

Testing vs. Certification: *What You Need to Know* Aircraft Scales Require Certification for Use in Hangars

Various terminology is used regarding safety of equipment used in aircraft hangars. Though these terms are sometimes used interchangeably, the requirements are clear that Certification is used to determine if the equipment actually meets safety regulations and standards.

- A *Test* is a single event to understand equipment performance under specific laboratory conditions.
- *Certification* is an approval process which guarantees that the equipment is suitable for its intended purpose and that adequate information is supplied with it so that it can be used safely.

Hazardous environment Testing is part of, but not equivalent to, equipment Certification.

The Hazardous Environment standards include OSHA 1910.307 and NEC sections 500 & 513 for the United States, and ATEX directive 2014/34/EU and EC 60079 for European and International standards. These define the hazardous conditions and locations such as aircraft hangars, and specify safety standards for certifying and labeling electrical equipment. This certification needs to be carried out by a registered testing lab such as UL[™], FM[™], Sira[™], Intertek[™], and Lloyds[™].

These standards REQUIRE electrical equipment to be CERTIFIED by an approved laboratory, MARKED on the electrical equipment to operate in these hazardous locations, and to MAINTAIN the active certification through a current listing with the registered testing laboratory.

A single test does not meet these safety standards, and MIL-STD-810G with Test Method 511.5 for Explosive Atmospheres is an example of a single test.

- The test doesn't evaluate safety of equipment if it operates under a fault condition
- All flammable substances present in an aircraft hangar are not covered by a single test
- Changes in other environmental conditions like temperature are not investigated
- MIL-STD-810G tests do not represent actual conditions of how equipment is used in the field
- Equipment is not certified or labeled for safety as a result of MIL-STD-810G testing

As no commercial organization or agency certifies compliance with MIL-STD-810G testing, equipment that undergoes this testing is not accepted as compliant with safety standards. In fact, the MIL-STD-810G Working Group at the Aberdeen Proving Grounds stated “...users ***should not assume that a system or component that passes laboratory tests of this standard also would pass field/fleet verification trials.***”

With Certification, a Certificate of Compliance and Examination Certificate is issued to a vendor by a registered testing laboratory, and product labeling is required on all electrical equipment that complies with the standards. Certified equipment for operation in classified areas must be “distinctively marked,” including: Classification, Division, Group, and Temperature.

Without a certification, the equipment does not have these markings, and electrical equipment safety standards for aircraft hangars are not met.