

# BRAMMER STANDARD COMPANY, INC.

## Data Sheet for Setting-up Material

### BS SU P-20A

AISI Grade P-20 Tool Steel - UNS Number T51620

Estimated  
Analysis<sup>1</sup>

Analysis listed as percent by weight

Estimated  
Analysis<sup>1</sup>

**Al 0.013**  
**As 0.007**  
**B 0.0003**  
**C 0.38**  
**Ca 0.0016**  
**Co 0.010**  
**Cr 1.76**  
**Cu 0.10**  
**Mg 0.0001**  
**Mn 0.85**  
**Mo 0.41**  
**Nb 0.003**

**Ni 0.13**  
**P 0.011**  
**Pb 0.0008**  
**S 0.004**  
**Sb 0.002**  
**Si 0.58**  
**Sn 0.008**  
**Ti 0.001**  
**V 0.006**  
**W 0.025**  
**Zr 0.003**

<sup>1</sup> The above chemistry is supplied as an approximate guide to the composition and must not be regarded as the certified analysis. The analysis is based on the results of the homogeneity testing performed on the material lot. This material has been studied for homogeneity and was found to be suitable for use as a setting-up material and may be used for instrument drift control. It must not be used for instrument calibration.

**Homogeneity:** This Setting-up Material was tested for homogeneity using ASTM Standard Method E 826 and found acceptable. It was also examined by spark atomic emission spectrometry and found to be compatible with the following Reference Materials — SRM: 1225; BAS 112, 404/1; BS 55D, 1962, 1982.

**Validity statement:** ISO Guide 31 states that the data sheet should contain an expiration date for all materials where instability has been demonstrated or is considered possible, after which the stated values are no longer guaranteed by the producing body. The stated values for BS SU P-20A-062512 are valid indefinitely. However, they are nullified if this disc is damaged, contaminated, or otherwise modified.

**Source:** The bar stock for this Setting-up Material was produced by Crucible Service Centers; Solvay, NY.

**Form:** This Setting-up material is machined in the form of a disc, approximately 38mm in diameter and 40mm thick by Brammer Standard Company, Inc.

**Use:** This disc is intended for use in spark atomic emission and x-ray spectrometric methods of analysis. Refer to ISO Guide 33 for information about the use of Reference Materials. It is intended as a setup standard to be used for controlling instrument drift.

**Analytical Area:** The entire depth of the disc may be used.

Caution: As with any bar material, avoid spark atomic emission spectrometric burns in the center of the disc (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 you use for production specimens. Avoid overheating the sample during surface preparation.

**Data Sheet Number:** The unique identification number for this data sheet is SU P-20A-062512. You may obtain information on revisions of data sheets from the internet at [www.brammerstandard.com](http://www.brammerstandard.com).

**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:

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Houston, Texas 77069-2895 USA

**Phone:** (281) 440-9396 **Web:** [www.brammerstandard.com](http://www.brammerstandard.com)  
**Fax:** (281) 440-4432 **Email:** [contact@brammerstandard.com](mailto:contact@brammerstandard.com)

**Brammer Standard Company, Inc., is accredited by the American Association For Laboratory Accreditation (A2LA) to ISO Guide 34 as a Reference Material Producer for the production of Certified Reference Materials and Reference Materials (Certificate Number 656.02)**

**Brammer Standard Company's Chemical Laboratory is accredited by A2LA to ISO Standard 17025. (Certificate Number 656.01)**

**By Certificate Number 10539, the Quality System of Brammer Standard Company, Inc., is registered to ISO 9001:2008 by National Quality Assurance (NQA), U.S.A.**

**The scopes of accreditation are listed on the website:** [www.brammerstandard.com](http://www.brammerstandard.com)

### **References:**

Versions used were those available at the time of testing and characterization

- E 826 Standard Practice for Testing Homogeneity of a Metal Lot or Batch in Solid Form by Spark Atomic Emission Spectrometry
- E 1019 Standard Test Methods for Determination of Carbon, Sulfur, Nitrogen, and Oxygen in Steel, Iron, Nickel, and Cobalt Alloys by Various Combustion and Fusion Techniques
- E 1806 Standard Practice for Sampling Steel and Iron for Determination of Chemical Composition

ISO Standard 17025:2005 General requirements for the competence of testing and calibration laboratories

ISO Standard 9001:2008 Quality Management Systems - Requirements

ISO Guide 30:1992 Terms and definitions used in connection with reference materials + 2008 amendment

ISO Guide 31:2000 Reference materials - Contents of certificates and labels

ISO Guide 33:2000 Uses of certified reference materials

ISO Guide 34:2009 General requirements for the competence of reference material producers

ISO Guide 35:2006 Reference Materials - General and statistical principles for certification

*ASTM documents available from ASTM, 1916 Race Street, Philadelphia, PA, 19103.*

*ISO Guides and Standards available from Global Engineering - [www.global.ihs.com](http://www.global.ihs.com)*

*Other useful documents available from NIST, U.S. Department of Commerce, Gaithersburg, MD 20899.*

NIST Special Publication 260-100, Handbook for SRM Users

NIST Special Publication 829, Use of NIST Standard Reference Materials for Decisions on Performance of Analytical Chemical Methods and Laboratories

Certified by: \_\_\_\_\_ on June 25, 2012.

Beau R. Brammer