

National Bureau of Standards

Certificate of Analysis

Standard Reference Material 868

High-Temperature Alloy (Fe-Ni-Co)

(In Cooperation with the American Society for Testing and Materials)

This Standard Reference Material (SRM) is in the form of chips sized between 0.50 and 1.18 mm sieve openings (35 and 16 mesh). It is intended for use primarily in chemical methods of analysis. Material from the same lot is available in disk form as SRM 1250, primarily for use in optical emission and x-ray spectrometric methods of analysis.

<u>Constituent</u>	<u>Percent by Weight</u> ¹	<u>Estimated Uncertainty</u> ²
Aluminum	0.99	0.03
Boron	.0078	.0003
Carbon	.022	.003
Chromium	.077	.003
Cobalt	16.1	.2
Copper	0.022	.003
Iron	40.5	.1
Manganese	0.052	.002
Molybdenum	.014	.001
Nickel	37.78	.10
Niobium	2.99	.05
Phosphorus	< 0.003	---
Silicon	.097	.003
Sulfur	.0025	.0005
Tantalum	.003	.001
Titanium	1.48	.03
Vanadium	0.077	.003

¹ The certified value listed for a constituent is the present best estimate of the "true" value based on the results of the ASTM/NBS Cooperative Program for Certification.

² The estimated uncertainty listed for a constituent is based on judgment and represents an evaluation of the combined effects of method imprecision, possible systematic errors among methods, and material variability for samples of 0.5 grams or more. (No attempt was made to derive exact statistical measures of imprecision because several methods were involved in the determination of most constituents.)

The overall direction and coordination of the technical measurements leading to certification were performed under the direction of J.I. Shultz, Research Associate, ASTM/NBS Research Associate Program.

The technical and support aspects involved in the preparation, certification, and issuance of this Standard Reference Material were coordinated through the Office of Standard Reference Materials by W.P. Reed and J.A. Norris.

May 18, 1987
Gaithersburg, MD 20899

(over)

Stanley D. Rasberry, Chief
Office of Standard Reference Materials

PLANNING, PREPARATION, TESTING, ANALYSIS:

The material for this SRM was provided and prepared by Carpenter Technology Corporation, Reading, Pennsylvania.

Homogeneity testing was performed at NBS, using optical emission spectrometry, by J.A. Norris and T.W. Vetter and by R.K. Bell, ASTM/NBS Research Associate Program.

Cooperative analyses for certification were performed in the following laboratories:

- Allegheny Ludlum Steel Corp., Brackenridge Chemical Laboratory, Brackenridge, Pennsylvania, R.M. Crain, G.L. Bergstrom and C.M. Bottegal.
- Carpenter Technology Corp., Carpenter Steel Division, Reading, Pennsylvania, T.R. Dulski.
- Crucible Materials Corp., Research Center, Pittsburgh, Pennsylvania, G.L. Vassilaros and C.J. Byrnes.
- Inco Alloys International, Huntington Alloys, Huntington, West Virginia, F.A. Blair.
- Vac Air Alloys Corp., Frewsburg, New York, D.C. Trostle.