DAkkS
Deutsche
Akkreditierungsstelle

Deutsche Akkreditierungsstelle GmbH
German Accreditation Body

Signatory to the Multilateral Agreements of
EA, ILAC and IAF for Mutual Recognition

# Accreditation

The DAKkS GmbH (German Accreditation Body) attests that the

**Mobarakeh Steel Company**
**Joint Stock Organisation**
**Esfahan - Mobarakeh, Km15 South-West Mobarakeh**
**84815-161 Esfahan, IRAN**

is competent under the terms of DIN EN ISO/IEC 17025:2005 to carry out tests in the following fields:

**mechanical-technological testing, material testing, metallographic investigation and optical emission spectrometry tests of metallic materials;**
**physical-chemical and chemical analyses of metals and its components**

The accreditation certificate is valid until 07.08.2015. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 4 pages.

Registration number of the certificate: **D-PL-11151-01-00**

Berlin, 08.08.2010

See notes overleaf.

Dr. Heike Manke
Head of Department
Construction / Transport / Materials

# Deutsche Akkreditierungsstelle GmbH
# German Accreditation Body


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DAkkS is a signatory to the Multilateral Agreements for Mutual Recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Co-operation (ILAC). The signatories to these agreements recognise each others' accreditations.

The up-to-date state of membership can be retrieved from the following websites:
EA: www.european-accreditation.org
ILAC: www.ilac.org
IAF: www.iaf.nu

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07.09.2010

Verfahrensnummer:
PL-11151-01-00

**Positive accreditation notice**

Dear Mr Mirmoghtadaei,

We are pleased to inform you that due to the results of the assessment on 10.-12.11.2009 the decision on accreditation is positive. The accreditation certificate will be sent to you as soon as possible. The accreditation is valid for five years from 08.08.2010.

We will perform the **next assessment** for surveillance in **Mai 2011** at the latest. With regard to the exact date, we will be contacting you in due time.

We would appreciate if you informed us, according to our contractual provisions, without being asked on all changes relevant to the accreditation.

Yours sincerely,

for DAkkS

Dr. Carsten Potzies
Customer Manager

Geschäftsführer:
Norbert Barz, Dr. Thomas Facklam

Sitz: Berlin
Amtsgericht Charlottenburg
HRB 122846 B
USt-IdNr: DE815123526

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## Annex to the Accreditation Certificate D-PL-11151-01-00 according to DIN EN ISO/IEC 17025:2005

Period of validity: 08.08.2010 to 07.08.2015

Holder of certificate:

**Mobarakeh Steel Company**
**Joint Stock Organisation**
**Esfahan - Mobarakeh, Km15 South-West Mobarakeh**
**84815-161 Esfahan, IRAN**

Tests in the fields:

**mechanical-technological testing, material testing, metallographic investigation and optical emission spectrometry tests of metallic materials;**
**physical-chemical and chemical analyses of metals and its components**

abbreviations used: see last page

### 1 Mechanical-technological testing

| | | |
|---|---|---|
| ISO 7438<br>2005-06 | Metallic materials - Bend test | |
| | **in connection with:** | |
| | *ISIRI 1016*<br>*1378-08* | *Metallic materials - Bend test of steel* |
| EN ISO 6506-1<br>2005-12 | Metallic materials - Brinell hardness test - Part 1: Test method | |
| EN ISO 6507-1<br>2005-12 | Metallic materials - Vickers hardness test - Part 1: Test method | |

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| | |
|---|---|
| | **in connection with:** |
| | *ISIRI 773* — *Vickers hardness test*<br>*1367/09/09* |
| EN ISO 6508-1<br>2005-12 | Metallic materials - Rockwell hardness test - Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T) |
| DIN EN ISO 6892-1<br>2009-12 | Metallic materials - Tensile testing - Part 1: Method of testing at ambient temperature - Method B |
| DIN EN 10002-1<br>2001-12 | Metallic materials - Tensile testing - Part 1: Method of testing at ambient temperature<br>*(withdrawn document, it will be used on request by the customer only)* |
| DIN EN 10045-1<br>1991-04 | Charpy impact test on metallic materials - Part 1: Test method |
| ASTM E8-09<br>2009-12 | Standard Test Methods for Tension Testing of Metallic Materials |
| ASTM E23-07<br>2007 | Standard Test Methods for Notched Bar Impact Testing of Metallic Materials |
| JIS Z2241<br>1998-01 | Method of tensile test for metallic materials |

## 2 Physical-chemical and chemical analyses of metals and its components

| | |
|---|---|
| ISO 9516<br>1992-10 | Iron ores - Determination of silicon, calcium, manganese, aluminium, titanium, magnesium, phosphorus, sulfur and potassium - Wavelength dispersive X-ray fluorescence spectrometric method |
| ISO 9516-1<br>2003-04 | Iron ores - Determination of various elements by X-ray fluorescence spectrometry - Part 1: Comprehensive procedure |
| | **The samples for XRF-analyses are prepared according to:** |
| | *ASTM E1621-05* — *Standard Guide for X-Ray Emission Spectrometric*<br>*2005* — *Analysis - Clause: 11.3.2 : Fused Beads* |
| ASTM A623M-08<br>2008-01 | Standard Specification for Tin Mill Products, General Requirements - Annex A7: Determination of chromium on Tin Plate by the Diphenyl-carbazide Method |

| | |
|---|---|
| ASTM A630-09<br>2009-04 | Standard Test Methods for Determination of Tin Coating Weights for Electrolytic Tin Plate - Method B: Determination of Tin Coating Weights by the Constant Current, Electrolytic Test Method (Referee Method) |
| ASTM E1019-08<br>2008-11 | Standard Test Methods for Determination of Carbon, Sulfur, Nitrogen, and Oxygen in Steel, Iron, Nickel, and Cobalt Alloys by Various Combustion and Fusion Techniques<br>Clauses:<br>10 Carbon, Total, by the Combustion - Instrumental Measurement Method<br>32 Nitrogen by the Inert Gas Fusion - Thermal Conductivity Method<br>43 Oxygen by the Inert Gas Fusion Method<br>55 Sulfur by the Combustion-Infrared Absorption Method |

**The samples for physical-chemical and chemical analyses are prepared according to:**

| | |
|---|---|
| *ISO 3082*<br>*2000-12* | *Iron ores - Samples and sample preparation procedures* |

## 3 Optical emission spectrometry of metallic materials

| | |
|---|---|
| BS EN 15079<br>2007-06 | Copper and copper alloys - Analysis by spark source optical emission spectrometry (S-OES) |
| ASTM E415-08<br>2008-06 | Standard Test Method for Atomic Emission Vacuum Spectrometric Analysis of Carbon and Low-Alloy Steel |
| ASTM E1086-08<br>2008-10 | Standard Test Method for Optical Emission Vacuum Spectrometric Analysis of Stainless Steel by Point-to-Plane Excitation Technique |
| ASTM E1251-07<br>2007-06 | Standard Test Method for Analysis of Aluminium and Aluminium Alloys by Atomic Emission Spectrometry |
| ASTM E1999-99<br>2004-10 | Standard Test Method for Analysis of Cast Iron Using Optical Emission Spectrometry |

## 4 Material testing of coated metals

| | |
|---|---|
| BS EN ISO 1460<br>1995-05 | Metallic coatings - Hot dip galvanised coatings on ferrous materials - Gravimetric determination of the mass per unit area |
| DIN EN 13523-2<br>2001-12 | Coil coated metals - Test methods - Part 2: Specular gloss |

| | |
|---|---|
| DIN EN 13523-3<br>2001-12 | Coil coated metals - Test methods - Part 3: Colour difference - Instrumental comparison |

## 5 Metallographic Investigation by Microscopy

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|---|---|
| ASTM E45-05<br>2005-12 | Standard Test Methods for Determining the Inclusion Content of Steel<br>Clause 14: Method C - Oxides and Silicates<br>Clause 15: Method D - Low Inclusion Content |
| ASTM E112-04<br>2004-12 | Standard Test Methods for Determining Average Grain Size<br>Clause 10: Comparison Procedure<br>Clause 11: Planimetric Procedure |

**abbrevations used:**

| | |
|---|---|
| ASTM | American Society for Testing and Materials |
| BS | British Standard |
| JIS | Japanese Industrial Standard |