

# Quality Acceptance Inspection Basics

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## Introduction

The primary function of a Quality Acceptance Inspector (QAI) is to establish and enforce specifications (01 NCAC 05B .0902 SELECTION). In addition to establishing and enforcing specifications, the QAI assists in enforcing compliance with the qualified products list (QPL), provides technical assistance to procurement professionals across the State, and conducts testing and inspection of commodities purchased by all state agencies, universities, and community colleges. The QAI also conducts site visits for the Division of Purchase and Contract (P&C) and will conduct site visits for any state agency upon request, schedule permitting. QAIs may provide educational sessions on how to conduct a site visit to any agency that requests one. Lastly, QAIs help develop and administer statewide term contracts for various commodities purchased with state funds by state agencies, institutions, community colleges, universities, and certain non-state agencies.

## Inspections, Specifications and the Procurement Process

Based on their experience talking with end users and inspecting products in the field, the Quality Acceptance Inspectors provide clarification, if needed, to purchasing agents while developing specifications for commodity procurements during the solicitation preparation process. QAIs may also help define or write specifications for Request for Quotes (RFQ) or Invitation for Bids (IFB). Lastly, QAIs may proofread solicitations to address any issues, redundancies in language, or correct any misstated specifications before advertising the solicitation.

Periodically, samples of solicited products are required to determine if a commodity satisfies applicable codes, statutes, local ordinances, policies, and safety. In this situation, samples submitted in response to a solicitation are tested (01 NCAC 05B .0904 SAMPLES). These samples are not sent directly to laboratories outside P&C or agency unless the Division or agency determines they do not have the capability, time, or expertise

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needed to appropriately inspect (01 NCAC 05B .0904 SAMPLES). Typically, tests are conducted by the P&C standards engineers with the assistance of the QAIs.

Agency purchasers should seek clarification in situations where an agency receives a sample and vendor responses to a solicitation are still open and under evaluation and the contract not yet awarded. In these situations, the purchaser must confirm that the equipment holds the proper safety listing and meets other standard specifications. Sometimes, even though a manufacturer's literature included with the vendor response may indicate that the proper standards are met, the best verification is an actual confirmation of the safety listing, based on a search by make and model on the listing laboratory's web site.

## QA Inspections on Delivery

Generally, the responsibility for handling inspections falls on the receiving agency (01 NCAC 05B .0901). In particular cases, and especially for higher value purchases or if safety labelling is required, P&C requires that the inspection be conducted by a QAI. In these cases, the solicitation must include specific language providing for the labelling and inspection. This language is available on the Inspections page of the P&C web site.

The purpose of the inspection is to ensure that the vendor has met the specifications required in the agency's RFQ or IFB and in the resulting Purchase Order. In order to ensure that specifications conform to all city, county, state, and federal standards, a QAI reads, understands, and interprets the regulations and guidelines set forth in the North Carolina General Statutes, North Carolina Administrative Code, North Carolina Procurement Manual, American Society for Testing and Materials (ASTM), Society of Automotive Engineers (SAE) International, Underwriters Laboratories (UL), and State Building Code. QAIs also rely on guidance from North Carolina's Standards Engineer and other Division staff for complex technical, engineering and legal issues.

Following delivery of contracted products requiring P&C inspection, the QAI will verify that the product an agency purchases is what the agency ordered. The QAI will verify that the item or items listed on the purchase order, quote, or solicitation matches the requirements of the agency. Once the QAI completes verification that the product meets the specifications provided by the agency, the QAI will identify any defects in manufacturing, material, assembly, insulation, or safety. If the QAI discovers discrepancies or issues with a particular commodity, the QAI may serve as a mediator in settling issues with the vendor and the state agency.

When requesting an inspection by a QAI, a vendor must provide a copy of the solicitation, P&C Contract Certification, and copy of the Purchase Order. The request and accompanying material may be sent to [P&C.Inspections@doa.nc.gov](mailto:P&C.Inspections@doa.nc.gov) or faxed to QA Inspections at 919-807-4511. Note that items shipped, stored, and left uncrated in a warehouse will not be inspected, nor will products be inspected until the final delivery into the possession of the purchasing agency.

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## Handling Inspection Issues

After inspecting a delivered commodity, if the product fails to meet the contract specifications, the agency that issued the solicitation is initially responsible for resolving the discrepancy (01 NCAC 05B .0906). The using agency must notify the vendor promptly when defects are discovered (01 NCAC 05B .1003). If the vendor fails to remedy the failure adequately, and the contract was handled through P&C, the matter must then be referred to P&C for further action (01 NCAC 05B .1003).

In the event that P&C handled the solicitation, then the Division will request that the vendor obtain proper safety listing at the vendor's expense. The North Carolina General Terms and Conditions (included in every RFQ and IFB) require that every product include the applicable listing. If the contractor for any reason refuses to comply with this respect, P&C will consult with the user to explain remaining options for resolving the issue.

## Product Safety Labels

All manufactured items and/or fabricated assemblies subject to operation under pressure, operation by connection to an electric source, or operation involving a connection to a manufactured, natural, or LP gas source must be labeled with an identification marking of the appropriate safety standard organization. Any item that plugs into an electrical socket or is in some other manner connected to an electrical power source shall be inspected. The following North Carolina General Statute references this requirement:

### **§ 66-23. Sale of electrical goods regulated.**

Every person, firm or corporation before selling, offering for sale, assigning, or disposing of by gift as premiums or in any similar manner any electrical material, devices, appliances or equipment shall first determine if such electrical materials, devices, appliances and equipment comply with the provision of this Article.

North Carolina General Statutes, §66-25 provides: "all electrical materials, devices, appliances, and equipment shall be evaluated for safety and suitability for intended use." It goes on to require that the evaluation of all electrical materials, devices, appliances, and equipment shall be conducted in accordance with nationally recognized standards and shall be conducted by a qualified testing laboratory (e.g., Underwriters Laboratories) or other approved qualified testing laboratory by the Commissioner of Insurance.

### **§ 66-24. Identification marks required.**

All electrical materials, devices, appliances and equipment shall have the maker's name, trademark, or other identification symbol placed thereon, together with such other markings giving voltage, current, wattage, or other appropriate ratings as may be necessary to determine the character of the material, device, appliance or equipment and the use for which it is intended; and it shall be unlawful for any

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person, firm or corporation to remove, alter, change or deface the maker's name, trademark or other identification symbol.

### **§ 66-25. Acceptable listings as to safety of goods.**

All electrical materials, devices, appliances, and equipment shall be evaluated for safety and suitability for intended use. This evaluation shall be conducted in accordance with nationally recognized standards and shall be conducted by a qualified testing laboratory. The Commissioner of Insurance .... may assign his authority to implement the procedures for specific materials, devices, appliances, or equipment to other agencies or bodies when they would be uniquely qualified to implement those procedures. In the event that the Commissioner determines that electrical materials, devices, appliances, or equipment in question cannot be adequately evaluated through the use of approved national standards or by approved qualified testing laboratories, the Engineering Division of the Department of Insurance shall specify any alternative evaluations which safety requires. The Engineering Division of the Department of Insurance shall keep on file, where practical, copies of all approved national standards and resumes of approved qualified testing laboratories.

The sale of electrical materials, devices, appliances, and equipment in North Carolina not meeting the requirements in Chapter 66 of the North Carolina General Statutes is prohibited and may expose the owner to liability if a student, faculty member, employee, or other person is injured or killed using such prohibited electrical material, device, appliance, or equipment. Or, the owner may be liable for any property damage caused by the use of the prohibited electrical material, device, appliance, or equipment.

Both P&C and the State's purchasers have an obligation not to permit or authorize the purchase of the prohibited electrical materials, devices, appliance, and equipment, and they constitute the gatekeepers to ensure that each piece of electrical material, device, appliance, or equipment purchased for a State agency or community college use is safe for its intended purpose and meets all the requirements of Chapter 66. Similar safety concerns underlie the labelling and inspection requirements for devices operated or connected to gas sources or operated under pressure.

### **Statutory Liability for Lack of Safety Labelling**

#### **§ 66-27. Violation made misdemeanor.**

Any person, firm or corporation who shall violate any of the provisions of this Article shall be guilty of a Class 2 misdemeanor.

#### **§ 66-26. Legal responsibility of proper installations unaffected.**

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This Article shall not be construed to relieve from or to lessen the responsibility or liability of any party owning, operating, controlling or installing any electrical materials, devices, appliances or equipment for damages to persons or property caused by any defect therein, nor shall the electrical inspector, the Commissioner, or agents of the Commissioner be held as assuming any such liability by reason of the approval of any material, device, appliance or equipment authorized herein.

### Approved Third Party Safety Evaluation Laboratories

The North Carolina Department of Insurance (NCDI) identifies a list of approved laboratories that may provide safety evaluations and labelling. Please note that the name of the certifying agency must affix their certification label adjacent to the manufacturer's nameplate for electrical and mechanical equipment.

Below is a list of NCDI and NCBC approved certification laboratories for the indicated categories, as of March 10, 2015. The most recent published version of approved third-party labs is available on the NCDI web site at:

[http://www.ncdoi.com/osfm/Engineering\\_and\\_Codes/Documents/Code\\_Enforcement\\_Resources/ElectricalMechanicalEquipmentLabeling.pdf](http://www.ncdoi.com/osfm/Engineering_and_Codes/Documents/Code_Enforcement_Resources/ElectricalMechanicalEquipmentLabeling.pdf)

	<b>EQUIPMENT CATEGORIES</b>	<b>APPROVED THIRD PARTY LABORATORIES</b>
14	Air Conditioning Equipment and Accessories	Applied Research Laboratories CSA International Intertek Testing Services ITS-ETL MET Laboratories NSF International QPS Evaluation Services, Inc. SGS Consumer Testing Services TUV SUD America TUV Rheinland of North America Underwriters Laboratories, Inc.
5	Alarm Signal and Detecting System Components	CSA International FM Approvals LLC Intertek Testing Services ITS-ETL SGS Consumer Testing Services TUV SUD America Underwriters Laboratories, Inc.
49	Auxiliary Gutters, Junction, Pull and Outlet Boxes, and Cabinets and Cutout Boxes	CSA International FM Approvals LLC Intertek Testing Services ITS-ETL Underwriters Laboratories, Inc.

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6	CATV and Radio Distribution System Components	Applied Research Laboratories CSA International Intertek Testing Services ITS-ETL QPS Evaluation Services, Inc TUV SUD America Underwriters Laboratories, Inc.
25	Chimneys and Vents	CSA International Intertek Testing Services ITS-ETL Intertek Testing Services ITS-Warnock Underwriters Laboratories, Inc.
33	Circuit Breakers	CSA International Intertek Testing Services ITS-ETL SGS Consumer Testing Services Underwriters Laboratories, Inc.
7	Communication System Components	Communication Certification Laboratory CSA International Curtis-Straus Intertek Testing Services ITS-ETL MET Laboratories QPS Evaluation Services, Inc. TUV SUD America TUV Rheinland of North America Underwriters Laboratories, Inc.
1	Conductors for General Wiring	CSA International Intertek Testing Services ITS-ETL SGS Consumer Testing Services Underwriters Laboratories, Inc.
24	Duct Materials including Dampers	Applied Research Laboratories CSA International FM Approvals LLC Intertek Testing Services ITS-ETL Intertek Testing Services ITS-Warnock Underwriters Laboratories, Inc.
13	Electric Space Heating Equipment and Accessories	CSA International FM Approvals LLC Intertek Testing Services ITS-ETL MET Laboratories NSF International SGS Consumer Testing Services TUV SUD America TUV Rheinland of North America Underwriters Laboratories, Inc.

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12	Electrical Appliances	<p>Applied Research Laboratories                      CSA International                      IAPMO EGS                      Intertek Testing Services ITS-ETL                      MET Laboratories                      NSF International                      QPS Evaluation Services, Inc.                      SGS Consumer Testing Services                      TUV SUD America                      TUV Rheinland of North America                      Underwriters Laboratories, Inc.</p>
26	Electrical Data Processing Equipment	<p>Communication Certification Laboratory                      CSA International                      Curtis-Straus                      Intertek Testing Services ITS-ETL                      MET Laboratories                      National Technical Systems (NTS)                      NSF International                      QPS Evaluation Services, Inc.                      SGS Consumer Testing Services                      TUV SUD America                      TUV Rheinland of North America                      Underwriters Laboratories, Inc.</p>
50	Electrical Equipment for Hazardous Locations	<p>CSA International                      FM Approvals LLC                      Intertek Testing Services ITS-ETL                      MET Laboratories                      QPS Evaluation Services, Inc.                      Salus Engineering International                      SGS Consumer Testing Services                      TUV SUD America                      Underwriters Laboratories, Inc.</p>
40	Electrical Signs and Accessories	<p>CSA International                      Intertek Testing Services ITS-ETL                      MET Laboratories                      NSF International                      QPS Evaluation Services, Inc.                      SGS Consumer Testing Services                      TUV Rheinland of North America                      Underwriters Laboratories, Inc.</p>
47	Emergency Lighting and Power Equipment System Components	<p>CSA International                      FM Approvals LLC                      Intertek Testing Services ITS-ETL</p>

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		<p>MET Laboratories                  QPS Evaluation Services, Inc.                  SGS Consumer Testing Services                  TUV SUD America                  TUV Rheinland of North America                  Underwriters Laboratories, Inc.</p>
9	Energy Management System Components and Controllers	<p>CSA International                  FM Approvals LLC                  Intertek Testing Services ITS-ETL                  QPS Evaluation Services, Inc.                  SGS Consumer Testing Services                  TUV Rheinland of North America                  Underwriters Laboratories, Inc.</p>
22	Fans and Ventilators	<p>Applied Research Laboratories                  CSA International                  Intertek Testing Services ITS-ETL                  MET Laboratories                  QPS Evaluation Services, Inc.                  SGS Consumer Testing Services                  TUV SUD America                  Underwriters Laboratories, Inc.</p>
23	Filtering Equipment	<p>CSA International                  Intertek Testing Services ITS-ETL                  MET Laboratories                  QPS Evaluation Services, Inc.                  TUV SUD America                  Underwriters Laboratories, Inc.</p>
32	Fire Extinguishing Equipment	<p>CSA International                  FM Approvals LLC                  Intertek Testing Services ITS-ETL                  Underwriters Laboratories, Inc.</p>
11	Fixed Office Appliances and Business Equipment	<p>Communication Certification Laboratory                  CSA International                  Intertek Testing Services ITS-ETL                  MET Laboratories                  NSF International                  QPS Evaluation Services, Inc.                  SGS Consumer Testing Services                  TUV SUD America                  TUV Rheinland of North America                  Underwriters Laboratories, Inc.</p>

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2	Flexible Cords	CSA International Intertek Testing Services ITS-ETL SGS Consumer Testing Services Underwriters Laboratories, Inc.
29	Food Preparation Machines	CSA International Intertek Testing Services ITS-ETL MET Laboratories NSF International QPS Evaluation Services, Inc. SGS Consumer Testing Services TUV SUD America Underwriters Laboratories, Inc.
34	Fuses	CSA International Intertek Testing Services ITS-ETL Underwriters Laboratories, Inc.
18	Gas Fired Appliances	Applied Research Laboratories CSA International Intertek Testing Services ITS-ETL Intertek Testing Services ITS-Warnock MET Laboratories Omni-Test Laboratories RADCO TUV SUD America Underwriters Laboratories, Inc.
17	Gas Fired Heating Equipment and Accessories	CSA International FM Approvals LLC Intertek Testing Services ITS-ETL Intertek Testing Services ITS-Warnock Omni-Test Laboratories PFS Corporation RADCO TUV SUD America Underwriters Laboratories, Inc.
41	Ground-Fault Circuit Interrupters	CSA International Intertek Testing Services ITS-ETL SGS Consumer Testing Services Underwriters Laboratories, Inc.
42	Ground-Fault Sensing and Relaying Equipment	CSA International Intertek Testing Services ITS-ETL Underwriters Laboratories, Inc.
51	Grounding and Bonding Equipment	CSA International FM Approvals LLC

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		Intertek Testing Services ITS-ETL QPS Evaluation Services, Inc. SGS Consumer Testing Services Underwriters Laboratories, Inc.
15	Heat Pump Equipment and Accessories	Applied Research Laboratories CSA International Intertek Testing Services ITS-ETL MET Laboratories NSF International QPS Evaluation Services, Inc. SGS Consumer Testing Services TUV SUD America Underwriters Laboratories, Inc.
43	Industrial Control Equipment – Motor Controllers, Industrial Control Panels, Motor Control Centers, Motorized Valves, Solenoids, etc.	Applied Research Laboratories CSA International FM Approvals LLC Intertek Testing Services ITS-ETL MET Laboratories NSF International QPS Evaluation Services, Inc. Salus Engineering International SGS Consumer Testing Services TUV SUD America TUV Rheinland of North America Underwriters Laboratories, Inc.
53	Insulating Tape and Closures	CSA International Intertek Testing Services ITS-ETL Underwriters Laboratories, Inc.
28	Laboratory, Equipment, Electrical Measuring, and Testing Equipment	Communication Certification Laboratory CSA International Curtis-Straus FM Approvals LLC Intertek Testing Services ITS-ETL MET Laboratories National Technical Systems (NTS) NSF International QPS Evaluation Services, Inc. Salus Engineering International SGS Consumer Testing Services TUV SUD America TUV Rheinland of North America Underwriters Laboratories, Inc.

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48	Lighting Fixtures, Lamp Holders, and Accessories	CSA International FM Approvals LLC Intertek Testing Services ITS-ETL MET Laboratories NSF International QPS Evaluation Services, Inc. SGS Consumer Testing Services TUV SUD America TUV Rheinland of North America Underwriters Laboratories, Inc.
45	Lightning Protection System Components and Lightning Protection Devices	CSA International Intertek Testing Services ITS-ETL Underwriters Laboratories, Inc.
4	Materials and Components for Special Applications	CSA International FM Approvals LLC Intertek Testing Services ITS-ETL SGS Consumer Testing Services TUV SUD America Underwriters Laboratories, Inc.
27	Medical, Dental, and X-Ray Equipment	Communication Certification Laboratory CSA International Curtis-Straus Intertek Testing Services ITS-ETL MET Laboratories National Technical Systems (NTS) NSF International QPS Evaluation Services, Inc. SGS Consumer Testing Services TUV SUD America TUV Rheinland of North America Underwriters Laboratories, Inc.
46	Metering Enclosures and Meter Sockets	CSA International Intertek Testing Services ITS-ETL QPS Evaluation Services, Inc. TUV SUD America Underwriters Laboratories, Inc.
31	Miscellaneous Fixed Equipment – Amusement Machines, Animal Care, Appliances, Battery Chargers, Cleaning Machines, etc.	Applied Research Laboratories CSA International FM Approvals LLC Intertek Testing Services ITS-ETL MET Laboratories NSF International QPS Evaluation Services, Inc. (continues)

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		SGS Consumer Testing Services TUV SUD America TUV Rheinland of North America Underwriters Laboratories, Inc.
20	Oil Fired Appliances	CSA International Intertek Testing Services ITS-ETL PFS Corporation TUV SUD America Underwriters Laboratories, Inc.
19	Oil Fired Heating Equipment and Accessories	CSA International FM Approvals LLC Intertek Testing Services ITS-ETL PFS Corporation TUV SUD America Underwriters Laboratories, Inc.
37	Panelboards	CSA International Intertek Testing Services ITS-ETL MET Laboratories Salus Engineering International SGS Consumer Testing Services Underwriters Laboratories, Inc.
8	Radio and Television Components	Applied Research Laboratories CSA International Intertek Testing Services ITS-ETL QPS Evaluation Services, Inc. TUV SUD America TUV Rheinland of North America Underwriters Laboratories, Inc.
16	Refrigeration Equipment and Accessories	CSA International Intertek Testing Services ITS-ETL MET Laboratories NSF International QPS Evaluation Services, Inc. Salus Engineering International SGS Consumer Testing Services TUV SUD America TUV Rheinland of North America Underwriters Laboratories, Inc.
54	Replacement Blowers and Coils	PFS Corporation RADCO Underwriters Laboratories, Inc.

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21	Solid Fuel Heating Equipment	Applied Research Laboratories Intertek Testing Services ITS-Warnock Omni-Test Laboratories PFS Corporation Underwriters Laboratories, Inc.
10	Sound Recording and Reproduction Equipment	Communication Certification Laboratory CSA International Intertek Testing Services ITS-ETL MET Laboratories QPS Evaluation Services, Inc. SGS Consumer Testing Services TUV SUD America Underwriters Laboratories, Inc.
30	Swimming Pool and Spa Equipment	CSA International IAPMO EGS Intertek Testing Services ITS-ETL MET Laboratories NSF International SGS Consumer Testing Services Underwriters Laboratories, Inc.
38	Switchboards	CSA International Intertek Testing Services ITS-ETL MET Laboratories SGS Consumer Testing Services TUV SUD America Underwriters Laboratories, Inc.
36	Switches and Switching Devices – other than Toggle	CSA International Intertek Testing Services ITS-ETL QPS Evaluation Services, Inc. SGS Consumer Testing Services TUV SUD America Underwriters Laboratories, Inc.
39	Transformers	CSA International FM Approvals LLC Intertek Testing Services ITS-ETL MET Laboratories QPS Evaluation Services, Inc. SGS Consumer Testing Services Underwriters Laboratories, Inc.
44	Transient Voltage Surge Suppressors and Filters	CSA International Intertek Testing Services ITS-ETL MET Laboratories Underwriters Laboratories, Inc.

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52	Wire Connectors, Lugs, and Terminal Fittings	CSA International Intertek Testing Services ITS-ETL Underwriters Laboratories, Inc.
3	Wires and Cables for Special Applications	CSA International Intertek Testing Services ITS-ETL SGS Consumer Testing Services Underwriters Laboratories, Inc.
35	Wiring Devices, Attachment Plugs and Toggle Switches	CSA International Intertek Testing Services ITS-ETL SGS Consumer Testing Services TUV SUD America Underwriters Laboratories, Inc.

### Nationally Recognized Testing Laboratory Certification Markings

Nationally Recognized Testing Laboratories (NRTLs) use the following marks to certify products for purposes of Occupational Safety and Health Administration (OSHA) product approval requirements. Note, however, that the presence of the mark on the product does not necessarily mean that it meets OSHA requirements. NRTLs sometimes use the same or similar mark for non-OSHA purposes. OSHA accepts only those products that contain a NRTL lab's mark and that NRTL has certified within its scope of recognition, which includes the test standards and testing sites that OSHA has recognized for that NRTL lab. See the OSHA web page for information on each NRTL lab's scope of recognition. Or, contact OSHA or NRTL for additional information.

When an organization is no longer part of the Nationally Recognized Testing Laboratory (NRTL) Program, Occupational Safety and Health Administration (OSHA) cannot accept the organization's NRTL-related product certification, **if** the product is manufactured on or after the date that the lab's NRTL recognition was terminated by OSHA. Information regarding each third-party laboratory may be found on the OSHA website at:

<https://www.osha.gov/dts/otpca/nrtl/recgterm.html>.

For the purposes of the NRTL Program, the following examples describe actions that normally would constitute invalid product certifications by an organization, if the action occurred on or after the NRTL termination date by OSHA:

- Authorizing a manufacturer to use its mark by imprinting the lab's mark on labels or on products;
- Authorizing a manufacture to use or apply labels containing the lab's mark;
- Issuing labels containing the lab's mark to manufacturers; or
- Any manufacturer applying the lab's mark, or labels containing the mark, to a product.

Although the list of NRTL-approved labs and the list of NCDOL-approved labs are slightly different, the same principals apply to the labs on the North Carolina list.

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**BEWARE OF COUNTERFEIT LABELS and of non-approved labs using label designs confusingly similar to those of approved labs.**

### *Typical Certification Marks and Labels*

The following chart identifies most of the marks and labels used by third-party laboratories approved by the NCDOT. Some labs may have additional marks, and many of the labs have marks approved for use in other jurisdictions but not the United States. Some non-approved labels are listed following the chart of approved labels. If you have questions about the authenticity of any mark, contact one of P&C's QA Inspectors.

APPROVED LAB	MARKING	NOTES
Applied Research Laboratories, Inc. (ARL)		
CSA International (CSA) – also known as Canadian Standards Association		Mark used for products meeting only United States standards.
		Mark used for products meeting only United States standards.
		Mark used for products meeting BOTH United States and Canadian standards.
		Mark used for products meeting BOTH United States and Canadian standards.
		Mark used for liquefied petroleum gas-fueled (LPG or LP-Gas) only products meeting United States standards

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<p><b>Communication Certification Laboratory, Inc. (CCL)</b> (DBA Nemko-CCL, Inc.)</p>		
		
<p><b>Curtis-Straus LLC (CSL)</b></p>		<p>Mark used for products meeting only United States standards</p>
		<p>Mark used for products meeting BOTH United States and Canadian standards</p>
		<p>Original mark used until 5/1/2010</p>
<p><b>FM Global Technologies LLC (FM)</b> - also known as FM Approvals</p>		<p>Mark used by products meeting only United States standards</p>
		<p>Mark used by products meeting BOTH United States and Canadian standards</p>
		
<p><b>IAPMO EGS</b></p>		<p>Mark used for products meeting US standards</p>
<p><b>Intertek Testing Services NA, Inc. (ITSNA)</b> – formerly, three separate labs: ETL Testing Laboratories, Inc., Warnock Hersey Labs and Entela, Inc.</p>		<p>Mark used for products meeting only United States standards</p>
		<p>Mark used for products meeting only United States standards</p>
	<p><b>Warnock Hersey</b></p> 	<p>Mark used for products meeting only United States standards</p>

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	<b>Warnock Hersey</b> 	Mark used for products meeting only United States standards
	 	Mark used for products meeting only United States standards
		Mark used by products meeting BOTH United States and Canadian standards
	<b>Warnock Hersey</b> 	Mark used by products meeting BOTH United States and Canadian standards
	 	Mark used by products meeting BOTH United States and Canadian standards
<b>MET Laboratories, Inc. (MET)</b>		Mark used for products meeting only United States standards (use began 1/2006)
		Mark used for products meeting BOTH United States and Canadian standards (use began 1/2006)
		Mark used for products meeting BOTH United States and Canadian standards (use began 1/2006)
		Original MET mark. Used for products meeting BOTH United States and Canadian standards

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<p><b>NSF International (NSF)</b></p>		<p>Mark used for products meeting only United States standards (use expired 12/31/2012)</p>
		<p>Mark used for products meeting BOTH United States and Canadian standards (use expired 12/31/2012)</p>
		<p>Mark used for products meeting only United States standards</p>
		<p>Mark used for products meeting BOTH United States and Canadian standards</p>
		<p>Mark used for products meeting United States standards</p>
		<p>Mark used for products meeting United States standards</p>
<p><b>National Technical Systems, Inc. (NTS)</b></p>		
		

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<p><b>Omni-Test Laboratories</b></p>		<p>More frequently found on field-evaluated equipment</p>
<p><b>PFS Corporation</b></p>		
<p><b>QPS Evaluation Services Inc (QPS)</b></p>		<p>Mark used for products meeting only United States standards</p>
		<p>Mark used for products meeting BOTH United States and Canadian standards</p>
		<p>Mark shown in color</p>
<p><b>RADCO</b></p>		<p>More frequently found on field-evaluated equipment</p>
		
<p><b>Salus Engineering International</b></p>		<p>More frequently found on field-evaluated equipment</p>
<p><b>SGS Consumer Testing Services</b></p>		<p>More frequently found on field-evaluated equipment</p>

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<p><b>TÜV SÜD America, Inc. (TUVAM)</b></p>	 <p>The logo is a blue octagon with a white border. Inside, it says 'Safety tested' on the left and 'Production monitored' on the right. In the center, it says 'TÜV SÜD NRTL'.</p>	<p>Mark used for products meeting only United States standards</p>
	 <p>The logo is a blue octagon with a white border. Inside, it says 'Safety tested' on the left and 'Production monitored' on the right. In the center, it says 'TÜV PRODUCT SERVICE'. Below the octagon, it says 'UL 60950-1' on the left and 'ISO 9001' on the right. At the bottom, it says 'C NRTL US'.</p>	<p>Mark used for products meeting BOTH United States and Canadian standards</p>
<p><b>TUV Rheinland of North America, Inc. (TUV)</b></p>	 <p>The logo is a circular emblem with a black border. Inside, it says 'TUV Rheinland of North America, Inc.' around the top and 'US' on the right. The center features a stylized triangle with a horizontal line through it.</p>	<p>Mark used for products meeting only UNITED STATES standards. Use expired 12/31/2012.</p>
	 <p>The logo is a circular emblem with a black border. Inside, it says 'TUV Rheinland of North America, Inc.' around the top and 'US' on the right. The center features a stylized triangle with a horizontal line through it. Below the emblem, it says 'C' on the left and 'US' on the right.</p>	<p>Mark used for products meeting BOTH United States and Canadian standards. Use expired 12/31/2012.</p>
	 <p>The logo is a stylized blue triangle with a horizontal line through it. Below it, it says 'C' on the left and 'US' on the right.</p>	<p>Mark used for products meeting BOTH United States and Canadian standards. Use began 2/2010.</p>
<p><b>TUV Rheinland PTL, LLC (TUVPTL)</b></p>	 <p>The logo is a circular emblem with a black border. Inside, it says 'TUV Rheinland of North America, Inc.' around the top and 'US' on the right. The center features a stylized triangle with a horizontal line through it.</p>	<p>Mark used for products meeting only United States standards</p>
	 <p>The logo is a circular emblem with a black border. Inside, it says 'TUV Rheinland of North America, Inc.' around the top and 'US' on the right. The center features a stylized triangle with a horizontal line through it. Below the emblem, it says 'C' on the left and 'US' on the right.</p>	<p>Mark used for products meeting BOTH United States and Canadian standards</p>
	 <p>The logo is a stylized blue triangle with a horizontal line through it. Below it, it says 'C' on the left and 'US' on the right.</p>	<p>Mark used for products meeting BOTH United States and Canadian standards</p>

## Quality Acceptance Inspection Basics

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<p><b>Underwriters Laboratories Inc. (UL)</b></p>		<p>Mark used for products meeting only United States standards Basic design.</p>
		<p>Mark used for products meeting only United States standards. Equivalent to basic design.</p>
		<p>Mark used on products which UL has evaluated for specific properties, a limited range of hazards, or suitability for use under limited or special conditions. Typically, products Classified by UL fall into the general categories of building materials and industrial equipment." Examples: fire doors, protective gear for fire fighters, industrial trucks.</p>
		<p>Mark used for products meeting BOTH United States and Canadian standards</p>
		<p>Mark used for products meeting BOTH United States and Canadian standards</p>
		<p>Mark used for products meeting BOTH United States and Canadian standards</p>

### Contact Information for NC Approved Third Party Laboratories

(Laboratories with North Carolina addresses listed in **bold**)

Applied Research Laboratories  
5371 Northwest 161st Street  
Miami, FL 33014  
(305) 624-4800

CSA International  
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3  
(416) 747-2798

Communication Certification Laboratory NEMKO-CCI, Inc.  
1940 Alexander Street  
Salt Lake City, UT 84119  
(801) 972-6146

Curtis-Straus  
527 Great Road  
Littleton, MA 01460  
(978) 486-8880 x 296

FM Approvals LLC  
P.O. Box 9102  
Norwood, MA 02062  
(781) 762-4300

IAPMO EGS  
5001 East Philadelphia Drive  
Ontario, CA 91761  
(909) 472-4100

Intertek Testing Services ITS-ETL  
3933 US Route 11  
Cortland, NY 13045-2014  
(607) 753-6711

Intertek Testing Services ITS-  
Warnock  
3933 US Route 11  
Cortland, NY 13045-2014  
(607) 753-6711

**Intertek ITS-Warnock has a facility at:  
116 Bryan Road, Suite 101  
Wilmington, NC 28412  
(888) 400-0084**

**MET Laboratories**  
**2200 Gateway Centre Blvd.**  
**Suite 215**  
**Morrisville, NC 27560**  
**(919) 481-9319**

National Technical Systems (NTS)  
533 Main Street  
Acton, MA 01720  
(978) 263-2933

NSF International  
789 North Dixboro Road  
Ann Arbor, MI 48105-9723  
(734) 769-8010

Omni-Test Laboratories  
13327 NE Airport Way  
Portland, OR 97230  
(503) 643-3788

PFS Corporation  
1507 Matt Pass  
Cottage Grove, WI 53527  
(608) 839-1013

QPS Evaluation Services, Inc.  
81 Kelfield Street, Unit 8  
Toronto, Ontario, Canada M9W 5A3  
(416) 241-8857 x 422

RADCO  
3220 East 59th Street  
Long Beach, CA 90805  
(310) 272-7231

Salus Engineering International  
3004 Scott Boulevard  
Santa Clara, CA 95054  
(408) 235-8831

SGS Consumer Testing Services  
291 Fairfield Avenue

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Fairfield, NJ 07004  
(973) 634-4719

TUV SUD America  
10 Centennial Drive  
Peabody, MA 01960  
(978) 573-2530

**TUV Rheinland of North America**  
**762 Park Avenue**  
**Youngsville, NC 27596**  
**(919) 554-3668**

**Underwriters Laboratories, Inc.**  
**12 Laboratory Drive**  
**Research Triangle Park, NC 27709**  
**(919) 549-1400**