

# **electrocube** RoHS Compliant & Pb-Free

## **Blanket Certification for Standard RC Network Products**

### **- DIN Rail Enclosures - Mechanical Connection**

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#### **RoHS & Pb-FREE REQUIREMENTS -**

The requirements for RoHS Compliance are defined by:

EU Directive 2002/95/EC of 27 January 2003 (RoHS)  
EU Commission Decision 2005/618/EC of 18 August Amending Directive 2002/95/EC  
EU Commission Decision 2005/717/EC of 13 October 2005 Amending Annex of 2002/95/EC  
EU Commission Decision 2005/747/EC of 21 October 2005 Amending Annex of 2002/95/EC  
EU Commission Decision 2006/310/EC of 21 April 2006 Amending Annex of 2002/95/EC  
EU Commission Decision 2006/690/EC of 12 October 2006 Amending Annex of 2002/95/EC  
EU Commission Decision 2006/691/EC of 12 October 2006 Amending Annex of 2002/95/EC  
EU Commission Decision 2006/692/EC of 12 October 2006 Amending Annex of 2002/95/EC  
EU Commission Decision 2008/385/EC of 24 January 2008 Amending Annex of 2002/95/EC  
EU Directive 2008/35/EC of 11 March 2008 Amending Directive 2002/95/EC  
Annulment of Annex Point 2 of EU Commission Decision 2005/717/EC  
by Judgment of the Court of 1 April 2008  
EU Commission Decision 2009/428/EC of 4 June 2009 Amending Annex of 2002/95/EC  
EU Commission Decision 2009/443/EC of 10 June 2009 Amending Annex of 2002/95/EC  
EU Commission Decision 2010/122/EU of 25 February 2010 Amending Annex of 2002/95/EC  
EU Commission Decision 2010/571/EU of 24 September 2010 Amending Annex of 2002/95/EC  
EU Commission Decision 2010/571/EU Corrigenda of 29 September 2010 Amending Annex of 2002/95/EC  
EU Directive Proposal COM(2008) 809 final "RoHS 2 (II)" / "RoHS Recast" 12 March 2008  
Text Adopted by the European Parliament 24 November 2010

The RoHS Recast Directive will significantly revise and reconfigure the prior RoHS Directive, incorporating prior Commission Decisions and Directives and imposing numerous revised and new requirements. Approval of the Adopted Text by the Council of the European Union, and Publishing in the Official Journal of the European Union Journal to effect into law remains pending as of this date. The revised and new requirements are not anticipated to affect Electrocube's ability to certify product as "RoHS Compliant".

The requirements for Pb, Pb-Free and other identification are defined by:

IPC/JEDEC J-STD-609A.01-2011

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#### **RoHS COMPLIANT / Pb-FREE PRODUCT DESCRIPTION -**

Electrocube "standard" RC Network product series RG2408/2409/2411 utilize specialized industry standard DIN Rail modular enclosures for large-scale industrial instrumentation, automation and control applications. These products are mechanically secured and terminated (not soldered)

Electrocube standard product series (as listed), supplied to our Distributors and OEM Customers as of date code 0626 (YYWW) and subsequent may be provided as RoHS Compliant and Pb-Free product, as needed by specific customer requirement, and as negotiated at time of quotation and order placement. RoHS Compliant and Pb-Free product is specifically identified as such (refer to following commentary). The Electrocube part numbers, for the RoHS Compliant and Pb-Free products, are identical to that of the pre-existing non-compliant product configurations.

RG2408/2409/2411 Series RC Networks

#### **CURRENT EXCEPTIONS**

Electrocube standard product series (as listed), supplied to our Distributors and OEM Customers as of date code 0540 (YYWW) and subsequent, shall be considered RoHS NON-Compliant and NOT Pb-Free unless specifically acceptable and contracted otherwise. The listed standard product series have become available as RoHS Compliant product as of 07/01/06, date code 0626, and may be provided as such, as needed by specific customer requirement, and as negotiated at time of quotation and order placement.

RG2408/2409/2411 Series RC Networks

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#### RoHS COMPLIANT CONTENT CERTIFICATION -

**Electrocube confirms** that the listed standard product series (less exceptions noted), of date code 0626 (YYWW) and subsequent, ARE COMPLIANT within the restrictions of the (current revision of) EU RoHS Directive 2002/95/EC and EU Commission Decisions / Amendments, regarding content of PBB and PBDE flame retardants, including non-use of flame retardant DecaBDE from date code 0640 and subsequent (the prior exemption for use having been annulled and expired as of 30 June 2008), and regarding content of heavy metals Pb, Hg, Cd, and Cr<sup>+6</sup>. To the present and best of our knowledge, and based upon information available to us from our suppliers, the materials and components, utilized in product construction, are understood to not intentionally contain the restricted flame retardant materials and heavy metals, and any un-intentional impurity-level content will be within restriction limitations of the (current revision of) EU RoHS Directive 2002/95/EC, and EU Commission Decisions / Amendments.

<u>SUBSTANCE</u>	<u>LIMIT</u> (by weight in homogenous material)
Lead (Pb)	<=0.1%
Mercury (Hg)	<=0.1%
Cadmium (Cd)	<=0.01%
Hexavalent Chromium (Cr <sup>+6</sup> )	<=0.1%
Polybrominated biphenyls (PBB)	<=0.1%
Polybrominated diphenyl ether (PBDE)	<=0.1% (including DecaBDE*)

\*Electrocube does not currently purchase or use materials or components utilizing DecaBDE as a flame retardant. For the period from October 2005 through October 2006, Electrocube exercised use of the "DecaBDE Exemption" to consume existing inventory of specific insulating tape materials, used typically on tape-wrapped case capacitor styles, as they were being replaced by procurement of fully compliant alternative tape materials during the same period. Product identified with date codes of 0640 and subsequent shall be considered to be RoHS compliant without use of the DecaBDE Exemption.

Exemption per RoHS Directive 2002/95/EC, Commission Decision 2005/717/EC amending the RoHS Directive as Annex Point 9a, for content of specific PBDE flame retardant DecaBDE in-excess of the limitations imposed as a PBDE, was exercised for the period from October 2005 to October 2006, to consume existing inventory of specific insulating tape materials, as they were being phased-out, and replaced by procurement of alternative materials fully RoHS compliant without exercise of exemption 9a during this same period. This exemption was primarily applicable to a wide range of capacitor product series having tape-wrapped cases. The affected product series were certified to be RoHS Compliant with disclosure of the exercised exemption 9a. Electrocube does not currently purchase or use materials or components utilizing DecaBDE as a flame retardant. Product identified with date codes of 0640 and subsequent shall be considered to be RoHS compliant without use of the DecaBDE Exemption. The DecaBDE Exemption (Annex Point 2 of EU Commission Decision 2005/717/EC / RoHS Directive Annex Point 9a) was annulled by Judgment of the Court of 1 April 2008, and expired as of 30 June 2008.

Exemptions per RoHS Directive 2002/95/EC Annex Points beyond those specifically noted have not been exercised by Electrocube in certification of the listed standard product series to be RoHS Compliant.

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#### Pb-FREE CONTENT CERTIFICATION -

**Electrocube confirms** that the listed standard product series (less exceptions noted) of date code 0626 (YYWW) and subsequent, ARE COMPLIANT within the industry accepted definition of Pb-Free, regarding content of heavy metal Lead (Pb). To the present and best of our knowledge, and based upon information available to us from our suppliers, the materials and components, utilized in product construction, are understood to not intentionally contain the restricted heavy metal, and any un-intentional impurity-level content will be within restriction limitations of the definition of Pb-Free, per the (current revision of) Industry Standards IPC/JEDEC J-STD-609A.01-2011, and of the (current revision of) EU RoHS Directive 2002/95/EC, and EU Commission Decisions / Amendments, excluding specific exemptions of the RoHS Directive for Pb content in excess of 0.1%.

<u>SUBSTANCE</u>	<u>LIMIT*</u>
Lead (Pb)	<=0.1%

\*By weight in homogenous material. RoHS Annex Exemption Points allowing >0.1% Pb content are excluded / not-applicable.

#### RoHS COMPLIANT / Pb-FREE PRODUCT IDENTIFICATION -

The listed Electrocube products are not directly marked to indicate RoHS Compliant or Pb-Free status. The lowest level of product packaging is marked with date code information by which compliance status may be primarily determined. Date code information may or may not be directly marked on product, based upon physical size and configuration of product, available marking capability and cost. The lowest level of product packaging, as well as shipping documentation (shipper / invoice & C of C) additionally includes specific marking or labeling to indicate product compliance status by way of appropriate RoHS Compliant and Pb-Free symbology and text, reference IPC/JEDEC J-STD-609A.01-2011.

#### Pb-FREE TERMINATION FINISH CATEGORY -

Industry Standard IPC/JEDEC J-STD-609A.01-2011, for special classification and identification of termination finish, is specifically applicable to components to be electrically / mechanically terminated by various automated or manual solder processes, and not applicable to the listed Electrocube standard products, to be manually and mechanically installed and (not-solder) terminated.

#### PRODUCT MOISTURE SENSITIVITY CLASSIFICATION -

Industry standards / requirements such as IPC/JEDEC Standards J-STD-020 & J-STD-033, and EIA/JEDEC Publication JEP113, for special classification, identification and packaging in regards to moisture sensitivity, are specifically applicable to surface mounted components exposed to higher temperature oven-reflow soldering processes, and not applicable to the listed Electrocube standard products, to be manually and mechanically installed and (not-solder) terminated.

#### SOLDER PROCESS TEMPERATURE - DURATION CAPABILITY -

Electrocube's standard products (as listed), in pre-existing lead-containing, and in current lead-free configurations might be considered to be temperature sensitive in manufacturing processes based upon pre-existing limitations of basic plastic materials from which they are constructed (specifically the capacitor film material), and not on the basis of a change to lead-free content.

Temperature and duration parameters for soldering processes should be considered not applicable to the listed Electrocube standard products, to be manually and mechanically installed and (not-solder) terminated.

In manufacturing processes, temperature exposure shall not result in component body temperatures exceeding the limitations of the applicable dielectric film materials utilized in the capacitor element (105 deg. C for Polypropylene, and 125 deg. C for Polyester).

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#### **Pb-FREE SOLDER PROCESS COMPATIBILITY-**

Forward and backward solder process compatibility of the pre-existing lead-containing, and current lead-free configurations of the listed Electrocube standard products, should be considered not applicable to the listed Electrocube standard products, to be manually and mechanically installed and (not-solder) terminated.

#### **RoHS COMPLIANT / Pb-FREE PRODUCT QUALIFICATION -**

Electrocube certifies that the functional electrical performance and reliability characteristics of the RoHS Compliant and Pb-Free configurations of the applicable standard product series are equivalent to that of products previously / historically provided.