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Certificate of Certified Reference Material

NCS FC 28219

Coal

Reissued in 2017

Approved by China National Analysis Center for Iron and Steel

(Beijing China)

Certified Values and Uncertainty

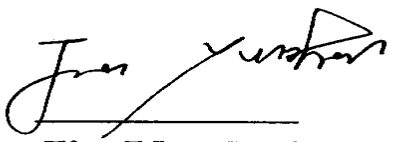
No.		St,d(%)	Ad(%)	Vd(%)	Qgr,d (MJ/kg)	Carbon (%)	Hydrogen (%)	Nitrogen (%)	True Specific Gravity (20°C)	Coal Type
NCS FC 28219	Certified Value	0.28	6.06	31.14	29.88	75.83	4.03	0.99	1.42	Bitumite
	Uncertainty	0.05	0.16	0.36	0.18	0.50	0.19	0.07	0.03	

Note:

1. All values are expressed on dry bases. Calorific value is high value of dry base. The sample is air dry base.
2. Each certified value is the mean of analytical results of 8 independent laboratories. Uncertainty(Δx) is calculated by $\Delta x = t_{\alpha(m-1)} S_T$. In above formula, $t_{\alpha(m-1)}$ is confidence coefficient of t-distribution, α is confidence level and S_T is standard deviation. Uncertainty is expanded uncertainty at 95% confidence level.
3. The sample is powder with size <0.2mm packed in glass bottle. The minimum package is 50 grams. The minimum weight for analysis S is 0.05g, for ash is 0.5g.
4. The sample should be stored in cold and dry place.
5. The certified values are redetermined once every year and customers will be informed if there is any change in certified values.

Analytical Methods

Item	Analytical method
Total Sulfur	GB/T214—1996 method of determination of total sulfur in coal
Ash and Volatile	GB212—2001 analytical method of coal for industry
Calorific Value	GB/T213—2003 method of determination of calorific value of coal
Carbon , Hydrogen	GB476—2008 Method of Determination of Carbon and Hydrogen in Coal
Nitrogen	GB/T19227-2008 Method of Determination of Nitrogen in coal
True Specific Gravity	GB/T217—2008 Method of Determination of True Specific Gravity of Coal



Jia Yunhai

Laboratory Director