



JAB



Testing Laboratory
Accreditation
Certificate

Accreditation No. RTL00050

KOBELCO RESEARCH INSTITUTE, INC.
KAKOGAWA Laboratories

1, Kanazawacho, Kakogawa-shi, Hyogo, 675-0137 Japan

meets the following criteria. On the basis of this, Japan Accreditation Board (JAB) grants accreditation to the said testing laboratory.

| | |
|-----------------------------------|-------------------------------------------------------------|
| Applicable accreditation criteria | : JIS Q 17025:2005 (ISO/IEC 17025:2005) |
| Scope of accreditation | : Chemical testing (As described in the appendix) |
| Premises covered by accreditation | : As described in the appendix. |
| Expiry date of accreditation | : September 30, 2021 |

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system.

The management system requirements in ISO/IEC 17025:2005 meet the principles of ISO 9001:2008 and are aligned with its pertinent requirements.

| | |
|-----------------------|--------------------|
| Renewed (6) | August 8, 2017 |
| Initial accreditation | September 11, 1997 |

T. Oda, Chairman
Laboratory Accreditation Committee

Y. Mizuka, President
Japan Accreditation Board

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|--------------------|-----------------------------------------------------------|
| Type of Laboratory | Testing Laboratory |
| Name of Laboratory | KOBELCO RESEARCH INSTITUTE, INC. KAKOGAWA Laboratories |
| Address | 1, Kanazawacho, Kakogawa-shi, Hyogo, 675-0137 Japan |

1) Premises on which testing activities are performed

| | | |
|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Name of Premises | KOBELCO RESEARCH INSTITUTE, INC., KAKOGAWA Laboratories | |
| Address of Premises | Postal code | 675-0137 |
| | Address | 1, Kanazawacho, Kakogawa-shi, Hyogo, Japan |
| Testing service at permanent facilities or on site testing service | <input checked="" type="checkbox"/> Testing service at permanent facilities <input type="checkbox"/> On site testing service | |

Scope of Accreditation

| | |
|---------------|------------------------|
| FIELD | M26 Chemical Testing |
| CODE OF CIT*1 | M26.A1 |
| NAME OF CIT | Metal : Iron and steel |

*1 CIT: Classification of Item to be Tested

*2 TCT: Technical Classification of Test

| CODE & NAME OF TCT*2 | PROPERTIES MEASURED | TEST METHOD STANDARD / STANDARD OPERATING PROCEDURE |
|--------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------|
| B1.1 Gravimetric analysis : Increase and loss measurement | Si 0.1 % to 2.0 % | JIS G 1212 annex 1 |
| B1.2 Volumetric analysis(I) : Complexometric titration | Ni 0.1 % to 13.0 % | JIS G 1216 annex 2 |
| B2.1 Absorptiometric analysis: Infrared spectrophotometric analysis | C 0.001 % to 1.3 % | JIS G 1211-3 [except 8.4 b)] |
| | C 0.0003 % to 0.010 % | JIS G 1211-4 |
| | S 0.0005 % to 0.048 % | JIS G 1215-4 (except 7.6.1, 7.6.2) |
| B2.1 Absorptiometric analysis: Visible and near-infrared spectrophotometric analysis | Si 0.01 % to 1.0 % | JIS G 1212 annex 3 |
| B2.1 Absorptiometric analysis: Near-infrared spectrophotometric analysis | P 0.005 % to 0.12 % | JIS G 1214 annex 1 |

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| Address | 1, Kanazawacho, Kakogawa-shi, Hyogo, 675-0137 Japan |

| CODE & NAME OF TCT*2 | PROPERTIES MEASURED | TEST METHOD STANDARD / STANDARD OPERATING PROCEDURE |
|-------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------------------------------|
| B2.1 Absorptiometric analysis: Ultraviolet-visible spectrophotometric analysis | B 0.0001 % to 0.010 % | JIS G 1227 annex 2 |
| B2.2 Atomic absorption spectrometric analysis : Flame atomic absorption spectrometry | Al 0.001 % to 0.010 % | JIS G 1257-10-3 |
| | Ca 0.0006 % to 0.0027 % | JIS G 1257-14 |
| B2.2 Atomic absorption spectrometric analysis : Flameless atomic absorption spectrometry | Sn 0.0005 % to 0.0050 % excl | JIS G 1257-11-2 |
| B2.4 Atomic emission spectrometry : Spark discharge atomic emission spectrometric analysis | ※1 | JIS G 1253 |
| B2.4 Atomic emission spectrometry : Inductively coupled plasma atomic emission spectrometric analysis | ※2 | JIS G 1258-1 |
| | Nb 0.004 % to 0.50 % | JIS G 1258-4 |
| | B 0.0001 % to 0.0090 % | JIS G 1258-7 |
| B4.3 Thermal conductivity measurement : Gas analysis | N 0.0009 % to 0.050 % | JIS G 1228 annex 4 |

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| CODE & NAME OF TCT ² | PROPERTIES MEASURED | | TEST METHOD STANDARD / STANDARD OPERATING PROCEDURE | | |
|---------------------------------|-----------------------|----|-----------------------------------------------------|----|---------------------|
| (Note) | | | | | |
| ※1 | | | | | |
| C | 0.01 % to 0.30 %、 | V | 0.001 % to 0.330 %、 | Si | 0.005 % to 1.95 %、 |
| Ti | 0.001 % to 0.32 %、 | Mn | 0.03 % to 2.00 %、 | Al | 0.001 % to 0.35 %、 |
| P | 0.001 % to 0.100 %、 | Sn | 0.001 % to 0.032 %、 | S | 0.003 % to 0.045 %、 |
| B | 0.0001 % to 0.0107 %、 | Ni | 0.01 % to 13.0 %、 | Zr | 0.001 % to 0.044 %、 |
| Cr | 0.01 % to 2.79 %、 | Nb | 0.001 % to 0.073 %、 | Mo | 0.01 % to 1.24 %、 |
| Ca | 0.0006 % to 0.0030 %、 | Cu | 0.01 % to 2.32 % | | |
| ※2 | | | | | |
| Si | 0.01 % to 0.60 %、 | Mn | 0.01 % to 2.00 % | P | 0.003 % to 0.10 %、 |
| Ni | 0.01 % to 4.00 %、 | Cr | 0.01 % to 3.00 %、 | Mo | 0.01 % to 1.20 %、 |
| Cu | 0.01 % to 0.50 %、 | V | 0.002 % to 0.50 %、 | Co | 0.003 % to 0.20 %、 |
| Ti | 0.001 % to 0.30 %、 | Al | 0.004 % to 0.10 % | | |

Japan Accreditation Board