Certificate of Certified Reference Material

NCS HC 16027

Pig Iron

Issued in 2004

Approved by China National Analysis Center for Iron and Steel

(Beijing China)

Certified Values and Standard Deviation (%)

No.		C	Si	Mn	P	S	Cr	Ni	V	Mo
NCS HC	Certified Value	4.06	0.725	0.094	0.038	0.029	0.010	0.0023	0.0064	0.0027
16027	Standard Deviation	0.03	0.006	0.002	0.001	0.002	0.001	0.0002	0.0003	0.0005
		Ti	Cu	As	Bi	Pb	Sb	Zn	Sn	
NCS HC	Certified Value	0.026	0.0023	0.0011	<0.00005	<0.0002	0.00013	(0.0003)	0.00014	
16027	Standard Deviation	0.001	0.0005	0.0003			0.00002		0.00003	

Note:

1.Each certified value is the mean of analytical results of 8 independent laboratories. The value in ( ) is for reference only.

2.The sample is chips with size 0.900-0.355mm packed in glass bottle. The minimum package is 100 grams.

3.The sample should be stored at dry place.

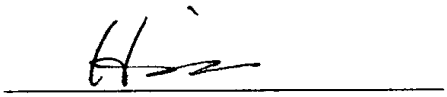
4.The valid time of the sample is 15 years. although we reserve the right to make change as issue revisions.

The minimum weight for Homogeneity Check

Element	Method	Minimum weight(g)
C	Infrared absorption method	0.30
S	Infrared absorption method	0.30
P	The butyl acetate extraction phosphours-molybdenum blue photometric method	0.20
Mn	ICP-AES	0.10
Si	The perchloric acid dehydration-gravimetric method	1.00

Analytical Methods

C:	1.Infrared absorption method 2.The gasometric method
Si:	1.Silicon-molubdenum blue photometric method 2.The perchloric acid dehydration-gravimetric method
Mn:	1.Potassium periodate oxidation photometric method 2.ICP-AES 3. Flame atomic absorption spectrometry
P:	1. Bismuth-phosphorus-molybdenum blue photometric method 2.ICP-ASE 3.The butyl acetate extraction phosphours-molybdenum blue photometric method 4.The n-butyric alcohol-trichloromethane extraction photometric method 5.Hydrazine sulfate phosphorus-molybdenum blue photometric method
S:	1.Infrared absorption method 2.The aluminum oxide chromatographic separation-barium sulfate gravimetric method
Cr;	1.The diphenyl carbazide photometric method after separation with sodium carbonate 2.ICP-AES
Ni:	1.The dimethylgyoxime-trichloromethane extraction photometric method 2.ICP-AES 3. Flame atomic absorption spectrometry
V:	1.N-benzoyl phenylhydroxylamine-trichloromethane extraction photometric method 2.ICP-AES 3. 35-Br-PDAD photometric method
Mo;	Photometric method as thiocyanate after extraction with butyl acetate 2.ICP-AES
Cu:	1.The neocuprone-trichloromethane extraction photometric method 2.ICP-AES 3. Flame atomic absorption spectrometry
As:	1.Hydride separation- molybdenum blue photometric method 2. Hydride-ICP-AES 3.Hydride- atomic fluorescence spectrometry 4.Hydride- atomic absorption spectrometry 5. 4-methyl-2-pentanone extraction molybdenum blue photometric method
Bi:	1. Atomic fluorescence spectrometry 2. Hydride-ICP-AES 3. Hydride- atomic absorption spectrometry
Pb:	1. Polarographic method after separation with sediment 2. Graphite furnace atomic absorption spectrometry 3. Hydride-ICP-AES 4.ICP-AES
Ti:	1. Diantipyrylmethane photometric method 2.ICP-AES 3. Photometric with chromotropic acid
Sb:	1.Photometric method with malachite green with MnO_2 separation 2. Hydride-ICP-AES 3.Graphite furnace atomic absorption spectrometry 4. Hydride- atomic absorption spectrometry 5. Hydride- atomic fluorescence spectrometry
Zn:	1.ICP-AES 2.Graphite furnace atomic absorption spectrometry
Sn:	1.ICP-AES 2. 2. Hydride-ICP-AES 3. Graphite furnace atomic absorption spectrometry 4. Hydride- atomic absorption spectrometry



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