



**INTERNATIONAL ELECTROTECHNICAL COMMISSION SYSTEM FOR
CERTIFICATION TO STANDARDS RELATING TO EQUIPMENT FOR USE
IN EXPLOSIVE ATMOSPHERES (IECEx SYSTEM)**

**Title: Re-assessment Report for the continued acceptance of Korea
Occupational Safety and Health Agency (KOSHA) as an Accepted Testing
Laboratory (ExTL)**

To: Members of the IECEx Management Committee, ExMC

Introduction

This document contains the IECEx Re-assessment Report for KOSHA as an Accepted Testing Laboratory, ExTL, in accordance with the 5 year re-assessment plan for the surveillance and monitoring of bodies under the IECEx System.

This Report is issued for endorsement at the 2010 ExMC Berlin Meeting.

Chris Agius

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IECEx ASSESSMENT REPORT FOR KOSHA

ExTL (IECEx TEST LABORATORY)

Type of Assessment: (please mark)

Initial assessment for Candidate ExTL

Re-Assessment of ExTL X

Scope Extension of ExTL

1. OBJECT AND FIELD OF APPLICATION

1.1. Country:

The Republic of Korea

1.2. Name of Candidate TL

Korea Occupational Safety and Health Agency (KOSHA)

1.3. Members of the Assessment Team

Xu Jianping (Leader Assessor)

Gordana Manojlovic (Expert Assessor)

1.4. Place and Date of Assessment

Korea Occupational Safety and Health Agency (KOSHA)

Center for Safety Certification and Assessment

34-4, Gusan-dong, Bupyeong-gu

Incheon 403-711

The Republic of Korea

28 + 29 January 2010

1.5. Assessment References

- i) IECEx 02 Third Edition 2006-11 IECEx Scheme rules of procedure
- ii) IECEx Operational Document OD/003 IECEx Assessment procedures
- iii) IECEx Operational Document OD/009 Issuing of CoCs, ExTRs and QARs

- iv) ISO/IEC 17025:2005
- v) IECEx Technical Guidance Documents (TGDs)
- vi) ExTAG decision sheets (DSs)

1.6. Scope of Application (to be selected)

Number	Title
60079-0 Edition 5	Explosive atmospheres - Part 0: Equipment - General requirements
60079-1 Edition 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
60079-2 Edition 5	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure "p"
60079-5 Edition 3	Explosive atmospheres - Part 5: Equipment protection by powder filling "q"
60079-6 Edition 3	Explosive atmospheres - Part 6: Equipment protection by oil immersion "o"
60079-7 Edition 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
60079-11 Edition 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
60079-15 Edition 3	Electrical apparatus for explosive gas atmospheres - Part 15: Construction, test and marking of type of protection "n" electrical apparatus
60079-18 Edition 3	Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation "m" electrical apparatus
61241-0 Edition 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
61241-4 Edition 1	Electrical apparatus for use in the presence of combustible dust – Part 4: Protection by enclosures "tD"
62086-1 Edition 1	Electrical apparatus for explosive gas atmospheres – Electrical resistance trace heating – Part 1: General and testing requirements

1.7. Any changes in Scope

There is no change to the existing scope

1.8. Candidate TL Persons Interviewed

Name	Position
Mr. Jae Jong, Jeong	Director, Center for Safety Certification and Assessment
Mr. Soo Bum, Choi	Deputy Director, Chief of Approval Team, Certification Manager

Mr. Dae Sik, Park	Deputy Director, Chief of Testing Team, Technical Manager
Mr. Yeong Duk, Kim	Testing Manager
Mr. Dong Myeong, Chung	Manager
Mr. Jang Pyo, Hong	Manager
Mr. Kyung Hun, Kim	Manager
Mr. Min Sok, Sung	Manager
Mr. Sung Jun, Jo	Assistant Manager

1.9. Legal Entity of The Candidate TL

KOSHA was established in 1987 with legal authority for the “Korea Industrial Safety Corporation Act”. Under KOSHA, the Occupational Safety and Health Research Institute (OSHRI) was established in 1989, mainly serving for safety certification & assessment. There has been no change in legal status since last re-assessment.

1.10. Associated ExCB

KOSHA has an integral Certification Body under the scheme.

1.11. Financial Support

As a government organization KOSHA has the full financial support of the government.

1.12. History

See clause 1.9 of this report.

2. ORGANISATION

2.1. Names, Titles and Experience of the Senior Executives

Name	Title	Experience
Jae Jong, Jeong	Director	11 years
Dae Sik, Park	Deputy Director, Chief of Testing Team, Technical Manager	16 years

2.2. Name, Title and Experience of the Quality Management Representative

Name	Title	Experience
Ha Dong, Kim	Quality Manager	17 years

2.3. Name and Title of Nominated Principal Contact

Name	Title	Comments
Jea Jong, Jeong	Director	Tel : +82 32 5100 850 Fax : +82 32 518 6484 koshaex@kosha.net

2.4. Employees

Name	Title	Experience
Mr. Dong Myeong, Chung	Manager	15 years in Ex field
Mr. Jang Pyo, Hong	Manager	13 years in Ex field
Mr. Kyung Hun, Kim	Manager	3 years in Ex field
Mr. Min Sok, Sung	Manager	3 years in Ex field
Mr. Sung Jun, Jo	Assistant Manager	5 years in KOSHA, and 1 years in Ex field

2.5. Organizational Structure

See Annex 1, 2 and 3.

Annex 1: Overall Organization Chart of KOSHA.

Annex 2: Overall Organization Chart of OSHRI of KOSHA.

Annex 3: Organization Chart of Ex Operation (Center for Safety Certification and Assessment)

3. RESOURCES

The laboratory has extensive excellent test facilities covering a wide range of Ex testing, comprehensive procedures, and well qualified staff to carry out Ex testing. A chart for the Ex operation is shown in Annex 3 of this report.

4. DOCUMENTATION

4.1. Quality Manual

KOSHA has a comprehensive quality manual and supporting procedures. It is noted that the Quality Manual has been updated on 11 December 2009, and found to be satisfactory.

4.2. Procedures

The comprehensive supporting procedures (21 in total) were found to be in place.

4.3. Work Instructions

There are 73 working instructions dated on 26 March 2009 were sighted during the re-assessment.

4.4. Records

They have extensive procedures dealing with quality records. The procedures ensure that all records related to IECEx testing and certification activities are maintained with a retention time of 10 years. All the relevant records are stored using the application numbers.

4.5. Document Change Control

Documents are all subject to a change control procedure P050 that includes regular checks of those being used in the workplace.

5. TEST REPORTS

5.1. Test Reports Issued

Number of test reports issued under the IECEx scheme in the preceding four years for each type of protection:

Standards	Title	Number of issued test reports				Total
		2006	2007	2008	2009	
60079-0	Explosive atmospheres - Part 0: General requirements	1	10	29	50	
60079-1	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures 'd'	1	8	17	39	65
60079-7	Explosive atmospheres - Part 7: Equipment protection by increased safety 'e'	-	1	5	-	6
60079-15	Electrical apparatus for explosive gas atmospheres - Part 15: Construction, test and marking of type of protection 'n' electrical apparatus	-	1	2	1	4
The others	With several types of protection combined	-	-	5	10	15

6. CALIBRATION

There is a well documented procedure for dealing with calibration of testing and equipment and measuring instruments. The equipment and instruments at KOSHA are mainly outsourced to be calibrated. Examples of calibration certificates are reviewed, and found that the Kistler pressure calibration system used for checking of pressure transducers and amplifiers for Ex d test is over due at the assessment time according to the scheduled calibration cycle. This has been subsequently resolved to the satisfaction of assessment team.

7. CONFIDENTIALITY

The assessment was noted that all the KOSHA staff and the members of Certification Committee, including the committee members from social organization are subjected to the strict confidentiality requirements. Examples of records reviewed, and noted that some of the agreement with the persons from social organization is time-expired. This issue has been subsequently resolved.

8. NATIONAL ACCREDITATION

KOSHA holds accreditation from the Korea Laboratory Accreditation Scheme (KOLAS) as a testing laboratory according to ISO/IEC 17025.

At the assessment time the assessment team noted that the accreditation certificate was not valid after 5 December 2009. A new KOLAS accreditation certificate issued on 18 June 2010 was received by the assessment team on 5 July 2010. The copy of the certificate as well as its corresponding accreditation scope is attached in Annex 4 and Annex 5.

With reference of notification of Ministry of Labor 2008-76, the accreditation covers all the technical concepts of standards listed in clause 1.6 of this document.

9. RECOGNITION AND AGREEMENTS

KOSHA holds various MOUs with NEMKO, PTB, TIIS and etc.

10. INTERNAL AUDIT AND PERIODIC REVIEW

KOSHA has an effective system of internal audit and periodic management review. See ExCB report for more details.

11. COMPLAINTS AND APPEALS (Including appeals to IECEx)

KOSHA also operate an appeals procedure handling customer complains in accordance with clause 2 of P121 of their Manual which was updated on 31 March 2009. This procedure includes reference to the IECEx appeals procedure as a further option for manufacturers.

12. SPECIAL FACTS TO BE NOTED

12.1. *Supporting Documentation*

Copies of additional supporting information for this re-assessment have been provided to the applicant and the IECEx Secretariat. These include:

- Details of issues raised and how these have been resolved
- Checklist for ISO/IEC 17025
- Completed technical guidance documents (TGDs)
- Photos of the facilities and tests witnessed

12.2. *Tests Witnessed*

The following tests were witnessed during the re-assessment visit:

- Flameproof pressure determinations
- Spark ignition test on a power supply
- Temperature rise test of a luminaire
- IP54 test to IEC60529

13. COMMENTS (Including issues found during assessment)

A number of issues mainly on training, calibration, test records and confidentiality, were raised during this re-assessment and reported to KOSHA at the end of re-assessment. All has been subsequently resolved to the satisfaction of the assessment team. Details of issues and how these have been resolved are listed in Annex A and B of the site assessment report, retained on file at the IECEx Secretariat.



14. RECOMMENDATION

Based on the re-assessment performed on 28 + 29 January 2010, as well as the positive outcome on follow-up actions, KOSHA is recommended for continued acceptance in the IECEx System as an IECEx Testing Laboratory (ExTL) according to the scope of the standards listed in this document.

Xu Jianping
Team Leader
Lead Assessor

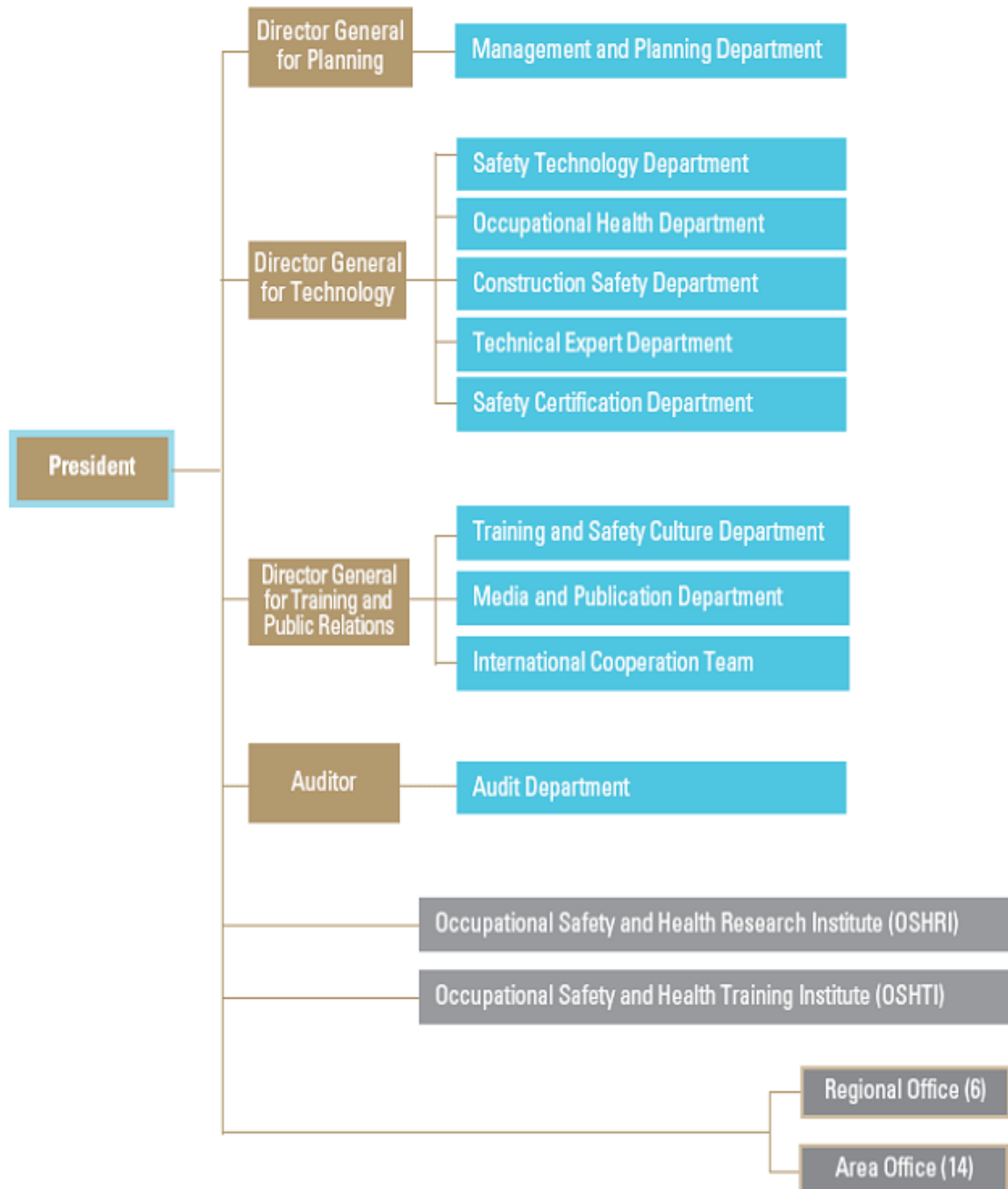
Gordana Manojlovic
Expert Assessor

Date: 12 July 2010

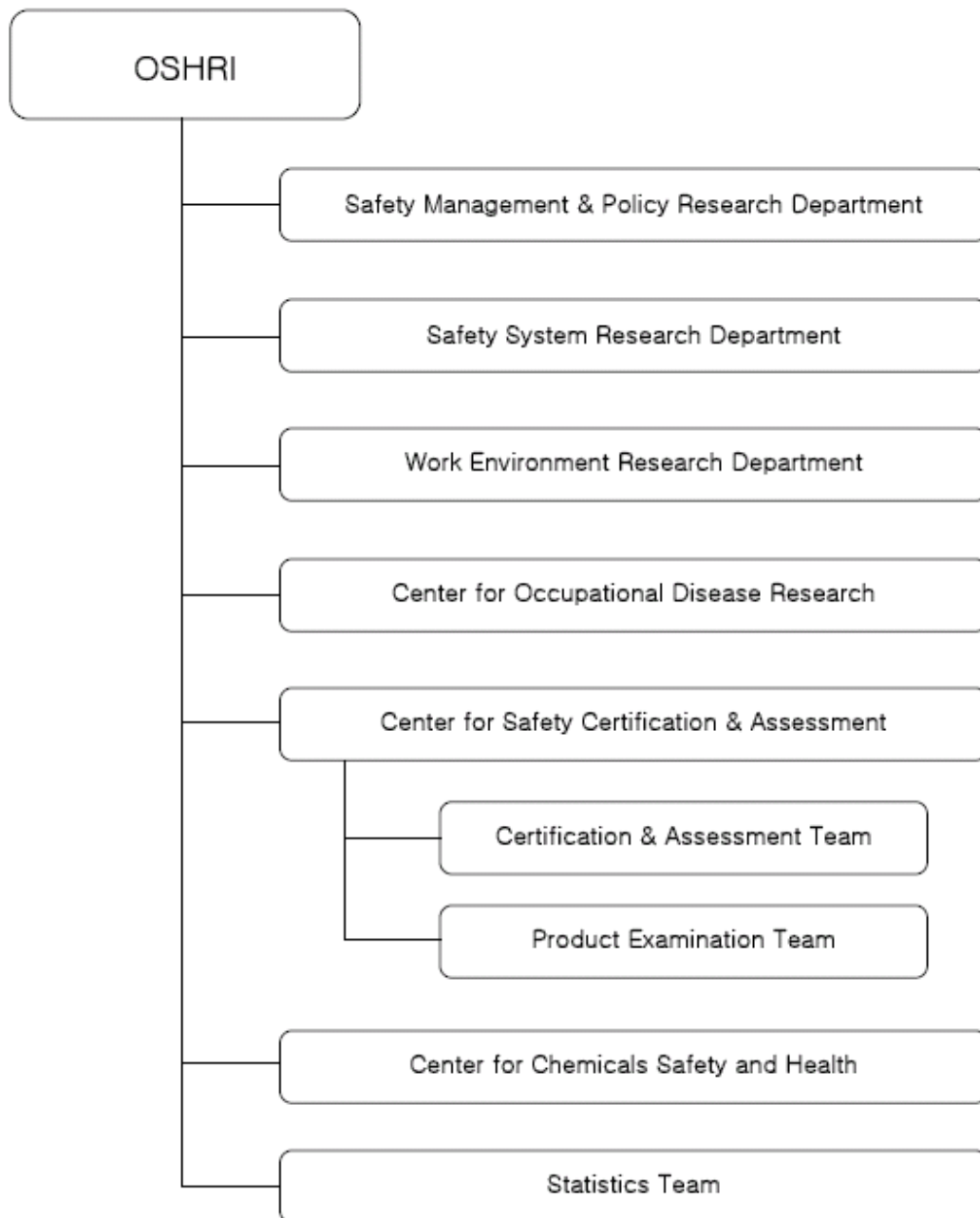
List of Annexes:

1. Overall Organization Chart of KOSHA
2. Overall Organization Chart of OSHRI of KOSHA
3. Organization Chart of Ex Operation (Center for Safety Certification and Assessment)
4. Accreditation Certificate from KOLAS 17025
5. Accreditation Scope from KOLAS

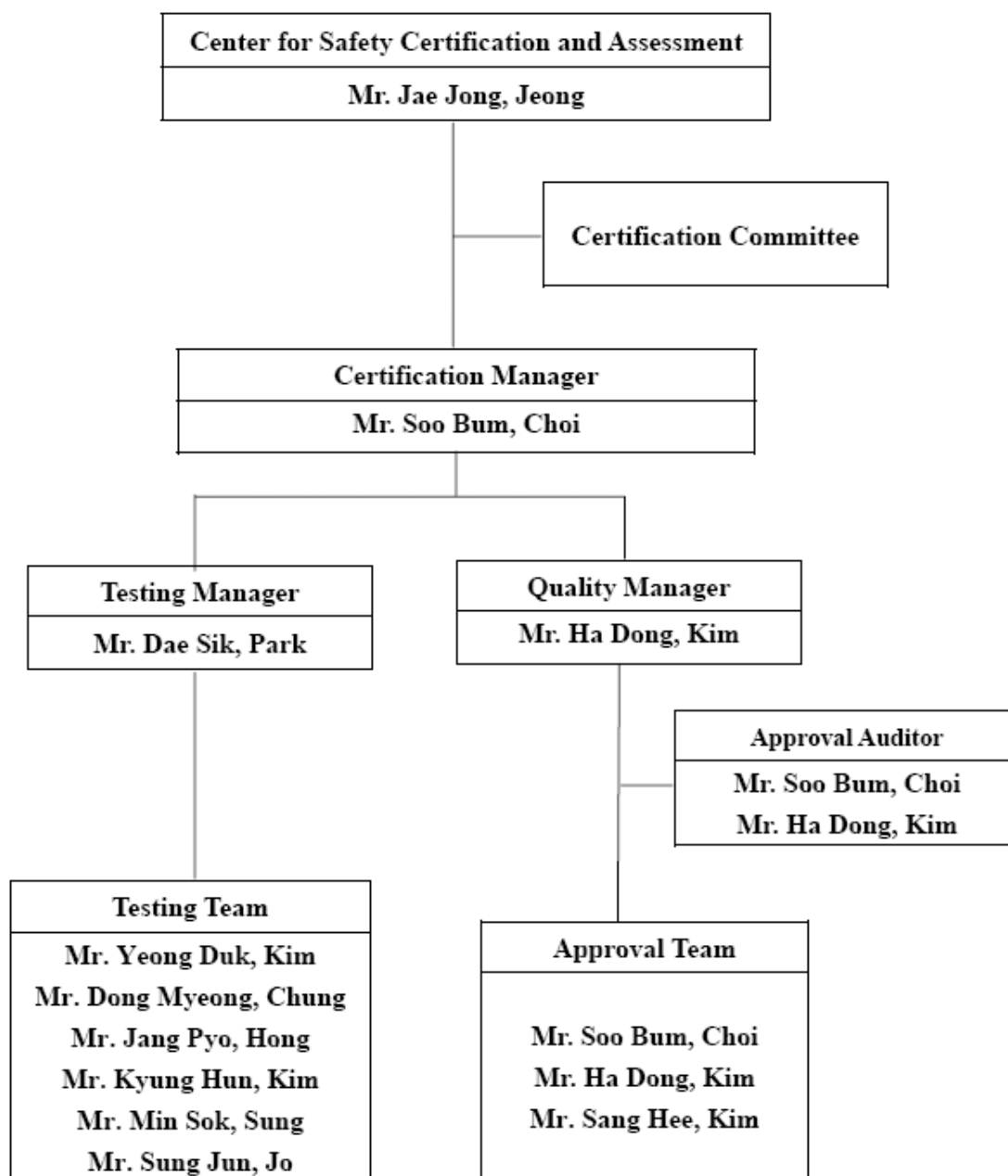
Annex 1 Overall Organization Chart of KOSHA



Annex 2
Overall Organization Chart of OSHRI of KOSHA



Annex 3 Organization Chart of Ex Operation



Annex 4
Accreditation Certificate from KOLAS



No. 84 (1/3)

CERTIFICATE OF ACCREDITATION

Name of Laboratory : KOSHA OSHRI
Center for Safety Certification & Assessment

Representative : Kang, Seong Kyu

Address of Headquarters : 34-4, Gusan-dong, Bupyeong-gu, Incheon, KOREA

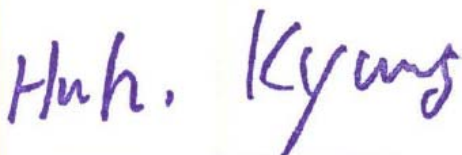
Address of Laboratory : 34-4, Gusan-dong, Bupyeong-gu, Incheon, KOREA

Duration : June. 18, 2010 ~ June. 18, 2014

Scope of Accreditation
(Scope of Accreditation is described in the accompanying Annex)

This testing laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025 : 2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated 8 January 2009).

June. 18, 2010



Administrator,
Korea Laboratory Accreditation Scheme(KOLAS)

Annex 5 Accreditation Scope from KOLAS



No.84 (3/3)

1. Mechanical Test

1.019 Safety devices & personal protective equipment

Test method	Standard designation
Notification of Ministry of Labor 2008-77	An obligation safety certification of personal protective equipment
	Part 10, A safety certification standards of safety belt
	Part 11, A safety certification standards of safety spectacles for the shield of light
	Part 12, A safety certification standards of facial shield for welding
	Part 13, A safety certification standards of earplugs or earmuffs
Notification of Ministry of Labor 2008-80	A self regulation safety certification of personal protective equipment
	Part 2, A safety certification standards of safety helmet
	Part 3, A safety certification standards of safety spectacles
	Part 4, A safety certification standards of facial shield

3. Electrical Test

3.006 Industrial electrical machinery apparatus

Test method	Standard designation
Notification of Ministry of Labor 2008-76	An obligation safety certification for Safety Device
	Part 5, A safety certification standards of Ex apparatus and parts

※Remark : Regarding the Notification of Ministry of Labor 2008-76 and remark 6-2 of the notification, the Ex apparatus of mining area, chemical resistance test of article 11, electrostatic charging test of article 14 and electrostatic capacity measurement test of article 15 should be excluded.

End.