

# National Bureau of Standards Certificate of Analysis Standard Reference Material 131c Low-Carbon Silicon Steel

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

This material is in chip form sized between 0.5 mm and 1.0 mm sieve openings (35 and 18 mesh). It is intended for use primarily in checking and/or calibrating rapid carbon/sulfur analyzers.

Element	Carbon Percent by Weight	Sulfur
Certified Value <sup>1</sup>	0.0029	0.020
Estimated Uncertainty <sup>2</sup>	.0001	.001
Labs / Method	Combustion-chromatographic	Combustion-titration
A	0.0027	<sup>a</sup> 0.021
B	.0030	.020
C	<sup>a</sup> .0030	<sup>a</sup> .020 .021
D	<sup>a</sup> .0029	<sup>a</sup> .020
E	<sup>a</sup> .0028	<sup>a</sup> .020
F	<sup>b</sup> .0032 .0030	.021

1. The certified value listed for an element is the *present best estimate* of the "true" value based on results of the cooperative program for certification.

2. Estimated uncertainty includes method imprecision, bias among methods, and material variability for samples 0.5 g or more.

<sup>a</sup> Combustion-infrared detection.

<sup>b</sup> Low pressure method.

The overall 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 R. E. Michaelis.

**PLANNING, PREPARATION, TESTING, ANALYSIS:** The material for this standard was provided by the Allegheny Ludlum Steel Corporation, Brackenridge, Pa.

Homogeneity testing was performed at NBS by S. A. Wicks and at Leco Corporation, St. Joseph, Michigan, under the direction of R. B. Fricioni. The material variability was determined to be within the method imprecision.

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 (Revision of Certificate of 8-3-76)

J. Paul Cali, Chief  
 Office of Standard Reference Materials

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