

Component Certification Options – Do You Have a Choice?

US/CAN Certification of Components to UL - CSA Standards

Components are products that are intended to be used in the construction of other products. Examples include plastics, switches, power supplies, wiring, conduit, and circuit boards.

Components can be further categorized as either being “Factory Installed” or “Field Installed”. If you manufacture a component, these definitions are very important in determining your component certification options in the USA & Canada.

- 1) Factory Installed Components are sold to other product manufacturers for use in building their finished product. A large percentage of components fall into this category including raw materials such as plastics, electrical devices such as relays, and major subassemblies such as power supplies. The suitability of these components is judged by the Certification Agency that evaluates the finished product. The problem is that in the United States, certification agencies are not required to accept competing agency certifications. And, Underwriters Laboratories (UL) and Canadian Standards Association (CSA) have only been willing to accept each other's certification mark. Considering that UL and CSA have a large percentage of the finished product certification market, this leaves manufacturers of factory installed components little choice.
 - a) If you make a factory installed component, we would not recommend using a certification agency other than UL or CSA. For plastics and circuit boards, UL is the only agency to consider.
 - b) If you use a certification agency other than UL or CSA, and your component ends up in a finished product that is submitted to UL or CSA for certification, your component will not be accepted without “further review” = additional cost/time for UL or CSA to verify compliance of the component to the component standard. At which point the finished product manufacturer is likely to switch to another component that is UL or CSA certified.
 - c) Perhaps for this reason, many of the alternative US & CAN certification agencies are not accredited for many of the component standards. And even if you wanted a competing agency to certify your component, do they have the special component certification test equipment?
 - d) Note that the other major US & Canadian certification agencies (Intertek-ETL, MET, TUV-R, etc.) generally accept the certification mark of all accredited US/CAN certification agencies. Which means that you can use an alternative certification agency if you know the manufacturer using your component will also use an alternative certification agency.
 - e) These issues usually do not apply to custom components. Custom components can be evaluated as part of the finished product by any certification agency provided they have the suitable test equipment. If the component is not going to be independently certified, many agencies are able to review and test the limited use of the component.



- 2) Field Installed Components are sold over-the-counter to electricians and other skilled individuals for installation directly into a building wiring system or in assembling a product on-site. This may include custom equipment. The suitability of these components is judged by the local AHJ (Authority Having Jurisdiction who is usually the electrical or building inspector). The AHJ accepts all properly rated Field Installed components that are certified by agencies accredited as an “NRTL” in the US and “C” for Canada. This allows manufacturers of field installed components to use any certification agency accredited for the applicable standard.
- a) The critical part of the definition of field installed components is that they do not get sold as a component for use in constructing a finished product that might end up back at UL or CSA for certification. Components that may also be used by manufacturers who submit their product to UL or CSA for certification need to consider the concerns stated above for Factory Installed Components.
 - b) Of course to use an alternative certification agency requires an agency that is accredited as an “NRTL” and “C” certification agency and has the special test equipment needed to verify compliance with the component standard.
 - c) It can be easy to identify components that are intended to be “field installed”, as they are usually certified as “Listed” components (i.e. similar to finished products). Listed components have no “conditions of acceptability” that must be considered when installed in a finished product (a factory installed component has UL “Conditions of Acceptability”). Instead, a Listed Component includes installation and application instructions so the user can confirm that they are using the component properly.

RELATED NOTE: Underwriters Laboratories is a standards writing body and a certification agency. Underwriters Laboratories has published many safety standards, all of which use a “UL” numbering system (i.e. UL50). In the United States, certification agencies are accredited by the US Federal Government to certify products to UL standards. This includes Underwriters Laboratories, Canadian Standards Association, Intertek-ETL, MET Laboratories, TUV-R, and others. A similar system exists in Canada with the Canadian Standards Association publishing “CSA” standards and also certifying products. Most of the well-known certification agencies are accredited NRTL/C for US and Canada. All of these agencies issue certifications to UL and CSA standards.

YES, it is confusing!

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