



Certificate of Certified Reference Material

NCS DC 91025 — NCS DC 91029

Alumina

Reissued in 2020

Approved by China National Analysis Center for Iron and Steel

(Beijing China)

Certified Values and Standard Deviation (%)

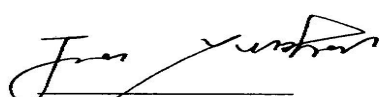
No.		SiO ₂	Fe ₂ O ₃	Na ₂ O	K ₂ O	TiO ₂	CaO	ZnO
NCS DC	Certified Value	0.044	0.022	0.27	0.014	0.0027	0.022	0.0049
91025	Standard Deviation	0.003	0.002	0.01	0.003	0.0002	0.003	0.0003
NCS DC	Certified Value	0.025	0.0044	0.43	0.019	0.00019	0.016	0.00050
91026	Standard Deviation	0.002	0.0003	0.01	0.003	0.00004	0.001	0.00003
NCS DC	Certified Value	0.034	0.0087	0.18	0.0026	0.0035	0.020	0.00027
91027	Standard Deviation	0.002	0.0006	0.01	0.0004	0.0002	0.003	0.00007
NCS DC	Certified Value	0.047	0.0094	0.31	0.0056	0.0042	0.021	(0.00013)
91028	Standard Deviation	0.002	0.0006	0.01	0.0007	0.0002	0.003	
NCS DC	Certified Value	0.041	0.014	0.22	0.0077	0.0033	0.023	0.0026
91029	Standard Deviation	0.002	0.001	0.01	0.0004	0.0002	0.004	0.0002
No.		Li ₂ O	MgO	V ₂ O ₅	P ₂ O ₅	Cr ₂ O ₃	L.O.I	CuO
NCS DC	Certified Value	0.048	0.0090	0.00034	0.00052	(0.0002)	0.49	(0.0002)
91025	Standard Deviation	0.002	0.0005	0.00002	0.00002		0.04	
NCS DC	Certified Value	0.016	0.0024	0.00097	0.00022	(0.0003)	1.00	(<0.0001)
91026	Standard Deviation	0.002	0.0003	0.00008	0.00001		0.07	
NCS DC	Certified Value	0.0089	0.0018	0.0019	0.00095	(0.0002)	0.042	
91027	Standard Deviation	0.0004	0.0003	0.0001	0.00007		0.003	
NCS DC	Certified Value	0.010	0.0012	0.0034	0.00098	(0.0002)	0.16	
91028	Standard Deviation	0.001	0.0003	0.0003	0.00006		0.04	
NCS DC	Certified Value	0.027	0.0060	0.00095	0.00076	(0.0002)	0.29	
91029	Standard Deviation	0.002	0.0006	0.00005	0.00003		0.04	

Note: Data in () is for reference only.

1. 8 independent laboratories take part in the analysis work.
2. The sample is packed in bottle. The minimum package is 50 grams.
3. The sample should be stored at dry place, avoid oxidation.
The sample should be stored at 300°C before use. The minimum weight for analysis is 0.5g.
4. The valid time of the sample is 5 years, although we reserve the right to make change as issue revisions.

Analytical Methods

Composition	Methods
SiO ₂	Silicon-molybdenum blue photometric method
Fe ₂ O ₃	Orthophenanthroline photometric method
Na ₂ O, K ₂ O	AAS, ICP-AES
MgO, CaO	AAS, ICP-AES
V ₂ O ₅	N-benzoyl phenylhydroxylamine extraction photometric method; ICP-AES
TiO ₂	Diantipyryl methane photometric method; ICP-AES
P ₂ O ₅	Molybdenum blue photometric method after extraction
ZnO	AAS, ICP-AES
Li ₂ O	AAS, ICP-AES
Cr ₂ O ₃	Diphenylcarbazide photometric method; ICP-AES
CuO	Neocuproine extraction photometric method; ICP-AES
L.O.I	Gravimetric method



Jia Yunhai
Laboratory Director