

INTERNATIONAL ELECTROTECHNICAL COMMISSION

IEC SCHEME FOR CERTIFICATION TO STANDARDS FOR SAFETY OF ELECTRICAL EQUIPMENT FOR EXPLOSIVE ATMOSPHERES (IECEX SCHEME)

Ex Management Committee, ExMC

This document contains the IECEX Assessment Report for the acceptance of UL International DEMKO A/S as an Ex Testing Laboratory (ExTL) within the IECEX Scheme.

The report is hereby submitted to the ExMC for voting.

Please consider the assessment report and return the completed voting form to the Secretariat by **2002 03 18**. Your speedy response to the voting process will be very much appreciated, as it will assist in moving the scheme forward.

You may return your completed voting form (available in Word format) via fax or E-mail to

Chris Agius at-

E-mail: chris.agius@gas.com.au

Fax: + 61 2 8206 6032

Voting Form

IECEX Assessment Report for acceptance of the following candidate as an Ex Testing Laboratory

UL International DEMKO A/S

☐ Yes. I agree with the acceptance of UL International DEMKO A/S as an Ex Testing Laboratory

☐ No. I do not agree with the acceptance of UL International DEMKO A/S as an Ex Testing Laboratory within the IECEX Scheme, for the following reasons

Signature: _____

Name: _____

Member Body: _____

Date: _____

Please complete and return by **2002 03 18** to:

Mr Chris Agius
Secretary IECEX

Address:
GPO Box 5420
Sydney NSW 2001-04-24
AUSTRALIA

Visiting Address:
286 Sussex Street
Sydney NSW 2000
Australia

Contact Details:
Tel: +61 2 8206 6060
Fax: +61 2 8206 6032
<http://www.iecex.com>

IECEX ASSESSMENT REPORT FORM (TEST LABORATORY – ExTL)

Type of Assessment :

Initial Assessment for Candidate TL ☒
Surveillance Assessment for existing TL ☐

1. OBJECT AND FIELD OF APPLICATION

1.1 Country:

DENMARK

1.2 Name of Candidate TL

UL INTERNATIONAL DEMKO A/S

1.3 Members of The Assessment Team

Michel LIVERNAULT (Lead Assessor)
David Balfour

1.4 Place And Date Of Assessment

LYSKAER 8
PO BOX 514
DK – 2730 HERLEV DENMARK

Assessment visit on: 20th September 2000

1.5 Assessment References

Document:

- i) IECEX 02 First Edition 1995-03
- ii) ExMC/58/CD Draft for IECEX Operational Document OD/003
- iii) ISO/IEC Guide 25: 1990 or ISO 17025: 1999
- iv) IECEX Technical Guidance Documents
- iv) ExTL application documents dated 13 October 2000 in the covering letter

1.6 Scope Of Application

(List all Standards within scope of application or acceptance within IECEX)

<i>Product Category</i>	<i>Standard</i>
Electrical apparatus for explosive atmospheres:	
General Requirements	IEC 60079-0
Part 1: Construction and verification test of flameproof enclosures of electrical apparatus	IEC 60079-1
Part 2: Electrical apparatus, type of protection "p" (Pressurization)	IEC 60079-2
Part 5: Powder filling "q"	IEC 60079-5
Part 6: Oil-immersion "o"	IEC 60079-6
Part 7: Increased safety "e"	IEC 60079-7
Part 11: Intrinsic safety "i"	IEC 60079-11
Part 15: Electrical apparatus with type of protection "n" (Non Sparking)	IEC 60079-15
Part 18: Encapsulation "m"	IEC 60079-18

1.7 Candidate TL Persons Interviewed

<i>Name</i>	<i>Position</i>
JAKOB NITTEGARD	Section Leader Hazardous Locations
STEEN CHRISTENSEN	Electrical Engineer Hazardous Locations
MOGENS CHRISTENSEN	Manager Quality & Accreditation
CLAUS KAAE	Quality Engineer Quality & Accreditation
PETER LAURITZEN	Testing for « d » application

1.8 Legal Entity Of The Candidate TL

UL INTERNATIONAL DEMKO A/S is a Danish private company fully owned by Underwriters Laboratory Inc. The registered Company No is 227164 in the Danish National Company register

1.9 Associated ACB

<i>Names of Laboratories</i>	<i>Address</i>
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N/A

1.12 Financial Support

Private Limited Company deriving income solely from tests and certification activities

1.13 History

Annexe 1

1.14 Relevant Standards

See the list in 1.6 and additionally the following

<i>IEC Number</i>	<i>Title</i>	<i>Edition</i>
<i>Electrical apparatus for use in the presence of combustible dusts:</i>		
61242-1-1	Part1: Electrical apparatus protected by enclosures Specification for apparatus	2 nd 1999
<i>Electrical apparatus for the detection and measurement of flammable gases:</i>		
61779-1	Part 1: General requirements and test methods	1 st 1998
61779-2	Part 2: Performance requirements for Group I apparatus indicating a volume fraction up to 5% methane in air	1 st 1998
61779-3	Part 3: Performance requirements for Group I apparatus indicating a volume fraction up to 100% methane in air	1 st 1998
61779-4	Part4: Performance requirements for Group II apparatus indicating up to 100% lower explosive limit	1 st 1998
61779-5	Part 5: Performance requirements for Group II apparatus indicating a volume fraction up to 100% gas	1 st 1998

2. ORGANISATION

2.1 Names, Titles And Experience Of The Senior Executives

SØREN KRØIGAARD	Managing Director	4 years at Demko A/S As Tech Director then Managing Director for 2 years
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2.2 Name, Title And Experience Of The Quality Management Representative

MOGENS CHRISTENSEN	Manager Quality & Accreditation	5 years testing and cert'n including 2 years quality control
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2.3 Name And Title Of Nominated Principal Contact

JAKOB NITTEGAARD	Section Leader	14 years in this role
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2.4 Employees

The number of employees in Ex Testing is 7 including YAKOB NITTEGAARD

2.5 Organisational Structure

See structure tabled in Annexe 2

3. RESOURCES

ACB has all the necessary in house resources for its operation, including personnel trained and experienced in testing.

4. TEST METHODS

4.1 Procedures

Suitable procedures for declared types of protection exist.

The verification was done during the one-day audit on specific cases involving "d" and "e" protection and during this verification the TGDS guides for "d" and "e" protection were taken into consideration.

4.2 Staff Work Instructions

Instructions are embodied in the Quality Handbook, and supplementary evaluation reports and electronic project control.

5. TEST REPORTS AND RECORDS

5.1 Test Reports Issued

See Annexe 3

5.2 Test Records

The complete sets of test data sheet on which the test reports are based are formally filed and retained.

6. CALIBRATION

The equipments checked were in accordance with the calibration procedures defined in the Quality Manual Calibration for specific equipment used with " d " and " e "protection were observed during the one day audit.

7. DOCUMENTATION

7.1 Quality Manual

DEMKO'S QUALITY MANUAL HANDBOOK June 22, 2000.

7.2 Document Change Control

Defined in the Quality Manual.

8. CONFIDENTIALITY

Defined in the Quality Manual.

9. NATIONAL ACCREDITATION

DANAK ACCREDITATION 20 January 2000 according to EN 45001 (see Annexe 4).

10. RECOGNITION AND AGREEMENTS

TIIS/MOL IN JAPAN

OSHA recognition as National Recognised Testing Laboratory (US)

11. INTERNAL AUDIT AND PERIODIC REVIEW

Defined in Quality Manual.

12. COMPLAINTS MECHANISM

Defined in Quality Manual.

13. SPECIAL FACTS TO BE NOTED

The assessors were satisfied that the essential specialised equipment exists in the test laboratories to enable testing to be undertaken for the complete range of types of protection declared.

14. COMMENTS

DEMKO has over 25 years experience of Ex equipment.

15. RECOMMENDATION

Acceptance of UL INTERNATIONAL DEMKO A/S as a TL.

LIST OF ANNEXES


Annexe 1 : DEMKO history : extract from Quality Manual

Annexe 2 : Organisation Structure

Annexe 3 : number of Test Reports completed for each of the specific protection principles

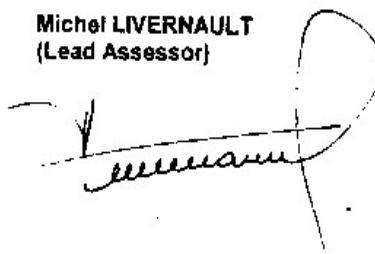
Annexe 4 : DANAK Accreditation.

David BALFOUR



Copy : Ion VANOTORU

Michel LIVERNAULT
(Lead Assessor)



Annexe 1

DEMKO History Adapted extract from the Quality Manual

DEMKO was founded as a laboratory – at that time called “Prodningsudvalget” (Testing Commission) – under the “Københavns belysningsvæsen” (Copenhagen Lighting Authority).

At the revision of the “Stærkstrømsloven” (Heavy Current Regulations) in 1928, it was decided that all electrical equipment after January 1st 1929 should bear the approval mark – the D-mark – in order to monitor the continuously increasing amount of equipment connected to the electrical power.

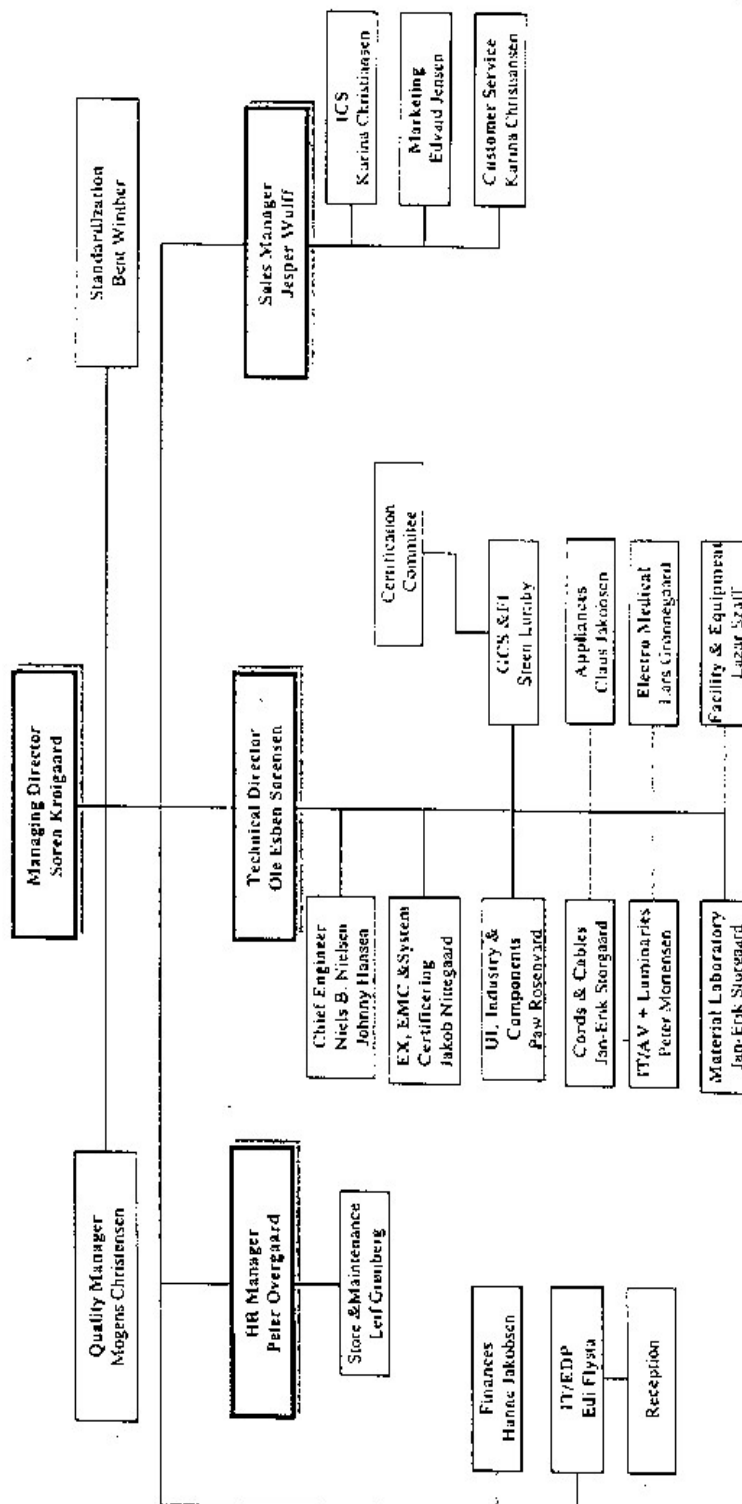
Later on the “Provningsudvalg” was renamed **Danmarks Elektriske Materiel Kontrol** (Danish Board for Approval of Electrical Equipment), abbreviated to DEMKO.

In 1964 DEMKO was transferred to be a government agency and at the same time moved to the present premises in Herlev.

By an official document, agreed on by the Danish Folketing (the Danish Parliament) in 1993, it was decided that DEMKO should be privatised. At the end of 1995 this process started, by the decision to sell DEMKO to an organisation that wanted to carry on a Danish Testing and Certification Company.

On July 15th 1996 DEMKO was sold to its present owners, Underwriters Laboratories Inc Northbrook, USA.

Organization Chart for UL International Demko A/S



= Member of CMT and NITM
 = Member of NITM

Annexe 2

2001/14/8

ExMC/112/DV
2001 12

Annexe 3

Number of projects done in 1998 & 1999 for each protection principle

Standard	Projects in 1998	Projects in 1999
EN 50014 / IEC 60079-0 <i>General Requirements</i>	Used in all projects – same number as “Total”	Used in all projects – same number as “Total”
EN 50015 / IEC 60079-6 <i>Oil Immersion</i>	0	3
EN 50016 / IEC 60079-2 <i>Pressurisation</i>	12	13
EN 50017 / IEC 60079-5 <i>Powder Filling</i>	0	0
EN 50018 / IEC 60079-1 <i>Flameproof Enclosure</i>	72	83
EN 50019 / IEC 60079-7 <i>Increased Safety</i>	22	24
EN 50020 / IEC 60079-11 <i>Intrinsic Safety</i>	92	102
EN 50021 / IEC 60079-15 <i>Non-Incendive (Zone 2)</i>	14	13
EN 50028 / IEC 60079-18 <i>Encapsulation</i>	12	13
EN 50039 <i>Intrinsic safe Systems</i>	10	12
In Total	234	265

Laboratory: DEMKO
Testing and Certification
Lyskaer 8
PO Box 514
DK-2730 Herlev
Denmark

Accreditation to: Testing of Electrical Products
Registration number: 352
Valid to: 2004.12.31
Field of testing:

Testing of:

- Lighting equipment.
- Cables and Cords.
- Installation accessories and Components of equipment.
- Electrical equipment for medical use.
- Electrical equipment for use in explosive atmosphere.
- Electronic equipment
(IT and office equipment, Measuring equipment,
Entertainment, Electronic installation accessories and
Capacitors as components).
- Household appliances
(Household, Commercial, Agricultural and Tools).
- Transformers.
- Toys.
- Laser equipment.
- Electromagnetic Compatibility
(EMC/EMI).
- Machines.

Internal Calibration of Test Equipment.

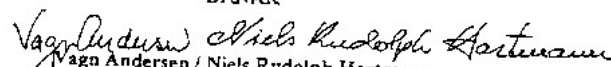
Testing is performed according to National and International standards (The Danish Heavy Current Regulations, IEC/CEE- and EN/HD regulations) and EEC Directives and generally recognized methods as specified in the current list of test methods approved by Danish Accreditation (DANAK).

The Accreditation is granted in pursuance of §5 in Order No. 745 of 27 September 1999 of the Danish Agency for Trade and Industry on Accreditation of laboratories to Perform Accredited Testing etc. and GLP-inspection. EN 45001 is an integrated part of the above Order.

The Laboratory shall at all times comply with existing regulations concerning its activity as an accredited laboratory and with the special conditions attached to this accreditation and notified to the laboratory by means of a separate documentation.

Date: 20 January 2000

Dansk Akkreditering (Danish Accreditation)
DANAK


Vagn Andersen / Niels Rudolph Hartmann

In case of any disputes, this Document in the Danish language shall have priority.