A Test Standard is *NOT* a Test Plan
The importance of having a detailed test plan

When planning for product testing, it is important to have a well written Test Plan. It is not enough to have a list of Test Standards (ASTM, MIL, IEC, ISO, etc.). A Test Standard is a simply a general guide covering a wide range of products, components, & features. A Test Plan is created by applying the guidelines and conditions in the Test Standard to the product or material to be tested. A Test Plan is critical for many reasons:

Test Standard:
  1) General test parameters,
  2) Environmental conditions during testing,
  3) Sample pre-conditioning requirements,
  4) Required specifications for the test equipment.

Test Plan: A test plan is critical to determining time and resource requirements for testing.
  a) A Test Plan identifies which tests in the standard are applicable to your products.
  b) A Test Plan identifies model specific test parameters based on the product's features, physical characteristics, ratings and specifications.
  c) A Test Plan identifies which models and options within a product family should be tested.
  d) A Test Plan defines the test method for the specific product being tested.

Questions Answered by a Test Plan:
  • What tests in the standard are/are not needed, and why?
  • What tests need to be repeated on different product design features, different product options, and different models of the product?
  • Which tests need to be repeated with different test parameters? (voltage, frequency, force level, ambient temperature, ambient humidity, etc.)
  • How will the product be operated during testing? (in a chamber; loading means, duty cycle, etc.)
  • What unique tests and/or test equipment are required by the test standard?
  • What is considered pass/fail for each test? Identifying the pass/fail criteria for a test can be a much more involved process than you might think. For many standards, the pass/fail criteria is defined as maintaining "essential performance", which is defined by the manufacturer.

Without a Test Plan: Planning for tests without having a test plan leads to many problems:
  ➤ Cost Fluctuation: It is impossible to accurately estimate costs without a Test Plan - a cost estimate without a detailed test plan is a guess at best. Do you want the test lab to "wing it"? That usually leads to a very high quote due to added "just in case" $'s. It also leads to a lot of disclaimers in the quote to protect the lab from the unknown, and cost increases when the details are found during testing.
  ➤ Inconsistency: The lack of a Test Plan causes random test methods to be used causing inconsistent results. Without a Test Plan, 10 different test labs would test the product 10 different ways - a process that would end with 10 different sets of results, none of which would match or be comparable. A good Test Plan insures that the tests are repeatable & reliable no matter what lab or person does the testing.
  ➤ Bad Assumptions: Without a Test Plan, bad surprises can pop up during testing. One of the worst is assuming that your test lab has the capability of doing the tests just because they provided a quotation. And then they discover during final test preparations that specialized test equipment is required, equipment that they don't have.
  ➤ Worthless Data: It can be difficult to interpret the results without a Test Plan - many tests are not "pass/fail". Having results while deciding what is passing/failing can affect the decision process - avoid justifying the results after the fact!

www.CertifiGroup.com
UL/CSA Field Labeling & Certifications - CE Compliance - Design Assistance - IP/NEMA - Environmental Testing

Surprises Found When Creating a Test Plan: One of the purposes of creating a Test Plan is to identify and eliminate surprises during testing, surprises that cause cost increases and project delays. If you want to avoid these disasters during testing, you need to prepare a Test Plan. Examples of hidden surprises:

- The need for a lot of hands-on monitoring during testing.
- The need for specially prepared test samples. = The need to add remote control capability, the need to create software to run the unit continuously, or the need to be able to verify proper operation of the equipment remotely.
- The need for custom test fixtures that mount your sample to the test table or inside the test chamber.
- The need for some very specialized equipment, in some cases equipment that is not commercially available, equipment that is rarely available for rental. This can frequently result in the need for custom test equipment. The result being in an expensive trial and error process, to get the custom equipment to properly operate with the product being tested.

Benefits of Having a Test Plan:
1. Control costs by removing the "what ifs" that cause test labs to include a lot of "just in case" costs into a quotation.
2. Receive reliable cost estimates from your test lab and the ability to stay on budget – eliminate cost increases due to lack of information during quoting.
3. Properly prepare for testing, which prevents delays during testing – sample prep, test loads, custom software for operating the system during testing, identify pass/fail criteria, etc.
4. Have confidence in proceeding with expensive testing. Clearly understand the full test parameters and the pass/fail criteria for each test. Review the anticipated results to insure your product is designed to pass the tests.

**CertifiGroup can provide Senior Compliance Engineers
to assist you with preparing your Test Plan.**

CertifiGroup can provide a quotation that meets your Test Plan.

Contact us today!

www.CertifiGroup.com