 446418682 Readability: 0.001 Grams 4. Digital Moisture Analyzer (110 Gram) Make: Simpson Technologies, USA (Ohaus Corporation) Model: MB25 Year: 2011 5. Sand rammer with tube filler accessory Make: Simpson Technologies, USA Model: 42100C Model: 0811001 (2011) 6. Rapid Clay Washer Make: Versatile Equipments (Pvt) limited, India Model: VWT S.No.: 060402 7. Rapid Sieve Shaker Make: Versatile Equipments (Pvt) limited, India Model: VUD 8. Muffle Furnace Size: 175 mm x 175 mm x 280 mm Height Max Temp.: 1050 Deg.Cent 9. Facilities to test Methlene Blue Clay (Active Clay) and AFS Clay 10. Digital Mould Hardness Tester Make: Versatile Equipments (Pvt) limited, India Model: VMHD .No.: 110803 11. Mould hardness Tester B-Scale Make: Versatile Equipments (Pvt) limited, India Model: VMHB S.No.: 111222
Molten metal temperature measurement	6 No x Portable Immersion Pyrometer Model: Tempstick-529 Make: Ajay Syscon (Pvt) limited, India
Coating inspection	Digital Thermometer to measure substrate temperature (Elcometer -212) Digital Dew Point Meter (Air temp./Dew Point/RH) (Elcometer 319) Coating Dry Film thickness Gauge (Elecometer-345FB) Dial Thickness Gauge (Elcometer 124) with Testex Replica Tape Zero Plate and Foil Thickness Gauges for Calibration of above
Dimensional inspection	Verniers Height Gauges Micrometers
Weighing Scale	2 No x Electronic Digital Crane Scale with heat protection shield Make: EHP, Germany, Model: KGW 5, Cap: 5 Ton, S.No.: 13517 & 13518 Year: 2011 Purpose: Liquid metal weighing 1 No x 400 kg Digital Paltform Scale Make: Cardinal, USA 1 No x 500 kg Analog Weighing Balance