

Brammer Standard Company, Inc.

Certificate of Analysis

B.S. SLAG 3 Iron-making Slag

Expressed as total element		Expressed as oxide	
Ca	26.7	CaO	37.3
Mn	1.33	MnO	1.72
Si	17.50	SiO ₂	37.44
Al	6.9	Al ₂ O ₃	12.9
Mg	5.0	MgO	8.3
Ti	0.38	TiO ₂	0.63
Na	0.19	Na ₂ O	0.26
K	0.67	K ₂ O	0.81
Fe, total	0.25		
C	0.03		
S	0.81		

(analysis listed as percent by weight)

Note: The iron is not expressed as an oxide since some metallic iron may be present and all the iron may not be present as FeO.

See reverse side for more information.

Certificate Number SLAG3-092492

Some of the co-operating laboratories were:

- Analytika Ltd., Prague, Czechoslovakia
- Andrew S. McCreath & Son, Inc., Harrisburg, Pennsylvania
- Brammer Standard Co., Inc., Houston, Texas
- Hoesch Stahl AG, Dortmund, Germany
- Inland Steel Company, E. Chicago, Illinois
- U.S. Steel Research Laboratory, Monroeville, Pennsylvania

BS SLAG 3		Certificate No. SLAG3-092492				
Analysis	Ca	Mn	Si	Al	Mg	Ti
1	26.46	1.327	17.437	6.684	4.82	0.361
2	26.51	1.329	17.48	6.72	4.964	0.366
3	26.56	1.33	17.48	6.78	4.99	0.369
4	26.636	1.33	17.497	6.843	5.00	0.37
5	26.865	1.34	17.54	6.93	5.02	0.375
6	26.92	1.343	17.56	6.99	5.02	0.40
7				7.02	5.09	0.42
Average	26.659	1.333	17.499	6.852	4.986	0.380
Std Dev	0.191	0.007	0.045	0.132	0.083	0.022
Certified	26.7	1.33	17.50	6.9	5.0	0.38
Factor for oxide	1.399	1.291	2.139	1.890	1.658	1.668

Analysis	Fe	C	S	Na	K
1	0.20	0.02	0.773	0.180	0.614
2	0.215	0.0376	0.80	0.19	0.66
3	0.23	0.040	0.81	0.21	0.66
4	0.249	0.04	0.810		0.666
5	0.28		0.823		0.67
6	0.291		0.87		0.697
7	0.30				0.74
Average	0.252	0.034	0.814	0.193	0.672
Std Dev	0.039	0.010	0.032	0.015	0.039
Certified	0.25	0.03	0.81	0.19	0.67
Factor for oxide				1.348	1.205

Chemical analyses were made samples taken from the bulk powder material. The individual values listed above are the average of each analyst's results.

Methods of analysis used were a combination of classical "wet" methods plus additional ICP, and AA spectrometric methods. The following Certified Reference Materials were used to validate the analytical data listed above: ECRM 878-1, JSS 900-1 through 904-1, CAN SL-1

This Reference Material was tested for homogeneity and found acceptable. The material has been processed to pass a number 100 mesh sieve. If the material is stored for a prolonged period of time, it is recommended that the material be dried at 105° C for 1 hour.

A Material Safety Data Sheet (MSDS) is not available for this material. This material will not release or otherwise result in exposure to a hazardous chemical, in the quantity supplied under normal conditions of use. Inquiries concerning this Reference Material should be directed to:

Brammer Standard Co., Inc. Phone: (281) 440-9396
 14603 Benfer Road
 Houston, Texas 77069-2895 USA Fax: (281) 440-4432

Certified by: _____ on September 24, 1992.
 G. R. Brammer