

# CE Marking

## EC Directive and CE Marking

When any manufacturer or importer desires to market a product in Europe, the manufacturer or importer, if qualified to use CE Marking for the product, represents it as complying with the relevant EU's EC Directive, which can guarantee its free distribution within the EU territory.

There are many different EC Directives that call for CE Marking, among which are Machinery Directive, EMC Directive and Low Voltage Directive. There is no independent EC Directive intended for cables, which, however, are subject to the Low Voltage Directive.

To certify that any cable complies with the Low Voltage Directive, it is the best way to represent its product specifications as complying with the EN standards, CENELEC standards or IEC standards, specifically with either of the latter two standards because the former has yet to be established.

### Countries where CE Marking is valid

CE marking is valid in the following EU member countries:

Belgium, Denmark, Germany, Greece, Spain, France, Ireland, Italy, Luxemburg, Holland, Austria, Portuguese, Finland, Sweden, England, Poland, Czech, Slovakia, Hungary, Slovenia, Estonia, Lithuania, Latvia, Malta, Cyprus, Rumania, Bulgaria  
(As of January 1, 2007)



### Low Voltage Directive

The Low Voltage Directive (73/23 EEC) applies to electrical appliances designed for use with a voltage rating between AC50 and 1000V and between DC75 and 1500V, which fact means that almost all electrical appliances including ones for household and office use are subject to the Low Voltage Directive.

The Low Voltage Directive specifies fundamental safety requirements, but not any specific engineering standards to follow to meet these safety requirements. Therefore, to certify that any electrical appliance complies with the Low Voltage Directive, it is the best way to represent it as complying with the EU unified standards, EN standards, CENELEC standards or internationally recognized standards, IEC standards, or if it is not covered by any of these standards, to use any of the EU member countries' relevant standards to certify its compliance with the Directive.

### CENELEC Standards

The CENELEC Standards refer to the standards established by the European Committee for Electrotechnical Standardization, which is also responsible for preparation of drafts for the EN standards. The CENELEC Standards provide specifications for cables in CENELEC's HD21, which represents "Harmonization Document" intended to harmonize the standards in the European countries and study them for unification into EN standards.

## KURAMO's CE Marking

Any product certified to comply with the relevant EC Directive is qualified for CE marking under the responsibility of the manufacturer of the product. Notwithstanding this, however, the best way to certify compliance of any product with the relevant EC Directive is to contract with an appropriate Notified Body to test the product for conformity to the CENELEC standards, IEC standards and/or Low Voltage Directive as appropriate.

We have contracted with DEMKO and VDE to test our cable products and certify their compliance with CENELEC standards, IEC standards and/or Low Voltage Directive, allowing us to mark them with CE MARK and DEMKO or VDE on their surfaces.

## Features of KURAMO's CE Marked Cable Products

### ■ Reliability

The KURAMO's cables are certified by DEMKO or VDE, guaranteeing their quality and performance reliability.

### ■ Global Standard Cable

The KURAMO's cables are certified not only to qualify for CE Marking, but also to meet the UL/cUL, CCC, TR-CU and other global standards, allowing them to be used in any other region of the world than the EU.

### ■ Availability in various grades/sizes

The KURAMO's cables are available in a large variety of grades and sizes, including multi-core and single-core cables for fixed or mobile or robot wiring, to meet the needs of various applications of industries.

### ■ EMC protection

The KURAMO's cables are designed to meet the EN 50525-2-51 (HD21.13) specifications for low transfer impedance (250m  $\Omega$  /m at 30MHz or less) to provide for effective protection against EMC.

### ■ EMC Directive and EMC Protection

The EMC Directive (89/336/EEC) specifies the requirements for electrical appliances, ensuring that they will generate no more than a given amount of electromagnetic interference that may adversely affect any other appliances and that they will have a capability of withstanding a certain amount of electromagnetic fields (immunity) while operating as intended within their specifications. The CENELEC Standards' HD21.13 requires any cable to have such a shielding effect as to meet its specifications for low transfer impedance (250m  $\Omega$  / m or less at 30MHz). The KURAMO's shielded cables are certified to comply with the HD's specified transfer impedance requirements. The EMC Directive requires any electrical appliance to be tested for EMC while operating, which fact means that the appliance's EMC protection cannot be guaranteed by the cables connected to it. Notwithstanding this however, the use of the KURAMO's shielded cables for connection to any electrical appliance provides for effective protection of the appliance against EMC.



### ■ DEMKO

DEMKO is the abbreviation for Danish Electrical Material Control Organization, which was established in 1924 to test and certify every type of electrical appliance and part in Denmark.



### ■ Voltage Rating Representation

The EU and IEC standards specify the voltage rating of an electrical appliance to be represented as two voltage values — U<sub>0</sub>/U like 300/500V and 450/750V as described below:

U<sub>0</sub> : The r.m.s. voltage between any insulated conductor and ground, "earth"

U : The r.m.s. voltage between any two-phase conductors

The above is due to the difference between the European and Japanese voltage supply systems.