

Type of equipment	Non destructive testing NDT	Destructive Testing	Norms & Standards	References
Mechanical parts, Welded constructions, Castings, Forgings, Welds, etc. Steel constructions	Visual Inspections (VT) Magnetic Particle Test (MT) Ultrasonic Test (UT) Dye Penetrant Test (PT) Dimensional inspections, Straightness test Hardness Test on materials and weld repairs Roughness Tests, Balancing Material properties	Tensile Test Notch Toughness Test	EN 13018 DIN EN 571 ISO 9934 DIN EN ISO 148-1 DIN EN 12668 Customer & Supplier standards	Pressure frames for roller mills (VRM & RP), Process Fans, Separator cage wheels, Grinding tables and plates, Roller parts for roller mills (VRM & RP / HPGR), Bearing parts for roller mills (VRM & RP / HPGR), Head walls & Intermediate walls of ball mills, Diaphragms and shells of ball mills Girth gears for rotary kiln Tires for rotary kilns
Process Fans	Material Properties Heat Treatment X-ray of welds Visual and Dimensional inspections Dynamic balancing		DIN EN Customer & Supplier standards	ID Fans for Rotary Kilns Process Fans Main Fans for raw-, cement-, coal mills
Transformers	Visual and Dimensional inspections, Engineering Documentation and Operation Manuals, Insulation Oil Test, Voltage Ratio and Vector Group, Check of Phase Displacement, Temperature Rise Test, Short Circuit Test, Functional Test of Instrumentation and OLTC,  Measurement of: - Winding Resistance - Insulation Resistance - Short-circuit impedance - Load Loss Measurement - No-load current & No-load Loss - Noise Level	Lightning Impulse Test Voltage Withstand Test Insulation Test	DIN EN ISO IEC 6034 ASTM IEC 60076 Customer & Supplier standards	HV Transformers up to 50MVA MV Transformers LV Transformers Transformers for Variable Frequency Drives Distribution Transformers

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Automation equipment, MCC, Switchgear, LV-, MV- Distribution panels, SCADA systems, HMI	Visual and Dimensional inspections, Inspection of Engineering Documentation and Operation Manuals Functional Testing, Signal Testing, Interlock Testing, Load Test, No-load Test Adjustments of protective equipment Measurement of grounding Resistance	Insulation Test	DIN EN ISO ASTM Customer & Supplier standards	LV switchgear MV switchgear LV-, MV-Distribution Panels MCC VFD panels PLC-Systems SCADA cabinets
Electrical Motors Electrical Generators	Visual and Dimensional inspections, Engineering Documentation and Operation Manuals, Check of Bearing Insulation, Axial play, Balancing Direction of Rotation and Phase Sequence, Temperature Rise Test, No-load curves, No-load points, Short Circuit Point,Open-circuit point ( slip-ring ) High Voltage Test Loading Points, Test of external cooling fans,  Measurement of: - Resistances of winding and elements - Vibrations - Air Gap - Losses and efficiency - Noise Level - Shaft Voltage - Insulation Resistance with Polarization Index	Insulation Test Voltage Withstand Test Overspeed Testing	DIN EN ISO IEC 6034 ASTM Customer & Supplier standards	LV squirrel cage induction motors, MV squirrel cage induction motors, LV slip ring induction motors MV slip ring induction motors
Variable Frequency Drives ( VFD)	Visual, mechanical and Dimensional inspections, Engineering Documentation and Operation Manuals, Check and adjustment of protective devices, Functional test, No-Load test, Dynamic Load Test Efficiency Calculation Dielectric Tests	Insulation Test Withstand Voltage Test	DIN EN ISO IEC 6034 ASTM Customer & Supplier standards	LV VFD inverters MV VFD inverters