Certificate of Certified Reference Material

NCS DC 14201 — NCS DC 14206

Sintered Ore

Issued in Dec., 2008

Approved by China National Analysis Center for Iron and Steel

(Beijing　China)

These Certified Reference Materials are prepared in accordance with the ISO guides 30-35. The intended use for these CRMS is for the quality control in sintered ore analysis, the evaluating methods of analysis and the calibration of analytical instruments.

Certified Values and Standard Deviation (%)

No.		TFe	FeO	SiO_2	Al_2O_3	CaO	MgO	P
NCS DC 14201	Certified Value	50.00	8.77	8.58	2.14	12.84	2.69	0.175
	Standard Deviation	0.07	0.09	0.05	0.03	0.09	0.04	0.004
NCS DC 14202	Certified Value	52.77	6.55	7.51	2.54	11.33	2.02	0.060
	Standard Deviation	0.09	0.05	0.07	0.05	0.08	0.03	0.001
NCS DC 14203	Certified Value	57.63	10.80	5.38	1.37	8.17	1.65	0.102
	Standard Deviation	0.09	0.10	0.04	0.03	0.06	0.03	0.004
NCS DC 14204	Certified Value	54.62	9.26	7.94	1.49	9.29	1.74	0.039
	Standard Deviation	0.10	0.09	0.06	0.03	0.06	0.03	0.002
NCS DC 14205	Certified Value	53.99	9.34	6.61	2.69	10.28	2.31	0.061
	Standard Deviation	0.06	0.07	0.05	0.04	0.08	0.04	0.001
NCS DC 14206	Certified Value	51.13	9.22	8.58	2.44	9.46	4.40	0.066
	Standard Deviation	0.08	0.09	0.05	0.03	0.07	0.04	0.002
No.		S	Cu	Mn	Ti	K_2O	Na_2O	
NCS DC 14201	Certified Value	0.128	0.0079	0.183	0.091	0.086	0.089	
	Standard Deviation	0.003	0.0007	0.005	0.003	0.002	0.003	
NCS DC 14202	Certified Value	0.033	0.012	0.199	0.062	0.078	0.033	
	Standard Deviation	0.002	0.001	0.004	0.005	0.002	0.004	
NCS DC 14203	Certified Value	0.025	0.0063	0.174	0.113	0.065	0.046	
	Standard Deviation	0.001	0.0004	0.002	0.006	0.007	0.003	
NCS DC 14204	Certified Value	0.024	0.014	0.193	0.092	0.046	0.019	
	Standard Deviation	0.001	0.001	0.003	0.003	0.003	0.003	
NCS DC 14205	Certified Value	0.017	0.0087	0.190	0.099	0.078	0.037	
	Standard Deviation	0.001	0.0006	0.005	0.005	0.003	0.002	
NCS DC 14206	Certified Value	0.059	(0.007)	0.179	0.094	0.080	0.040	
	Standard Deviation	0.002		0.003	0.006	0.002	0.004	

Note: Data in () is for reference only.

1. 8 independent laboratories take part in the analysis work.
2. The sample should be stoved at 105°C for 1 hour before using and stored in drier.
3. The sample is powder with size less 0.088 mm packed in glass bottle. The minimum package is 100 grams.
4. The minimum weight for analysis SiO_2, Al_2O_3, CaO, MgO is 0.1g; for P, S, Mn is 0.2g.
5. The valid time of the sample is 10 years, although we reserve the right to make change as issue revisions.

Analytical Methods

Composition	Methods
TFe	$TiCl_3$-potassium dichromate volumetric method; HgCl- potassium dichromate volumetric method
FeO	Potassium dichromate volumetric method
SiO_2	Gravimetric method after dehydration with perchloric acid; Silicon-molybdenum blue photometric method; ICP-AES method
Al_2O_3	ICP-AES method; The chrome azuol S photometric method; Fluoride substitution-complexing titrimetric method
CaO	Atomic absorption spectrometry; EDTA titrimetric method; ICP-AES method
MgO	Atomic absorption spectrometry; EDTA titrimetric method; ICP-AES method
P	ICP-AES method; Bismuth-phosphorus-molybdenum blue photometric method
S	Infrared absorption method; ICP-AES method; The combustion-potassium iodate volumetric method
Cu	ICP-AES method; Atomic absorption spectrometry
Mn	ICP-AES method; Potassium periodate photometric method
Ti	ICP-AES method; Colorimetric method with diantipyrylmethane
K_2O, Na_2O	ICP-AES method; Atomic absorption spectrometry

Statement:

This material is used only in labs and for analysis work, producer will be not responsible for any problem caused by misuse or not properly store.

Please check carefully the package, quantity and type of the material after receiving it. Related compensation is only limited in the certified materials, any other losses will be not included.

Jia Yunhai
Laboratory Director