JIS

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Methods of sampling for chemical analysis of ferroalloys (Part 1 : Ferro-manganese, ferrosilicon, ferro-chromium, ferrosilicomanganese and ferrosilicochromium)

ICS 77.100

Descriptors : ferro-alloys, sampling methods, chemical analysis and testing, ferro-manganese, ferrosilicon, ferrochromium, silico-manganese, chromium-containing alloys, silicon, determination of content, chromium

Reference number : JIS G 1601 : 1998 (E)

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently JIS G 1601:1985 is replaced with JIS G 1601:1998.

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Methods of sampling for chemical analysis of ferroalloys (Part 1 : Ferromanganese, ferrosilicon, ferrochromium, ferrosilicomanganese and ferrosilicochromium)

Introduction This revision is made for conformity with the corresponding International Standard.

This Standard is Japanese Industrial Standard prepared based on **ISO4552—1** *Ferroalloys—Sampling and sample preparation for chemical analysis*—Part 1: *Ferrochromium, ferrosilicochromium, ferrosilicon, ferrosilicomanganese, ferromanganese,* published in 1987 as the first edition, without modifying its technical content and the items not specified in the corresponding International Standard complementarily are provided as a part of Japanese Industrial Standard.

The part underlined with dots in this Standard are the matters not specified in the original International Standard.

1 Scope This Japanese Industrial Standard specifies the sampling methods for determination of the average grade of chemical composition of one consignment of **JIS G 2301, JIS G 2302, JIS G 2303, JIS G 2304** and **JIS G 2315**.

Remarks 1 The sampling methods of ferrochromium are specified with subdividing into non-crushable and crushable alloys.

2 Low carbon and certain medium carbon ferrochromium are non-crushable alloys; certain medium carbon and high carbon ferrochromium are crushable alloys.

2 Normative references The following Standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. Normative references described on the most recent editions shall be applied.

JIS G 1501 *General rules for sampling of ferroalloys*

JIS G 2301 *Ferromanganese*

JIS G 2302 *Ferrosilicon*

JIS G 2303 *Ferrochromium*

JIS G 2304 *Silicon—Manganese*

JIS G 2315 *Silicon—Chromium*

3 Definitions The definitions of the main terms used in this Standard shall be in accordance with **JIS G 1501**.

4 Symbols The main symbols used in this Standard shall be in accordance with **JIS G 1501**.

5 General requirements The general requirements shall be as follows:

a) The general requirement for the sampling, sample preparation and the tool, the equipment shall be in accordance with **JIS G 1501**.

b) Quality characteristics for precision requirements shall be given in Table 1.

Table 1 Quality characteristics for precision requirements

Class of product	Quality characteristics % (*m/m*)
Ferromanganese	Mn
Ferrosilicon	Si
Ferrochromium	Cr
Silicomanganese	Mn and Si
Silicochromium	Cr and Si

c) The average grade of chemical composition of a consignment obtained in this Standard shall be approx. 95 % in confidence level and have the overall precision given in Table 2.

Table 2 Overall precision

Unit: absolute percentage

Mass of consignment (t)		Overall precision (β_{SDM}) % (*m/m*)							
		Ferro-manga-nese	Ferro-silicon	Ferrochromium		Silicomanganese		Silicochromium	
				Crush-able	Non-crushable				
Over	Up to and in-cluding	Mn	Si	Cr	Cr	Si	Mn	Si	Cr
5 000	–	0.55	0.90	0.63	0.77	0.55	0.56	0.64	0.63
2 000	5 000	0.56	0.91	0.64	0.77	0.55	0.57	0.65	0.64
1 000	2 000	0.56	0.91	0.64	0.77	0.56	0.57	0.66	0.64
500	1 000	0.57	0.92	0.65	0.78	0.56	0.58	0.67	0.65
250	500	0.58	0.93	0.65	0.78	0.57	0.59	0.68	0.65
100	250	0.59	0.94	0.67	0.79	0.58	0.60	0.69	0.67
50	100	0.60	0.95	0.68	0.81	0.59	0.61	0.70	0.68
25	50	0.62	0.96	0.70	0.82	0.60	0.63	0.73	0.70
10	25	0.67	1.02	0.76	0.86	0.65	0.69	0.80	0.76
5	10	0.70	1.06	0.80	0.89	0.68	0.73	0.85	0.80
–	5	0.76	1.12	0.86	0.94	0.73	0.79	0.92	0.86

6 Sampling method

6.1 Mass of increment The mass of an increment shall be as follows: