

## Field Evaluation Services

### Why Test?

Federal law under OSHA requires all electrical equipment in the workplace to be “approved”. OSHA and local jurisdictional regulations require that such equipment must be listed by an OSHA certified Nationally Recognized Testing Laboratory (NRTL), or certified by an organization that is recognized as competent by the local authority having jurisdiction. Non-listed equipment, equipment that is modified or equipment that has been relocated must be field evaluated to confirm it is in compliance with the latest electrical codes and standards.

### What is Tested?

Field evaluations are performed on new, used, relocated, and modified equipment. Field evaluation involves inspecting, testing or evaluating the following:

- Guarding of live parts within an enclosure
- Grounding
- Overcurrent Protection
- Proper Component Identification
- Visual Inspection of Components for Evidence of Component (NRTL) Listing or Recognition
- Environmental Suitability
- Wiring Methods and Ratings
- Proper Nameplate Information
- Damaged Components
- Safety Interlocks and Emergency Off
- Other tests may include but not be limited to: heat rise testing, insulation resistance, dielectric withstand, leakage current, and interlock functional testing.

### Does Used Equipment Present Unique Problems?

Yes. There are four problems with used equipment that are seldom encountered when equipment is new.

- *Damaged Components*  
Wiring often has exposed conductors, or, in the case of machine tools, is soaked in oil. Enclosures, conduit, fittings, and transformers are often found to be damaged.
- *Suitability of Installation*  
Machinery is often not wired to applicable standards, e.g., non-oil tight control stations are used in oily applications, or the wiring has been modified from the original design, or non-rated equipment is installed in a classified (hazardous) location.
- *Equipment Drawings*  
Equipment schematic drawings are required for all stationary equipment. If an accurate drawing is unavailable, an updated drawing must be created.
- *Manufacturer Interface*  
Often the equipment is no longer manufactured, and technical information or certification from the manufacturer is unavailable.

### What Standards Apply?

The appropriate product safety standard (often a UL Standard) is the primary standard used for evaluating electrical equipment. Where no single product standard exists, then the applicable portions of several standards are combined into the reference product standard.

Other standards, for example, NFPA-79, “Electrical Standard for Industrial Machinery,” are frequently applicable to industrial machinery and used equipment, and UL 508, “Electrical Industrial Control Equipment,” is frequently applicable as a reference for heat rise testing.

Note that this type of evaluation is based on applicable product safety standards. Evaluation of equipment performance is not included in this scope of work.



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