

# Brammer Standard Company

## Certificate of Analysis

**BS 103 Iron Ore**

**BS 104 Iron Ore Sinter**

	Percent by mass Expressed as oxides			Percent by mass Expressed as element	
	<b>BS 103</b>	<b>BS 104</b>		<b>BS 103</b>	<b>BS 104</b>
CaO	1.27	8.83	Ca	0.91	6.61
SiO <sub>2</sub>	8.12	7.81	Si	3.80	3.65
Al <sub>2</sub> O <sub>3</sub>	0.96	1.26	Al	0.51	0.67
MgO	0.34	3.45	Mg	0.21	2.08
TiO <sub>2</sub>	0.04	0.08	Ti	0.024	0.05
Total Fe			Fe	59.41	55.04
MnO	0.61	0.82	Mn	0.47	0.64
P <sub>2</sub> O <sub>5</sub>	0.133	0.136	P	0.058	0.059
S			S	0.065	0.010
Na <sub>2</sub> O	(0.05)	(0.06)	Na	(0.04)	(0.045)
K <sub>2</sub> O	(0.07)	(0.15)	K	(0.06)	(0.125)

The certificate values are the average results of chemical analyses. The analyses in parentheses are not certified and are provided for general information. The values shown as oxides have been calculated by converting the concentrations of the elements to the equivalent oxide forms.

Dry the material for one hour at 105<sup>0</sup> C and mix well before using. The material has been pulverized to pass a number 100 sieve.

See reverse side for list of cooperation laboratories.

Certificate No. REC-CC476-103-104-REV042489

**THIS CERTIFICATE OF ANALYSIS HAS BEEN RECREATED FOR POSTING ON THE WEB.**

**Brammer Standard Company, Inc., 14603 Benfer Road, Houston, TX 77069**  
**Telephone (281) 440-9396 Fax (281) 440-4432**

The certified data for the BS 103 and BS 104 Reference Materials is the average analysis from the following cooperating laboratories:

Alkav Laboratories, Neville Island, PA  
Allegheny Ludlum Steel Corporation, Brackenridge, PA  
Crobaugh Laboratories, Cleveland, OH  
J & L Steel Corporation, Aliquippa, PA  
Kaiser Steel, Fontana, CA  
Andrew S. McCreath & Son, Harrisburg, PA  
Pittsburgh Testing Laboratories, Pittsburgh, PA  
Spectrochemical Laboratories, Cleveland, OH

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