

Certificate of Certified Reference Material

NCS HS 92741

Cast Iron

Issued in 2011

Approved by China National Analysis Center for Iron and Steel

( Beijing China )

## Certified Value and Standard deviation

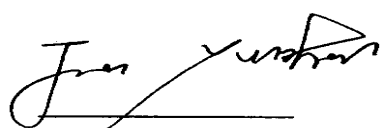
No.		C	Si	Mn	P	S	Cr	Ni
NCS HS 92741	Certified Value	3.73	2.02	2.35	0.51	0.0036	1.58	3.57
	Standard deviation	0.02	0.02	0.02	0.01	0.0002	0.01	0.02
		Mo	V	Cu	Ti	Mg	Nb	B
NCS HS 92741	Certified Value	0.050	0.018	1.98	0.40	0.060	0.012	0.31
	Standard deviation	0.001	0.002	0.01	0.01	0.001	0.001	0.01

Note:

1. Each certified value is the mean of analytical results of 6 independent laboratories.
2. The sample is cylinder bar with size  $\Phi 30 \times 30$  mm and packed in box.
3. The sample should be stored in dry place. The valid time for the sample is 15 years.

## Analytical Methods

Element	Analytical methods
C	Combustion-gas volumetric method; Combustion-infrared absorption method
Si	Gravimetric method after dehydration with perchloric acid; Silicon-molybdate photometric method
Mn	Periodate oxidation photometric method; AAS; ICP-AES
P	Butyl aceate extration phototmetric method; N-butyl alcohol-chloroform extraction phtotmetric method; 8-hydroxy quinoline phosphomolybdate gravimetric method; ICP-AES
S	Combustion-infrared absorption method; Combustion-infrared absorption method
Cr	Sodium carbonate separation diphenylcarbazide Photometric method; ICP-AES
Mo	Thiocyanate photometric method; ICP-AES Butyl acetate-thiocyanate extraciton photometric method
Ni	Dimethylglyoxime photometric method; ICP-AES; AAS
V	Chromotropic acid photometric method; ICP-AES; Potassium permanganate oxidation titrimetric method;
Cu	Sodium thiosulfate separation iodimetric method; Cupferron separation iodimetric method; ICP-AES
Mg	Cupferron separation eriochroem black T photometric method; Cupferron separation dimethylbenzidine blue photometric method; AAS; ICP-AES
Nb	Benzoinoxime gravimetric method with xylenol orange Sulphochlorophenol S photometric method; ICP-AES
B	Curcumin photometric method after methanol distillation; ICP-AES Ion selective electrode method; Curcumin direct photometric method



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**Laboratory Director**