

BRAMMER STANDARD COMPANY, INC.

Provisional Certificate of Analysis BS XCCS-2

Certified Reference Material for Carbon Steel

	Estimated Analysis ¹		Estimated Analysis ¹
Analysis listed as percent by weight			
Al	0.073	Ni	0.099
As	<0.05	O	<0.05
B	0.020	P	0.006
C	0.021	Pb	<0.005
Ca	0.003	S	0.006
Co	0.015	Sb	0.002
Cr	0.038	Si	0.40
Cu	0.047	Sn	0.002
Fe	[98.6]	Ta	0.027
Mg	<0.005	Ti	0.011
Mn	0.58	V	0.018
Mo	0.015	W	0.021
N	<0.5	Zn	<0.05
Nb	0.003	Zr	<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 37mm in diameter and 30mm thick by Brammer Standard Company, Inc.

A detailed final certificate of analysis will be supplied by March 10, 2023.

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 — BAS 452/1; BS XCCS, XCCS-1, 57E, 203, 1009, 1016, 2931A; CKD 165I; JSS 169-6; SRM 1167.

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 XCCS-2 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 certified area of each disc is the portion extending several mm inward from each surface.

Note: Shrinkage cavities may appear in the horizontal center of some discs. These cavities are normal and will not affect the certified portions of the disc.

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
Fax: (281) 440-4432

Web: www.brammerstandard.com
Email: contact@brammerstandard.com

Certified by: _____ on March 10, 2021.

Beau R. Brammer
President