

C-TICK – WHAT IS IT AND WHY IS IT IMPORTANT?



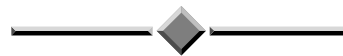
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*37th Annual Qld Water Industry Operations Workshop
Parklands, Gold Coast
5 June to 7 June, 2012*

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ABSTRACT

In this paper we will look at a case study of how to obtain C-Tick compliance and will therefore at the end be able to answer the questions: C-Tick – What is it? And why is it important?

1.0 INTRODUCTION

The C-tick label indicates compliance with the applicable technical standards for Electromagnetic Compatibility (EMC) and establishes a traceable link between the device and the supplier responsible for placing it on the market.

The Electromagnetic Compatibility regulatory arrangements were introduced to minimise electromagnetic interference between electrical products which may diminish the performance of electrical products or disrupt essential communications.

It is therefore important to check all the electrical and electronic equipment and vehicles and devices with internal combustion engines at your plant to ensure it has been tested for EMC.

2.0 DISCUSSION

In broad terms, the EMC regulatory arrangements require suppliers to:

- 2.1 Apply to the ACMA
- 2.2 Ensure the device complies
- 2.3 Collect supporting documentation & maintain compliance records
- 2.4 Adhere to the labelling requirements

2.1 Apply to the ACMA

Registration to use the compliance mark will only be accepted from Australian manufacturers or importers, or their agent, in Australia.

Manufacturers in Australia, importers, or their authorised agent who are responsible for supplying radio communications, specified electrical and electronic products or telecommunications equipment or cabling must comply with the applicable labelling notice, and therefore must have the relevant compliance mark, together with supplier identification, placed on the product.

The options for the identification of the manufacturer, importer or their agent identification are:

- a business name and address in Australia
- a business name registered on the national business register
- a personal name and address in Australia of the place of business
- an Australian company number (ACN)
- an Australian registered body number
- an Australian business number (ABN)

- an Australian registered trademark or
- the supplier code number issued by ACMA (upon application).

Note: If the trademark option is to be used, the supplier must hold a copy of the Australian trademark registration certificate including a true representation of the trademark with their compliance records.

The compliance marks are protected symbols and are only to be used in accordance with conditions laid down by the ACMA.

A company or person wishing to use the compliance marks must make written application to the ACMA. No fee is required to register with the ACMA.

2.2 EMC Compliance Testing

The purpose of the Electromagnetic Compatibility regulatory arrangements is to prevent the introduction of devices that would have an adverse impact on users of the radiofrequency spectrum or the performance of other electrical/electronic devices in the Australian market.

To comply with the EMC regulatory arrangements suppliers must ensure the device complies with applicable EMC standards and label the device correctly to identify compliance.

It is the supplier's responsibility also to prove compliance of the device to the applicable standard if requested by the ACMA.

Proof of compliance is usually achieved by obtaining an equipment test report from a 3rd party testing body. Hydramet chose an EMC approval testing lab, who are in turn accredited by the National Association of Testing Authorities (NATA).

As an example, Hydramet's Chlorine Gas Leak Detector was tested to AS/NZS CISPR 11:2004 (Class A Group 1). The following Electromagnetic Interference (EMI) tests were performed:

Mains terminals conducted disturbances were tested with the device placed on a wooden table 0.8m above the horizontal conducting reference ground plane and other metallic objects and 0.4m for the vertical ground plane.



Figure 1: *Mains terminals conducted disturbances test*

Final radiated disturbances were tested by placing the device on a wooden table 0.8m above a reference ground plane on an Open Area Test Site compliant with CISPR 16-1-4 and 10 metres from the measurement antenna. Measured disturbance levels were maximised by varying the operating mode of the device, rotating the turntable through 360 degrees and varying the antenna height from 1 to 4m in both vertical and horizontal polarizations.



Figure 2: *Final radiated disturbances test*

Suppliers of medium and high risk devices should be able to provide you with explanatory documentation that specifies the correct installation and operation procedures to minimise the possibility that the device will be installed or operated incorrectly.

2.3 Collect Supporting Documentation

The supporting documentation needed to achieve compliance then becomes the compliance record for the device. The compliance record would normally consist of the description of the device and a Declaration of Conformity. These records must be retained for five years after the supplier ceases to supply the device in Australia.

2.4 Labelling Requirements

Currently the C-Tick label is used to indicate compliance with the EMC regulatory arrangements:



The C-Tick label consists of the C-Tick compliance mark and the Supplier Code Number (SCN) as issued by the ACMA (Australian Communications and Media Authority).

The SCN establishes a traceable link between a device and the supplier responsible for placing it on the Australian market.

The label must be prominently displayed on the product and shall be legible to the unaided eye and no smaller than 3mm in height. The supplier identification characters must be no less than 1mm in height.

Ideally the compliance mark should be placed as close as possible to the model identification. The label must be applied to a surface of the device that is readily accessible to the user or it can also be displayed electronically using an electronic display or screen integral to the device. Suppliers that choose to use electronic labelling are required to explain in the documentation that accompanies the device how the electronic label can be viewed. Where this is not practical due to the size or nature of the product, the label may be placed on the labelling, packaging, warranty or instructions of the product.

It should therefore be fairly easy to identify the Electromagnetic Compatibility of all your electrical and electronic equipment.

2.5 New Labelling for 2013.

The C-Tick compliance mark is being phased out and will be replaced by the RCM (Regulatory Compliance Mark) The changes are currently proposed to start on 1st March 2013 to align with the proposed commencement date for the Electrical Regulatory Authorities Council (ERAC) Electrical Equipment Safety System (EESS)



The RCM will indicate a device's compliance with applicable EMC and EME (Electromagnetic Energy) AND with applicable state and territory electrical equipment safety requirements.

Rules for use of the RCM can be found in *AS4417: Marking of electrical and electronic products to indicate compliance with regulations*.

A new database will be established for all supplier registration and a supplier identification number will no longer be required on the device label. Current suppliers will have a three-year transition period to register on the new database and start using the RCM.

Equipment that falls under the scope of the EESS, however will require the supplier to register on the new database within six months of the commencement date.

3.0 CONCLUSIONS

What is it?

The C-Tick compliance mark indicates that the product is compliant with the Electromagnetic Compatibility regulations.

The C-Tick compliance mark is to be replaced by the Regulatory Compliance Mark commencing 1st March 2013 and both labelling requirements are intended to limit the supply of non-compliant devices to the Australian market.

Why is it important?

The Electromagnetic Compatibility regulatory arrangements minimise electromagnetic interference between electrical products which may diminish the performance of electrical products or disrupt essential communications.

To protect your plant from any potential electromagnetic interference you should check that your electrical equipment carries a C-Tick compliance mark. It is the responsibility of the supplier to ensure that the product meets the applicable technical standard, so if you can't find the label, you should contact the supplier of that equipment.

4.0 REFERENCES

Australian Communications and Media Authority, Electromagnetic compatibility, compliance and labelling, October 2011.

Australian Communications and Media Authority, New single compliance mark - RCM, March 2012.

Australian Communications and Media Authority, RCM – implementation of consolidated compliance mark, March 2012.

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