



International Product Compliance and Certifications



Agenda

- USA
- Canada
- Europe
- Other International
- CB Scheme



This was the only mark.....





Now, these are the marks.....



A bit of history.....

- ❖ UL founded in 1894 by William Henry Merrill
- ❖ Merrill was an Electrical Engineer in Boston and sent to investigate the World's Fair Palace of Electricity in Chicago
- ❖ Stayed in Chicago to develop Standards, tests and uncovering hazards
- ❖ 1903 first Standard – Tin Clad Fire Doors
- ❖ 1904 first label – Fire Extinguisher
- ❖ 1905 established Labeling service and Follow Up Service Inspections
- ❖ <http://www.ul.com/global/eng/pages/aboutul/history/>



ETL – Electrical Testing Labs

Founded by Thomas Edison in 1896
Now Intertek

\$2 billion company with a variety of
engineering services

CSA – Canadian Standards Association

- ❖ Canadian Standards Association (CSA), was originally founded in 1919 as the Canadian Engineering Standards Association (CESA).
- ❖ A nationwide approach to certification of electrical products was called for in 1940, CESA assumed the responsibility for testing and certifying electrical products intended for sale and installation in Canada.
- ❖ CESA officially became the Canadian Standards Association (CSA) in 1944.
- ❖ In 1946, the CSA Certification Mark was officially registered.



MET Laboratories

Founded in 1959 by Leonard Frier

Was Maryland Electrical Testing

Focused on High voltage electrical transmission and distribution systems

Among the first in the 1970s for EMI and Telecom to FCC

First NRTL



NRTLs

MET's Leonard Frier instrumental in changing Regulation OSHA used to say all products in the workplace to be UL 1988 regulation changed to state NRTLs



Federal law requires your products to be approved

Federal Register / Vol. 53, No. 70 / Tuesday, April 12, 1988 / Rules and Regulations 12123

Subpart S—Electrical

26. The authority citation for Subpart S continues to read as follows:

Authority: Secs. 6, 8, Occupational Safety and Health Act of 1970 (29 U.S.C. 655, 657); Secretary of Labor's Order No. 8-76 (41 FR 25059) or 9-83 (48 FR 35736), as applicable; and 29 CFR Part 1911.

27. In § 1910.399, paragraph (a)(1) is revised to read as follows:

§ 1910.399 Definitions applicable to this subpart.

(a) * * *

(1) *Acceptable*. An installation or equipment is acceptable to the Assistant Secretary of Labor, and approved within the meaning of this Subpart S: (i) If it is accepted, or certified, or listed, or labeled, or otherwise determined to be safe by a nationally recognized testing laboratory; or (ii) with respect to an installation or equipment of a kind

which no nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, if it is inspected or tested by another Federal agency, or by a State, municipal, or other local authority responsible for enforcing occupational safety provisions of the National Electrical Code and found in compliance with the provisions of the National Electrical Code as applied in this Subpart; or (iii) with respect to custom-made equipment or related installations which are designed,

NRTLs/OSHA

Main page - <http://www.osha.gov/dts/otpcanrtl/>

Marks -

<http://www.osha.gov/dts/otpcanrtl/nrtlmrk.html>

Definitions -

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9976

UL Listing vs UL Recognized Component



Listing – End product that stands alone

R/C – Component that comes with Conditions of Acceptability

- Must be enclosed
- Electrical Ratings
- Etc.

UL Listing vs UL Recognized Component (R/C)

“All my components are UL so I should get UL”

- UL R/C 2 Amp switch in a 5 Amp circuit
- UL R/C Polymeric enclosure – RTI 50 C exposed to 70C, outdoor product with no UV rating, V-0 flame rating in 5VA application
- UL R/C flame retardant sleeving used for electrical insulation



UL Recognized Component (R/C)

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UL Recognized Component (R/C)

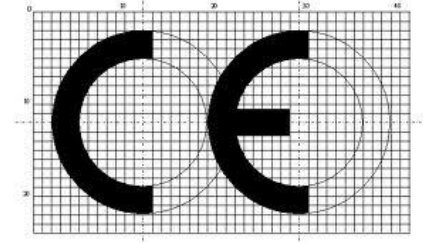
<http://www.ul.com>



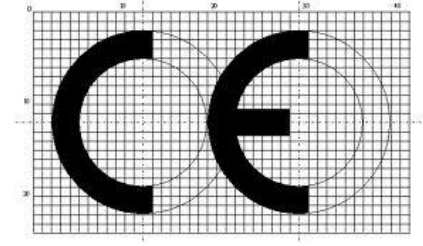
Standards Council of Canada (SCC)

<http://www.scc.ca/en/accreditation/product-process-and-service-certification>

<http://www.scc.ca/en/accreditation/product-process-and-service-certification/directory-of-accredited-clients>

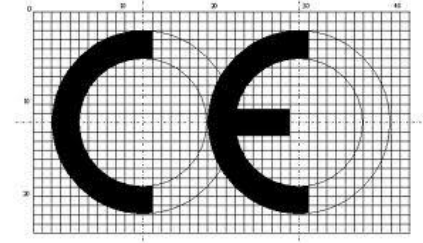


- ▶ CE has been required for some products since 1990.
- ▶ CE for most products is “Self Declaration”
- ▶ CEN – European Committee for Standardization
- ▶ CENELEC – European Committee for Electro technical Standardization
- ▶ “CE” used to be “EC”



Countries That Require CE Marking

Austria	Hungary	Poland
Belgium	Iceland	Portugal
Bulgaria	Ireland	Romania
Cyprus	Italy	Slovakia
Czech Republic	Latvia	Slovenia
Denmark	Liechtenstein	Spain
Estonia	Lithuania	Sweden
Finland	Luxembourg	Switzerland
France	Malta	Turkey
Germany	Netherlands	United Kingdom
Greece	Norway	

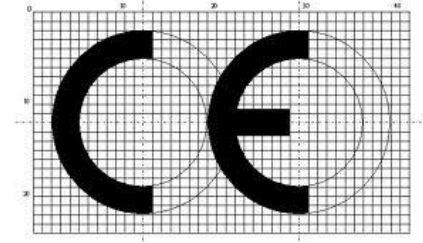


CE is EU Law – Requirements called out in Directives

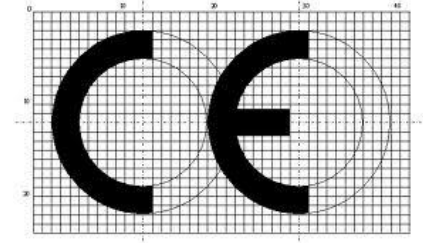
► Most Common Directives

- Low Voltage Directive (50–1000 VAC, 75–1500 VDC)
- EMC Directive (Any product that can generate electrical noise)
- Machinery Directive (Machines with hazardous moving parts)
- Medical Directive (Medical Devices, some of which require third party certification)

► Each Directive calls out the particular Standard(s) to be used.



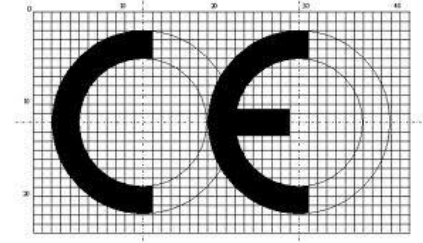
- ▶ The Declaration must be drawn up in the same language as the instructions and must be either typed or handwritten in block capitals.
- ▶ It is recommended the Declaration be provided with the shipping documents for the product(s). Some countries expect to see it with the shipping documents.



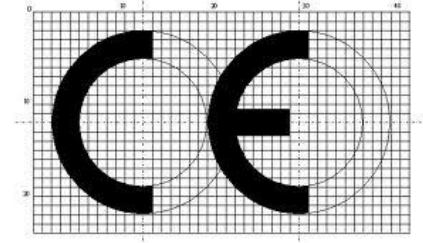
The Declaration must contain the following:

- Name and address of the manufacturer or his Authorized Representative established within the Community
- Description of the product
- Where appropriate, name and address of the Notified Body and number of the EC type-examination Certificate
- A reference to the Standard(s) used
- Identification of the person empowered to sign on behalf of the manufacturer or his Authorized Representative

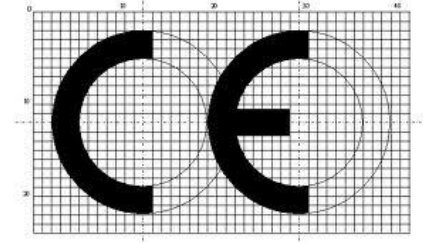
<http://www.rockwellautomation.com/resources/downloads/rockwellautomation/pdf/certification/ce/pdf/DST-0095-C-EN.pdf>



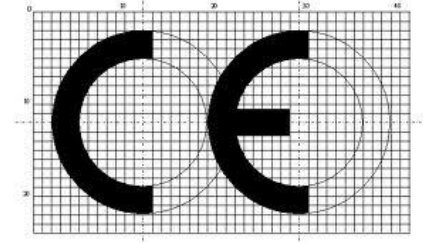
- ▶ The Technical File must be held in the European Union for 10 years after the last product is manufactured and contain the following:
 - Overall drawings of the product
 - Fully detailed drawings, accompanied by calculation notes, test results, etc. required for showing compliance to the essential health and safety requirements
 - List of essential requirements of the Directive, and a list of the Standards used
 - Copy of the instruction manual
 - Technical reports and/or Certifications
 - Declaration of Conformity
 - Description of the internal measures in place for maintaining conformity



- ▶ “Manufacturer or Authorized Representative” is not an option
- ▶ “Manufacturer” means an EU manufacturer
- ▶ If not an EU manufacturer, an Authorized Representative is required
- ▶ Where formal arrangements have not been made, the importer is held responsible. Case Studies show the importer is bailing the first sign of trouble - leaving your products held in prohibition with no one to represent you.
- ▶ Ignorance of these regulations is not defensible

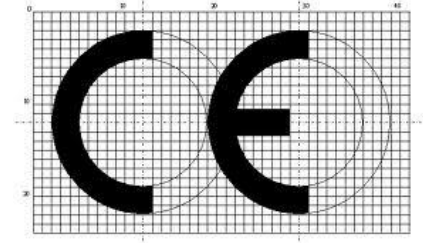


- ▶ Must be formally appointed
- ▶ Legally responsible throughout Europe
- ▶ In the UK, you must be able to provide the regulator with a complete Technical File within 5 working days. Other countries have various time constraints.
- ▶ Must be able to produce an originally signed "Declaration of Conformity"
- ▶ An Authorized Representative that has limited technical and legal knowledge of the implications could seriously damage the ability to trade throughout Europe.



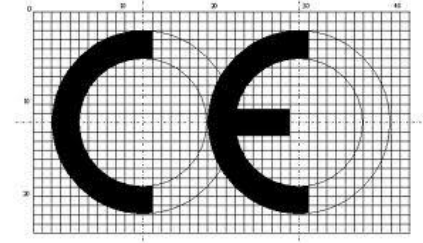
What's at stake??

- ▶ If there is a threat of endangerment to the safety of persons, domestic animals, or property from the apparatus with the CE Marking, the Member State shall take all appropriate measures:
 - Withdraw from the market
 - Prohibit placement on the market
 - Restrict placing on the market
 - Inform the European Commission. The Commission then informs every other Member State



Enforcement –

- ▶ In Germany, 19 of 100 investigated cases received hefty fines for non-compliances. Germany allows authorities to impose fines for infringing on requirements without taking the companies to court.
- ▶ Sweden tests about 25–30 products of every 200 Declarations to see if they pass.
- ▶ In Wales, a PC Manufacturer was fined over \$5,000.00 for a non-compliant product assembled from CE Marked components.
- ▶ In Germany, 1500 technical documents are assessed each month. 750 of those are passed on for further investigation.



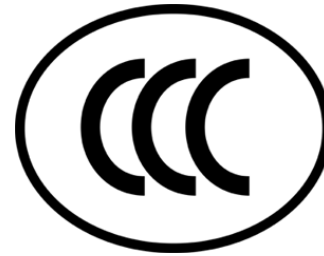
CE Summary

- Many categories are self-declaration
- Directives are the law – Need to confirm which one(s) apply
- Directives call out the Standards – Need to pick the right ones
- Declaration of Conformity
- Technical File

http://ec.europa.eu/enterprise/policies/european-standards/harmonised-standards/index_en.htm

Other International Certifications

China – CCC



Brazil – INMETRO



India - ISI



Japan – PSE marks



Other International Certifications

Mexico – Norma Oficial Mexicana



Russia – GOST mark



Argentina – S Mark



Type Certified Mark



S-Mark

Australia – RCM and cTick



The CB Scheme

- ▶ The International Electrotechnical Commission (IEC) established a program called the IEC System for Conformity Testing to Standards for Safety of Electrical Equipment (IECEE).
- ▶ Concept - Conduct one set of tests to obtain National Approvals anywhere in the world.
- ▶ It provides a means for the mutual acceptance of test reports among participating members.

The CB Scheme

- ▶ The CB Scheme is an international network of product Certification Bodies (CBs) from around the world.
- ▶ NCBs - National Certified bodies (UL, CSA, VDE, TUV, NOM, CCC, etc.) National Approval Agencies cooperating in accepting each others data.

The CB Scheme

- ▶ More than 45 certification organizations in countries throughout Europe, North America, Asia, Australia and Africa participate in the Scheme.
- ▶ Strategy - Obtain National Approval & CB Certificate from one NCB. Take the CB Certificate to any other NCB and obtain their National Approval with little or no additional testing.

The CB Scheme

- ▶ A manufacturer applies to any of the participating NCBs for a CB Test Certificate.
- ▶ The NCB will perform complete testing and evaluation of the manufacturer's product to determine conformity with appropriate standard accepted in the Scheme.
- ▶ If the product is found to be in compliance with the standard, the NCB will issue a CB Test Report and CB Test Certificate.

The CB Scheme

- ▶ The CB Scheme offers manufacturers a simplified and more cost effective means for obtaining multiple national safety certifications for their products.
- ▶ Advantages - TIME & MONEY. What is that saying about 1st to market?
- ▶ <http://www.iecee.org/>



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