SPRINT electrical service
on-site. on-target. on-time.

Preventive Maintenance Program

LEVEL 3 - MEGGER INSULATION TESTING

WHAT MAKES INSULATION GO BAD?

When your plant electrical system and equipment are new, the electrical insulation should be in top notch shape. Manufacturers of wire, cable, motors, and so on have continually improved their insulations for services in industry.

However, even today, insulation is subject to many effects which can cause it to fail – mechanical damage, vibration, excessive heat or cold, dirt, oil, corrosive vapors, moisture from processes, or just the humidity on a muggy day.
In various degrees, these enemies of insulation are at work as time goes on – combined with the electrical stresses that exist.
As pin holes or cracks develop, moisture and foreign matter penetrate the surfaces of the insulation, providing a low resistance path for leakage current. Once started, the different enemies tend to aid each other, permitting excessive current through the insulation.

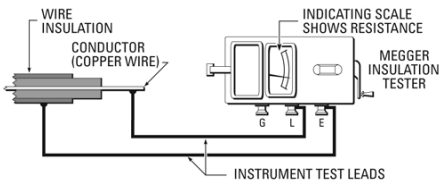
Sometimes the drop in insulation resistance is sudden, as when equipment is flooded. Usually, however, it drops gradually, giving plenty of warning,
if checked periodically. Such checks permit planned reconditioning before service failure. If there are no checks, a motor with poor insulation, for example, may not only be dangerous to touch when voltage is applied, but also be subject to burn out.

What was once good insulation has now become a partial conductor.

HOW INSULATION RESISTANCE IS MEASURED

Good insulation has high resistance; poor insulation, relatively low resistance. Sprint Electrical will provide recorded data to keep you up to date, so you can get a good picture of the insulation condition.

With this data you can make informed decisions on repair, remediation and future planning for your ongoing maintenance.



You Can Count on the Sprint Electrical Team: We perform regular and ongoing preventive maintenance. It's important to keep your facility from experiencing a costly incident.

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Optimize the Life of your Electrical System

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Insulation Testing an integral part of safety

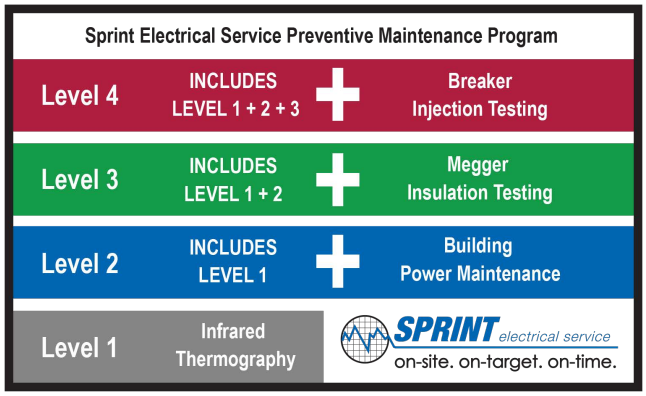
Sprint can provide tests monthly, twice a year, or once a year depending upon the type, location, and importance of the equipment. For example, a small pump motor or a short control cable may be vital to a process in your plant.

We test in the same way each time. That is, with the same test connections and with the same test voltage applied for the same length of time with about the same temperature and humidity.

Here are some examples about how we interpret periodic insulation resistance tests, and what should be done with the results:

Condition	What To Do
(a) Fair to high values and well maintained.	o cause for concen.
(b) Fair to high values, but showing a constant tendency towards lower values.	Locate and remedy the cause and check the downward trend.
(c) Low but well maintained.	Condition is probably all right, but cause of low values should be checked.
(d) So low as to be unsafe.	Clean, dry out, or otherwise raise the values before placing equipment in service. (Test wet equipment while drying out.)
(e) Fair or high values, previously well maintained but showing sudden lowering.	Make tests at frequent intervals until the cause of low values is located and remedied; or until the values have become steady at a lower level but safe for operation; or until values become so low that it is unsafe to keep the equipment in operation.

The Sprint Electrical Team will supply highly-trained technicians to perform Megger Insulation **Testing** to ensure all components are in proper working order and there are no apparent code violations, as well as hazardous conditions.



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