

Brammer Standard Company, Inc.

Certificate of Analysis

B.S. SP 5

Pure Zinc Reference Material

	Certified Value ¹	Estimate of Uncertainty ²
Pb	0.005	0.001
Al	0.0003	0.0001
Fe	<0.001	
Sb	<0.001	
Cu	<0.001	
Cd	<0.0004	
Sn	0.0010	0.0002
Mg	<0.002	

Analysis listed as percent by weight.

¹ The certified value listed is the present best estimate of the true value.

² The uncertainties listed are based on value judgments of the material homogeneity and possible bias in the determined analytical values.

Some of the co-operating laboratories were:

Alpha Analytical Laboratories, Inc., Jersey City, New Jersey
Brammer Standard Company, Inc., Houston, Texas
J. Dirats and Co., Inc., Westfield, Massachusetts
VHG Laboratories, Inc., Manchester, New Hampshire

See reverse side for more information.

Certificate Number SP5-051093

Brammer Standard Company, Inc., 14603 Benfer Road, Houston, TX 77069-2895
Telephone (281) 440-9396 Fax (281) 440-4432

Lab	Pb	Al	Fe	Sb	Cu	Cd	Sn	Mg
1	0.0040	0.0002	<0.0005	<0.0005	0.0003	<0.0001	0.0009	<0.00005
2	0.0046	0.0003	<0.0005	<0.001	0.0003	0.00001	0.0010	0.0003
3	0.0050	0.0003	<0.001	<0.001	0.0009	0.0002	0.0010	0.0013
4		0.0004	<0.001	0.0001			0.0012	
5				0.0008				
Avg	0.00453	0.00030			0.00047		0.00103	
Std	0.00050	0.00008			0.00038		0.00013	
Certified	0.005	0.0003	<0.001	<0.001	<0.001	<0.0004	0.0010	<0.002

Analysis: Chemical analyses were made on chips prepared by a lathe from the certified portion of the discs. The individual values listed above are the average of each analyst's results. Data in parentheses are not certified and are for information only. Methods of analysis used were a combination of ASTM Standard Method E 536, plus additional ICP, and AA spectrometric methods. The following Certified Reference Materials were used to validate the analytical data listed above: NIST 631, BCS 194E, GBW 02701, 02702, 02703

Homogeneity: This Reference Material was tested for homogeneity using ASTM Standard Method E 826 and found acceptable.

Source: This material was melted and cast by Alpha Analytical Laboratories, Inc., Jersey City, New Jersey. The discs were cast into open top sample molds. A total of 100 discs was produced.

Description and Use: This Reference Material is in the form of a disc, approximately 37 mm in diameter and 12 mm thick. It is intended for use in optical emission and x-ray spectrometric methods of analysis.

Certified Area: The area certified of each disc is the portion extending upward 7 mm from the unmarked flat surface.

Note: Shrinkage cavities or porosity may appear in the top portion of some discs. These cavities are normal and will not affect the certified portion of the disc.

Preparation: Use the same method for preparing the analytical surface on all reference materials and specimens for best results.

Safety Notice: A Material Safety Data Sheet (MSDS) is not required for this material. This material will not release or otherwise result in exposure to a hazardous chemical, 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 May 10, 1993.
 G. R. Brammer