



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx INE 12.0025X Issue No: 3 Certificate history:  
Status: **Current** Page 1 of 4 Issue No. 3 (2014-10-03)  
Date of Issue: **2014-10-03** Issue No. 2 (2014-02-28)  
Applicant: **Crouse-Hinds by EATON - COOPER CAPRI S.A.S.** Issue No. 1 (2013-02-20)  
36-40 rue des Fontenils Issue No. 0 (2012-10-19)  
F - 41600 Nouan le Fuzelier  
**France**  
Electrical Apparatus: **Cable gland type ADE...**  
*Optional accessory:*  
Type of Protection: **d, e, n and tb**  
Marking:  
For ADE-1F2, ADE-1F2 Anchorage, ADE-1F2 DS, ADE-4F, ADE-5F, ADE-6F, ADE-1FC and ADE-6FC:  
Ex db IIC Ex eb IIC  
Ex nRc IIC  
Ex tb IIIC IP66  
Additional marking for brass, bronze and stainless steel versions, for ADE-1F2 DS, ADE-4F, ADE-5F,  
ADE-1F2 Anchorage, ADE-1FC (N°11 to N°16) and ADE-6FC (N°11 to N°17):  
Ex db I Ex eb I

Approved for issue on behalf of the IECEx  
Certification Body:

Thierry HOUEIX

Position:

Ex Certification Officer

Signature:  
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**INERIS**  
Institut National de l'Environnement Industriel  
et des Risques  
BP n2  
Parc Technologique ALATA  
F-60550 Verneuil-En-Halatte  
France



# IECEx Certificate of Conformity

Certificate No: IECEx INE 12.0025X Issue No: 3  
Date of Issue: 2014-10-03 Page 2 of 4  
Manufacturer: **Crouse-Hinds by EATON - COOPER CAPRI S.A.S.**  
36-40 rue des Fontenils  
F - 41600 Nouan le Fuzelier  
**France**

Additional Manufacturing  
location(s):  
**Cooper Electric (Changzhou) Co., Ltd.**  
N°189 Liuyanghe Road  
Xinbei District,  
Changzhou Jiangsu  
213031  
China

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2007-04</b> Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-15 : 2010</b> Edition:4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
<b>IEC 60079-31 : 2008</b> Edition:1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
<b>IEC 60079-7 : 2006-07</b> Edition:4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

#### Test Report:

[FR/INE/ExTR12.0022/02](#)      [FR/INE/ExTR12.0022/03](#)

#### Quality Assessment Report:

[GB/BAS/QAR07.0041/05](#)      [FR/LCI/QAR07.0002/06](#)



# IECEx Certificate of Conformity

Certificate No: IECEx INE 12.0025X

Issue No: 3

Date of Issue: 2014-10-03

Page 3 of 4

## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

ADE cable glands are made in stainless steel, brass, bronze or aluminium alloy (group I excluded), providing a protection degrees IP66 according to IEC 60529 for conical threaded joint and without additional sealing washer (gasket) for cylindrical threaded joint.

When fixed with locknut through a blank hole, the degree of protection IP66 depends on the roughness of the contact surface on the equipment (Ra 0.4 µm maxi without sealing washer and Ra 6.3 µm maxi with sealing washer).

Cable glands with conical threaded joint without additional sealing washer (gasket) and cylindrical threaded joint fitted with sealing washer in Red Fiber or Green Fiber providing a protection degree IPX8 according to IEC 60529.

The verification of the protection degree IPX8 corresponds to an immersion under 30 meters of water during 7 days.

They are protected by flameproof enclosure, increased safety and dust protection. Furthermore, they also may be fitted on 'Ex i', 'Ex m', 'Ex n', 'Ex o', 'Ex p' and 'Ex q' equipment.

### CONDITIONS OF CERTIFICATION: YES as shown below:

The maximum operating temperatures ranges of the entire cable glands must always be in accordance with the operating temperature of the internal sealing ring or compound and with the external sealing washer which ensure the degree of protection.

Maximum operating temperature range for internal sealing ring or compound :

- For type ADE-1F2, ADE-1F2 A, ADE-1F2 DS , 4F and 5F:
  - from -30°C to 80°C with sealing ring in Neoprene.
  - from -60°C to 140°C with sealing ring in Silicone.
- For type ADE-6F:
  - from -60°C to 80°C with internal sealing ring (diaphragm) in Silicone.
- For type ADE-1FC and 6FC:
  - from -60°C to 80°C with TSC compound.

Maximum operating temperature range for external sealing washer :

Gasket	Red fiber	Neoprene R	Neoprene C	Nylon	Green fiber	PTFE
Temperature °C	-30 to +80	-35 to +100	-40 to +80	-30 to +75	-60 to +140	-60 to +140

- For ADE-1F2 version, the user shall provide additional clamping of the cable nearby to the enclosure on which the cable gland is installed. A Cooper Capri anchorage module can be used.

- For ADE-6F version, used with braided cable, the user shall provide additional clamping of the cable nearby to the enclosure on which the cable gland is installed. A Cooper Capri anchorage module can be used.



# IECEx Certificate of Conformity

Certificate No: IECEx INE 12.0025X

Issue No: 3

Date of Issue: 2014-10-03

Page 4 of 4

## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

### Purpose of the issue 1 of IECEx INE 12.0025X:

- Addition of the following cable glands with sealing ring:
  - ADE-1F2 sizes N°14 to 17 and ADE-1F2 anchorage sizes N°3 to 17
  - ADE-5F sizes N°4 to 17
- Addition of the following cable glands with TSC compound:
  - ADE-1FC sizes N°4 to 16
  - ADE-6FC sizes N°5 to 17
- Addition IP68

### Purpose of the issue 2 of IECEx INE 12.0025X:

- New version of cable gland ADE... : ADE-1F2 DS
  - n°3 to n°17, for cable Ø 2,75 to 104 mm
  - Cylindrical thread M10 to M110
  - Conical thread NPT 3/8" to NPT 4"
- Modification of the operating temperatures :
  - For ADE-6F : -60°C to +80°C with internal sealing ring (diaphragm) in Silicone.
- Addition of new external sealing washers with their own operating temperatures following :
  - From -30°C à +75°C for sealing washer in white mat nylon
  - From -35°C to +100°C for sealing washer in black Neoprene R
  - From -40°C to +80°C for sealing washer in black Neoprene C
  - From -60°C to +140°C for sealing washer in white PTFE

### Purpose of the issue 3 of IECEx INE 12.0025X:

- Update of the manufacturer's details : Crouse-Hinds by EATON – Cooper Capri SAS – 36 rue des Fontenils – F – 41600 NOUAN-LE-FUZELIER.
- Addition of an alternative site of production : Cooper Electric (Changzhou) Co., Ltd. N°189 Liuyanghe Road, Xinbei District, Changzhou Jiangsu, 213031 CHINA.

## Annex:

[IECEx INE 12.0025X-03\\_Annex.pdf](#)



# IECEX Certificate of Conformity

Certificate No.: IECEX INE 12.0025X

Issue No.: 3

Page 1 of 3

Annexe: IECEX INE 12.0025X-03\_Annex.pdf

## PARAMETERS RELATING TO THE SAFETY

These cable glands are intended for use in the following service temperature:

ADE	Size	Service Temperature °C				Threaded joint		Groups	
		With Neoprene Sealing Ring	With Silicone Sealing Ring	With Silicone Internal Sealing (Diaphragm)	With TSC Compound	Cylindrical	Conical	I	II & III
ADE-1F2	3 to 17	-30 to +80	-60 to +140	X	X	M10 to M110	NPT 1/8" to NPT 4"	X	All Sizes
ADE-1F2 Anchorage	3 to 17	-30 to +80	-60 to +140	X	X	M10 to M110	NPT 1/8" to NPT 4"	All Sizes	All Sizes
ADE-1F2 DS	3 to 17	-30 to +80	-60 to +140	X	X	M10 to M110	NPT 1/8" to NPT 4"	All Sizes	All Sizes
ADE-4F	4 to 17	-30 to +80	-60 to +140	X	X	M10 to M110	NPT 1/8" to NPT 4"	All Sizes	All Sizes
ADE-5F	4 to 17	-30 to +80	-60 to +140	X	X	M10 to M110	NPT 1/8" to NPT 4"	All Sizes	All Sizes
ADE-6F	5 to 11	X	X	-60 to +80	X	M16 to M63	NPT 3/8" to NPT 2"	X	All Sizes
ADE-1FC	4 to 16	X	X	X	-60 to +80	M16 to M110	NPT 3/8" to NPT4"	N° 11 to N° 17	All Sizes
ADE-6FC	4 to 17	X	X	X	-60 to +80	M16 to M110	NPT 3/8" to NPT4"	N° 11 to N° 17	All Sizes



# IECEx Certificate of Conformity

Certificate No.:

IECEx INE 12.0025X

Issue No.: 3

Page 2 of 3

Annexe: IECEx INE 12.0025X-03\_Annex.pdf

## **MARKING**

Marking has to be readable and indelible; it has to include the following indications:

- CCH-CAPRI
- ADE...(1)
- IECEx INE 12.0025X
- Ex db/eb IIC
- Ex db I / Ex eb I(\*)
- Ex tb IIIC IP66
- Ex nRc IIC
- (Type and size of thread)

(1) Type is completed by letters and numbers corresponding to the manufactured variations.

(\*) Additional marking only for brass, bronze and stainless steel versions, for ADE-1F2 Anchorage, ADE-1F2 DS, ADE4F, ADE-5F, ADE-1FC and ADE-6FC.

On the sealing ring: size number to indicate the minimum and maximum cable diameters.

The sealing ring is identified allowing the user to determine if the ring is appropriate for the cable gland.



# IECEx Certificate of Conformity

Certificate No.: IECEx INE 12.0025X

Issue No.: 3

Page 3 of 3

Annexe: IECEx INE 12.0025X-03\_Annex.pdf

**On the small cable glands the marking can be reduced at:**

- CCH-CAPRI
- ADE...(1)
- IECEx INE 12.0025X

(1) Type is completed by letters and numbers corresponding to the manufacturer variations.

On the sealing ring: size number to indicate the minimum and maximum cable diameters.

The sealing ring is identified allowing the user to determine if the ring is appropriate for the cable gland.

## **ROUTINE EXAMINATIONS AND TESTS**

None.