Certificate of Certified Reference Material

NCS DC 60119 — NCS DC 60121

Graphite Ore

Reissued in 2015

Approved by China National Analysis Center for Iron and Steel

(Beijing China)

Certified Values and Uncertainty (%)

No.		SiO_2	Al_2O_3	TFe_2O_3	TiO_2	MgO	CaO	K_2O	Na_2O	MnO	P_2O_5	CO_2	S	H_2O^+	grapohite carbon	ash	volatile
NCS DC	Certified Value	49.84	12.93	6.73	0.57	6.10	9.37	2.54	1.60	0.084	0.13	3.60	1.18	2.60	2.91		
60119	Standard Deviation	0.06	0.07	0.12	0.02	0.13	0.18	0.05	0.07	0.003	0.02	0.11	0.03	0.13	0.12		
NCS DC	Certified Value	49.34	13.03	6.99	0.64	5.35	5.34	2.17	1.56	0.054	0.14	0.67	2.59	2.80	9.91		
60120	Standard Deviation	0.11	0.11	0.14	0.02	0.10	0.16	0.07	0.07	0.002	0.02	0.06	0.05	0.08	0.08		
NCS DC	Certified Value	10.34	5.60	1.48	0.55	0.50	0.74	0.99	0.23	0.022	0.16	0.28	0.14	1.98	76.50	20.78	2.72
60121	Standard Deviation	0.09	0.07	0.07	0.05	0.05	0.08	0.06	0.05	0.001	0.01	0.06	0.04	0.07	0.08	0.04	0.09

Note:

1.Each certified value is the mean of analytical results of 8 independent laboratories.

2.The sample is powder packed in glass bottle. The minimum package is 50 grams.

3.The sample should be stored in drier.

4. The valid time of the sample is 10 years, although we reserve the right to make change as issue revisions.

Analytical Methods

Composition	Analytical Method
SiO_2	Gravimetric method by drying with the vapor of HCl; X-ray fluorescence analytical method; ICP spectra method
Al_2O_3	Gravimetric method with ammonium hydeoxide; EDTA titrimetric method; Acid-base neutralization method; X-ray fluorescence analytical method; ICP spectra method
TFe_2O_3	Colorimetric method with sulfo-salicylic acid; EDTA titrimetric method; Potassium bichromate titrimetric method
TiO_2	Colorimetric method with diantipylmethane; Colorimetric method with hydrogen peroxide; X-ray fluorescence analytical method; ICP spectra method
CaO	Gravimetric method with ammonium oxalate; EDTA titrimetric method; Atomic absorption method; X-ray fluorescence analytical method; ICP spectra method
MgO	Gravimetric method with phosphate; EDTA titrimetric method; Atomic absorption method; X-ray fluorescence analytical method; ICP spectra method
K_2O, Na_2O	Flame emission spectrometric method; Atomic absorption method; X-ray fluorescence analytical method; ICP spectra method
MnO	Colorimetric method with potassium periodate; Atomic absorption method; X-ray fluorescence analytical method; ICP spectra method
P_2O_5	Colorimetric method with ammonium vanadate and molybdate; X-ray fluorescence analytical method
S	Gravimetric method with barium sulfate; Iodimetry
CO_2	Gravimetric method by ascarite absorption; Non-water titrimetric method
ash	Gravimetric method(900-1000°C)
volatile	Gravimetric method[(950±20)°C]
H_2O^+	Penfield method
graphite carbon	Gravimetric method by ascarite absorption; Non-water titrimetric method; Indirect carbon determine method

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