

BRAMMER STANDARD COMPANY, INC.

Provisional Certificate of Analysis BS T-4B

Certified Reference Material for ASTM B348(4) Grade 4 Commercially Pure Titanium - UNS Number R50700

	Estimated Analysis ¹		Estimated Analysis ¹
Analysis listed as percent by weight			
Al	0.038	Nb	0.018
B	<0.005	Ni	0.009
C	0.017	O	0.37
Co	<0.05	S	<0.005
Cr	0.009	Si	0.005
Cu	0.006	Sn	0.01
Fe	0.17	Ti	[99.7]
H	<0.005	V	0.008
Mn	<0.005	W	<0.05
Mo	0.003	Zr	<0.05
N	0.005		

¹ The estimated value listed is the present best estimate of the true value. Values are given in weight percent.

Form: This CRM is machined in the form of a disc approximately 38mm in diameter and 19mm thick by Brammer Standard Company, Inc.

A detailed final certificate of analysis will be supplied by February 11, 2024.

Homogeneity: This Certified Reference Material (CRM) was tested for homogeneity using ASTM Standard Method E826 and found acceptable. It was also examined by spark atomic emission spectrometry and found to be compatible with the following Reference Materials — BS T-2, T-4, T-4A, T-26, T-80, T-81; IARM 303B.

Validity statement: ISO Guide 31 states that the certification should contain an expiration date for all materials where instability has been demonstrated or is considered possible, after which the certified value is no longer guaranteed by the certifying body. The certification of BS T-4B is valid indefinitely. The certification is nullified if this CRM is damaged, contaminated, or otherwise modified.

Storage: This CRM must be stored in a cool, dry, non-corrosive environment.

Certified Area: The entire depth of the CRM may be used.

Caution: As with any bar material, avoid spark atomic emission spectrometric burns in the center of the CRM (5 mm radius), as some segregation may be present.

Sample Preparation: For best analytical results, use the same method for preparing the analytical surface on all reference materials as used for production specimens. Avoid overheating the sample during surface preparation.

Caution: CRM contains significant insoluble soft metal inclusions. Surface smearing may occur. Spark atomic emission spectrometers may require extended preburns to compensate.

Safety Notice: A Safety Data Sheet (SDS) 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.
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Houston, Texas 77069-2895 USA

Phone: (281) 440-9396
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Web: www.brammerstandard.com
Email: contact@brammerstandard.com

Certified by: _____ on February 11, 2022.

Beau R. Brammer
President