
DUNLI-MESSIEN (NANNING) HIGH TECH FOR LIGHTNING PROTECTION
邓尔一梅森（南宁）防雷有限公司
4501009014244

UL Report

CERTIFICATE OF COMPLIANCE

Certificate Number	20140114-E464815
Report Reference	E464815-20140114
Issue Date	2014-JANUARY-14

Issued to: Duval - Messien(Nanning)High Tech For Lightning Protection
3 Fl Hobo Building 8 KeYuan Dong 5 Rd
Nanning Guangxi 530003 CHINA

This is to certify that representative samples of GROUNDING AND BONDING EQUIPMENT
Copper clad steel ground rods, Cat. No. ARGOS TBB.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 467 and CSA C22.2 NO. 41-13 – Grounding and Bonding Equipment

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Listing Mark for the US and Canada should be considered as being covered by UL's Listing and Follow-Up Service meeting the appropriate requirements for US and Canada.
The UL Listing Mark for the US and Canada generally includes: the UL in a circle symbol with "C" and "US" identifiers: c(UL)us the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product.

William R. Carney

William R. Carney, Director, North American Certification Programs

UL LLC

File E464815
Project 4786137053
January 14, 2014

REPORT

on

GROUNDING AND BONDING EQUIPMENT

DUVAL - MESSIEN (NANNING) HIGH TECH FOR LIGHTNING PROTECTION

Nanning, Guangxi China 530003

DESCRIPTION

PRODUCT COVERED:

USL, CNL - Copper clad steel ground rods, Cat. No. ARGOS TBB.

GENERAL CHARACTER AND USE:

These are solid steel rods with copper plating.

These rods are intended for use as the grounding connection point for electrical distribution systems and associated equipment in accordance with the requirements of the National Electrical Code.

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Products designated USL have been investigated using requirements contained in the Standard for Grounding and Bonding Equipment, UL 467.

Products designated CNL have been investigated using requirements contained in Standard for Grounding and Bonding Equipment, CSA C22.2 NO. 41-13.

DESCRIPTION:

Marking - Manufacturers Name or Trademark, a distinctive catalog number, and rod length. Located within 12 in of the top of the rod.

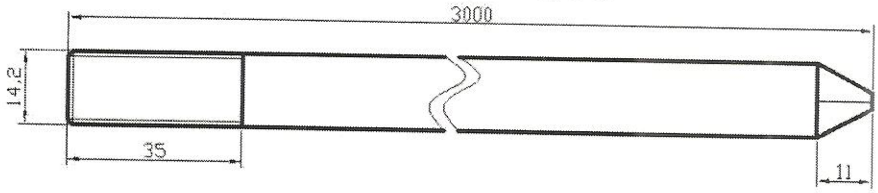
GROUND ROD - FIG. 1

1. Chamfer - Tip is ground to a blunt point at approx 45° angle. Refer to ILL. 1 for overall dimensions. Minimmum length 10 ft (3 m).

2. Plating - The steel bars are cleaned and copper is electrolytically deposited to a thickness of 0.25 mm (0.010 in) min.

3. Core - Not shown. Carbon steel core in the form of straightened and cold drawn bars.

4. Threading - Provided on end of ground rod as shown in FIG. 1.



技术要求：
1、螺纹为5/8英寸；
2、材料：基体碳钢，表面电镀0.254mm厚铜层；
3、表面光洁，无毛刺，无伤痕；
4、未注尺寸公差按GB/T1804-2000-F执行。

TEST RECORD NO. 1

SAMPLES:

Samples of the Grounding and Bonding device as indicated below and constructed as described herein, was submitted by the manufacturer for examination and test.

Cat. No. ARGOS TBB, copper jacketed steel ground rod

GENERAL:

This test record covers the UL/cUL Listing of the applicants copper jacketed steel ground rod. Testing was conducted as noted below.

Test results relate only to the items tested.

The following tests were conducted:

Bending Test, Rod Electrodes:	7.7.2, 8.7.2, 9.7.2 (7.7.2, 8.7.2, 9.7.2)
Adherence Of Coating Test, Rod Electrodes:	7.7.1, 8.7.1, 9.7.1 (7.7.1, 8.7.1, 9.7.1)
Copper Coating Thickness Measurement:	6.10.2 (6.10.2)

Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in Grounding and Bonding Equipment, UL 467, Tenth Edition, dated March 22, 2013 and, CSA C22.2 NO. 41-13, Dated March 22, 2013 and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

CONCLUSION

Samples of the products covered by this Report have been found to comply with the requirements covering the category and the products are found to comply with UL's applicable requirements. The description and test result in this Report are only applicable to the sample(s) investigated by UL and does not signify UL certification or that the product(s) described are covered under UL's Follow-Up Service Program. When covered under UL's Follow-Up Service Program, the manufacturer is authorized to use the UL Listing Mark on such products which comply with UL's Follow-Up Service Procedure and any other applicable requirements of UL LLC. The Listing Mark of UL LLC on the product, or the UL symbol on the product and the Listing Mark on the smallest unit container in which the product is packaged, is the only method to identify products investigated by UL to published requirements and manufactured under UL's Listing and Follow-Up Service.

Report by:
Norris Wu
Project Engineer

CERTIFICATE OF COMPLIANCE

Certificate Number 20140114-E464815
Report Reference E464815-20140115
Issue Date 2014-JANUARY-14

Issued to: Duval - Messien(Nanning)High Tech For Lightning Protection
3 Fl Hobo Building 8 KeYuan Dong 5 Rd
Nanning Guangxi 530003 CHINA

This is to certify that representative samples of GROUNDING AND BONDING EQUIPMENT
Exothermic Welding System, Cat. No. ARGOS CC4-4-120120.

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 467 and CSA C22.2 NO. 41-13 – Grounding and Bonding Equipment

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Listing Mark for the US and Canada should be considered as being covered by UL's Listing and Follow-Up Service meeting the appropriate requirements for US and Canada.
The UL Listing Mark for the US and Canada generally includes: the UL in a circle symbol with "C" and "US" identifiers: c UL us the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product.

William R. Carney

William R. Carney, Director, North American Certification Programs
UL LLC

File E464815
Project 4786137053

January 15, 2014

REPORT

on

GROUNDING AND BONDING EQUIPMENT

DUVAL - MESSIEN(NANNING)HIGH TECH FOR LIGHTNING PROTECTION

Nanning, Guangxi China 530003

DESCRIPTION

PRODUCT COVERED:

USL, CNL - Exothermic Welding System, Cat. No. ARGOS CC4-4-120120.

GENERAL CHARACTER AND USE:

Products designated USL have been investigated using requirements contained in the Standard for Grounding and Bonding Equipment, UL 467.

Products designated CNL have been investigated using requirements contained in Standard for Grounding and Bonding Equipment, CSA C22.2 NO. 41-13.

Exothermic welding powder material comes in standard cartridge size 200. Each cartridge contains a small amount of ignition powder and welding powder.

These products undergo a process of making exothermic welding connections. Exothermic is a term describing a chemical reaction which gives off heat as the reaction takes place. The system is intended to connect copper ground wire to various surfaces made of steel and copper material.

Marking -

The following should be permanently marked on each mold:

(a) manufacturer's name or trademark;
(b) conductor size and type,
(c) number and size of weld material cartridge;
(e) mold catalog number.

INSTALLATION INSTRUCTIONS:

Refer to ILL. 1 for instructions provided with each Mold.

Exothermic Welding System

1. Weld Mold - "+" shape. Made of Graphite.
2. Weld Powder -Composition 75-82% Cu-O and 18-25% activator
3. Conductor and shape combinations for each Cat. No.

Cat. No.	Shape	Conductor 1	Conductor 2
ARGOS TBB	"+"	120 mm^2 stranded copper conductor	120 mm^2 stranded copper conductor

Annex B : The installation instructions for the exothermic welding system

ARGOS Exothermic Welding Joints

ARGOS exothermic welding is to melt the metal conductor through the high temperature produced by the oxidized metals in the reductive flux during the exothermic reducing reaction. This series of products include exothermic welding moulds, mould Handle clamp, exothermic welding flux and supporting operation Tool kit, which have been successfully developed by Jiaxing Jiahe and have passed the tests conducted by some national authoritative testing institutions, such as Quality Inspection and Test Center for Equipment of Electric Power and China Electric Power Research Institute. Currently, the company is compiling the national standard for exothermic welding flux.

The advantages of the ARGOSWELD exothermic welding

1.The welding point is pure copper which belong to permanent molecular combine, and the point is anti-corrosion, conductivity, so it avoid the physical connection problem of being easily loose;

2.We enhanced one-piece powder creatively put the ignition powder and welding powder into one bag, which is not the dangerous item, and waterproof and seal design. The welding powder doesn't have the harmful material such as phosphorus and magnesium and easily to transport and store.

3. We can offer kinds of welding powder formula according to different material, and package accurately due to the different connection method. On condition of insuring the welding quality, it can not only reduce the welding damage to the metal material, but also increase the usage of the mould。

4. The welding method is easy and doesn't need the professional technology. The welding point has a high quality standard, the welding material and tools are light and easily carry. We can welding without external power or heat.

5. Use the high-strength, high purity and high quality graphite material to produce the mould. Because the graphite has a high compactness, it can

make sure that the welding residue rest lest and the mould' usage longest. From reaction, flue to proper welding design we avoid the risk of explosion of the mould and splash of the welding copper liquid, so the quality of the welding is high.

Model name:

Exothermic welding Mould

ARGOS CC4 — 4 — 120 120

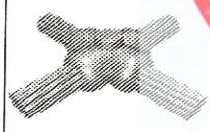
The Secondary conductor cross-sectional area

The main conductor cross-sectional area

price index

Cable to cable,4 point joint

Company code

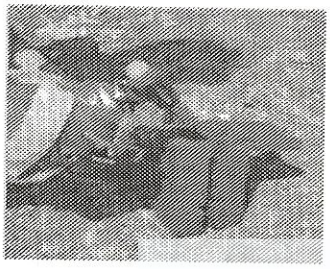
Icon	mold part no	RLX	RLY	weld flux
	CC4—4—120120	120mm²	120mm²	200#

Welding flux component		
CuO,Cu2O,Cu	Ae	Other
65%	25%	10%

Mold is made from high purity graphite.

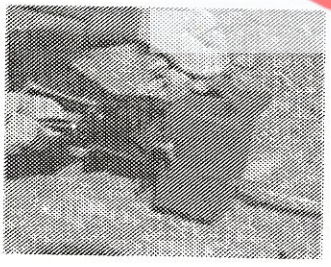
The operation steps :

1 .Clean and dry the mould and conductor

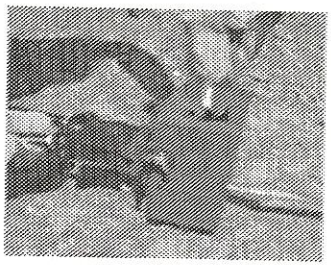


2. Put the connective conductor into the mould, clamping and make them no gap.

3. Put the steel plate into the bottom of the reaction chamber

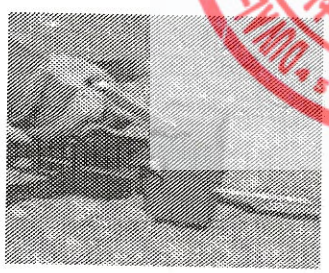


4 .Put the solder powder in then sprinkle the getting powder

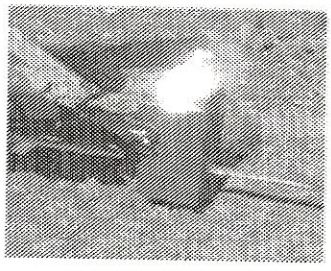


5 .Sprinkle a little getting powder on the mouth of the mould then cover the mould

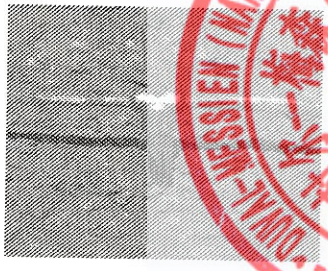
6 .Use the professional lighter to fire the getting powder



7 .The solder powder reacts in the high temperature



8 .After about 10 seconds, we can open the mould and clean it. And get ready for the next welding.



TEST RECORD NO. 1

SAMPLES:

A sample of the Grounding and Bonding device as indicated below and constructed as described herein, was submitted by the manufacturer for examination and test.

Cat. No. ARGOS CC4-4-120120

GENERAL:

This test record covers the UL/cUL Listing of the applicants exothermic welding system Cat. No. ARGOS CC4-4-120120. This system is a '+' shaped mold intended to connect two grounding conductors together. Testing was conducted as described below.

Test results relate only to the items tested.

The following tests were conducted:

Short-Time Current Test:	7.5, 8.5, 9.5 (7.5, 8.5, 9.5)
Wire Connectors:	7.1, 8.1, 9.1 (7.1, 8.1, 9.1)

Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in Grounding and Bonding Equipment, UL 467, Tenth Edition, dated March 22, 2013 and CAN/CSA C22.2 No. 41-13, Sixth Edition, dated March 22, 2013] [the standards noted below and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

CONCLUSION

Samples of the products covered by this Report have been found to comply with the requirements covering the category and the products are found to comply with UL's applicable requirements. The description and test result in this Report are only applicable to the sample(s) investigated by UL and does not signify UL certification or that the product(s) described are covered under UL's Follow-Up Service Program. When covered under UL's Follow-Up Service Program, the manufacturer is authorized to use the UL Listing Mark on such products which comply with UL's Follow-Up Service Procedure and any other applicable requirements of UL LLC. The Listing Mark of UL LLC on the product, or the UL symbol on the product and the Listing Mark on the smallest unit container in which the product is packaged, is the only method to identify products investigated by UL to published requirements and manufactured under UL's Listing and Follow-Up Service.

Report by:

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Project Engineer

VP Engineering
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Nanning
Guangxi 530003 CHINA

Date: 2014/01/14
Subscriber: 100609644
PartySite: 751927
File No: E464815
Project No: 4786137053
PD No: 14Q00319
Type: R
PO Number:

Subject: **Initial Production Inspection**

PLEASE NOTE: YOU ARE NOT AUTHORIZED TO SHIP ANY PRODUCTS BEARING ANY UL MARKS UNTIL THE INITIAL PRODUCTION INSPECTION HAS BEEN SUCCESSFULLY CONDUCTED BY THE UL FIELD REPRESENTATIVE.

An Initial Production Inspection (IPI) is an inspection that must be conducted prior to the first shipment of products bearing the UL Mark. This is to ensure that products being manufactured are in accordance with UL's requirements including the Follow-Up Service Procedure. After the UL Representative has verified compliance of your product(s), authorization will be granted for shipment of product(s) bearing the appropriate UL Marks as denoted in the Procedure.

Inspections at your plant will be conducted under the supervision of LIU JIAN BIAO, UL INSPECTION CENTER GUANGZHOU, CHINA NAT'L IMPORT & EXP COM INSPCTN CORP, 66 HUA CHENG DA DAO,WEST TOWER, 17TH FL, ZHU JIANG XIN CHENG, GUANGZHOU, GUANGDONG, China, 510623., PHONE: 20-38872860, FAX: 20-3829-0799, EMAIL: ulic316@ccic-cgd.com

Marks as needed may be obtained from UL LABEL CENTER GUANGZHOU, ROOM 3402-3407, TIMES PROPERTY CENTER, NO 410 DONGFENG RD MIDDLE, GUANGZHOU, GUANGDONG, China, 510030. PHONE: 208-348-7088, FAX: 208-348-7088, EMAIL: LABELCENTER.GUZ@CN.UL.COM, ATTN: T WEN

Please file revised pages and illustrations in place of material of like identity. New material should be filed in its proper numerical order.

NOTE: Follow-Up Service Procedure revisions DO NOT include Cover Pages, Test Records and Conclusion Pages. Report revisions DO NOT include Authorization Pages, Indices, Section General Pages and Appendixes.

Please review this material and report any inaccuracies to UL's Customer Service Professionals. Contact information for all of UL's global offices can be found at http://www.ul.com/global/eng/pages/corporate/contactus.

If you'd like to receive updated materials FASTER, UL offers electronic access and/or delivery of this material. For more details, contact UL's Customer Service Professionals as shown above., referring to the above Project and/or PD Numbers.

This material is provided on behalf of UL LLC(UL) or any authorized licensee of UL.

SUZ File

UL INSPECTION CENTER 316

Production Date: UNKNOWN
Contact: MR. Xinyi Lu
Phone: 86-771-3210461
EMail: luxinyi@duval-messien.com.cn

ADDENDUM TO TRANSMITTAL LETTER

VP Engineering
Duval - Messien(Nanning)High Tech For
Lightning Protection
3 Fl Hobo Building 8 KeYuan Dong 5 Rd
Nanning
Guangxi 530003 CHINA

Date: 2014/01/14
Subscriber: 100609644
PartySite: 751927
File No: E464815
Project No: 4786137053
PD No: 14Q00319
Type: R
PO Number:

Subject: **Initial Production Inspection**

The following material resulting from the investigation under the above numbers is enclosed.

Issue Date	Vol	Sec	Pages	Revised Date
2014/01/14	1	1	Cert of Compliance	
2014/01/14	1	1	Add New Volume	
2014/01/15	1	2	Cert of Compliance	
2014/01/15	1	2	Add New Proc/Report Sect