

Certificate of Compliance

Certificate: 1206216

Master Contract: 211066

Project: 1542106

Date Issued: 2004/10/22

Issued to: Trivolt Industries
9422 Blvd Viau
St-Leonard, Quebec H1R 3B5
Canada

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US'



Issued by: Sylvain Gagnon, T.P.

Authorized by: Alain Ste-Marie
Operations Manager

Alain Ste-Marie

PRODUCTS

CLASS 2871 02 - HEATERS - Miscellaneous

CLASS 2871 82 - HEATERS - Miscellaneous - Certified to US Standards

- Heater band flat and circular, mica insulated, 120V to 600V max, 35W/in² max with integral leads or studs terminals, Models :

N,NSS,SBT1,SBT2,SBT3,SBSS,SBAC,TSB,TSB1,TSBAC,TSBSS,TS1,TS2,TSS,TAC

,S1,S2,S3,SAC,SSS,SL,BN,BN1,BNAC,BNSS,TBN,TBN2,TBNAC,TBNSS,TB,EP,

SM1,SM2,SM3,SM4,SMAC,SMSS.

Note: The heater elements are certified only for use in equipment where the acceptability of the combination is

The 'C' and 'US' indicators adjacent to the CSA Mark signify that the product has been evaluated to the applicable CSA and ANSI/UL Standards, for use in Canada and the U.S., respectively. This 'US' indicator includes products eligible to bear the 'NRTL' indicator. NRTL, i.e. National Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety and Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. Standards.



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determined by CSA.

APPLICABLE REQUIREMENTS

CSA Std C22.2 No. 72-M1984 - Heater Elements

UL Std No 1030 (6th Edition) - Sheathed Heating Elements

MASTER CONTRACT: 211066

REPORT: 1206216

PROJECT: 1542106

Edition 1: May 18th, 2001; Project 1206216 - Montreal
Issued by Carole Lemay; Reviewed by Gabriel Raymond, Eng.

Edition 2: October 21, 2004; Project 1542106 - Montreal
Issued by Sylvain Gagnon, T.P.

Pages Replaced: **REPORT RE-ISSUED**
Added: Appendix A - 1 to 5
Figure 1 to 4

Contents: Certificate of Compliance - Pages 1 to 2
Supplement to Certificate of Compliance – Page 1
Description and Tests – Pages 1 to 4
Photos – 1 to 2
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Appendix A - 1 to 5
Figure 1 to 4

PRODUCTS

CLASS 2871 02 - HEATERS - Miscellaneous

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- Heater band flat and circular, mica insulated, 120V to 600V max, 35W/in² max with integral leads or studs terminals, Models

N,NSS,SBT1,SBT2,SBT3,SBSS,SBAC,TSB,TSB1,TSBAC,TSBSS,TS1,TS2,TSS,TAC,S1,S2,S3,SAC,SSS,SL,BN,BN1,BNAC,BNSS,TBN,TBN2,TBNAC,TBNSS,TB,EP,SM1,SM2,SM3,SM4,SMAC,SMSS.

Note: The heater elements are certified only for use in equipment where the acceptability of the combination is determined by CSA.

APPLICABLE REQUIREMENTS

CSA Std C22.2 No. 72-M1984 - Heater Elements
UL Std No 1030 (6th Edition) - Sheathed Heating Elements

The test report shall not be reproduced, except in full, without the approval of CSA International.

MARKINGS

- Submittor's name and/or Master Contract "211066".
- Model designation.
- Complete electrical rating in volts , amps or watts.
- CSA Mark adjacent to file number are die stamped on each unit, with the indicators "C US".
- Date Code

ALTERATIONS

-The units are marked as noted under "MARKINGS" above.

FACTORY TESTS

For Canadian Market

The equipment at the conclusion of manufacture, before shipment, shall withstand for one min, without breakdown

- a) 1000V ac between live parts and exposed non-current-carrying metal parts.

As an alternative, a potential 20 percent higher may be applied for one second.

For American market:

The equipment at the conclusion of manufacture, before shipment, shall withstand for one min, without breakdown,

- a) 1000 Vac + rated voltage for units rated 0 to 250Vac, and 1000V ac + 3 x rated voltage for units rated from 251 to 600Vac, between live parts and exposed non-current-carrying metal parts.

As an alternative, a potential 20 percent higher may be applied for one second

Warning: The factory test(s) specified may present a hazard of injury to personnel and/or property and should only be performed by persons knowledgeable of such hazards and under conditions designed to minimize the possibility of injury.

Edition 2 - Project 1542106

Change of models identification.

DESCRIPTION

General: Subject heater elements are used for industrial application and are custom designed for each application to a maximum density of 35W per square inch. The basic construction of each type element is the same and they differ only in physical shape and width for their use. Each type is supplied with either post terminals, or leads or cable, or two prong plug. The circular bands can be secured by different styles of fasteners.

Description: see photos 1 and 2

1. Heating wire (from 20 to 12 AWG flat) wounded around a mica sheet. Cover with a mica sheet on both sides (0.6mm thick), and the whole assembly covered with steel. A 1.6 mm spacing is maintained between bare live parts and non-current carrying conductive parts (0 – 300V construction) and 6.4 mm spacing for 301 – 600 V construction.
2. Connexions are made either with certified wiring leads or by a threaded post (isolated with mica washers from the metallic enclosure). The post terminal is secured in place by bolts to maintain spacing requirements.
3. The final shape can be flat or circular (in the case of a circular heater, it is held in place with fasteners and screws to hold the heater to the load). Heat jacket (metal enclosure) is provided, and the heating element is place inside.
4. Wiring: (INT) Certified
Type: AWM, min of 250°C or 450°C
5. Terminals Post:
 - a) steel screw, provided with mica washers, plated steel washers and (2) nuts for the supply connector.
 - b) 310- 600V construction: mica washers are piled up to provide spacing between live parts and metal parts of 6.4 mm or greater.

TEST REPORT

Edition 1 – Project 1206216

The following tests were performed with satisfactory results according to CSA Std.C22.2 n° 72-M1984 and UL Std 1030 6th Edition on models B0-017, B8-0001, B9-0002, B11-0003, B14-0001, BH-0004, S2-0002 (judged representative of the whole series). The test data is kept attached to the CSA-International principal file located at Pointe-Claire office.

- Rating, Cl 6.2, Section 8
- Dielectric, Cl. 6.5
- Dielectric, UL1030 Sect 9

No other tests were deemed necessary.

Edition 2 – Project 1542106

~~No other tests were deemed necessary.~~