

# National Bureau of Standards

## Certificate of Analysis

### Standard Reference Material 3d

#### White Iron

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

This material is in chip form sized between 4.8 mm and 0.8 mm sieve openings (4 and 20 mesh). It is intended for use in chemical methods of analysis.

<u>Element</u>	<u>Percent, by weight</u>
Carbon	2.54
Manganese	0.40
Phosphorus	.02 <sub>5</sub>
Sulfur	.05 <sub>2</sub>
Silicon	1.31
Copper	0.043
Nickel	.025
Chromium	.03
Vanadium	(.002) <sup>a</sup>
Molybdenum	(.007)
Titanium	(.003)

<sup>a</sup>Values in parenthesis are *not certified*, but are given as additional information on the composition.

CERTIFICATION: The value listed for a certified element is the *present best estimate* of the "true" value based on the results of the cooperating analysts. The value listed is not expected to deviate from the "true" value by more than  $\pm 1$  in the last significant figure reported; for a subscript figure, the deviation is not expected to be more than  $\pm 5$ .

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.

Washington, DC 20234  
April 2, 1979

George A. Uriano, Acting Chief  
Office of Standard Reference Materials

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**PLANNING, PREPARATION, TESTING, ANALYSIS:** The material for this SRM was provided to NBS by Rexnord, Inc., Milwaukee, Wisconsin, through the courtesy of C. R. Zimmerman and D. C. Marshall. The machining of chips was performed at the Leberfinger Tool and Die Company, Milwaukee, Wisconsin, under contract with NBS.

At NBS the material was sieved and thoroughly blended. Homogeneity testing of selected samples representative of the final lot was performed by B. I. Diamondstone. The maximum variations observed for carbon and sulfur were  $\pm 0.02$  wt % and  $\pm 0.004$  wt %, respectively, based on 32 duplicate determinations for each.

Cooperative analyses were performed in the analytical laboratories of the American Cast Iron Pipe Company, Birmingham, Ala.-R. N. Smith, J. B. Hobby, L. J. Moore, and B. P. Thomas; Inland Steel Company, Indiana Harbor Works, East Chicago, Ind.-J. E. Joyce; National Bureau of Standards, Center for Analytical Chemistry, Washington, D.C.-B. I. Diamondstone, and R. K. Bell, ASTM Assistant Research Associate; and Rexnord, Inc., Milwaukee, Wisc.-D. C. Marshall.

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