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2 July 1985

**Committee B09 on Metal Powder and Metal Powder Products
Subcommittee B09.02 on Base Metal Powders**

Research Report B09-1002

**Interlaboratory Study to Establish Precision Statements for ASTM
B331, Compressibility of Metal Powders in Uniaxial Compaction**

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ON
METAL POWDERS AND
METAL POWDER
PRODUCTS

B331



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B331-79

Compressibility of Metal Powders in Uniaxial Compaction

11. Precision and Bias

- 11.1 For ferrous and nonferrous powders the repeatability interval $I(r)$ is $.02 \text{ g/cm}^3$. On the basis of test error alone, the difference in absolute value, of two test results obtained in the same laboratory on the same material will be expected to exceed $.02 \text{ g/cm}^3$ only about 5% of the time.
- 11.2 The reproducibility interval $I(R)$ for ferrous powder is $.13 \text{ g/cm}^3$ and for copper base is $.07 \text{ g/cm}^3$. On the basis of test error alone, the difference in absolute value, of two test results obtained in two different laboratories on the same material will be expected to exceed $I(R)$ only about 5% of the time. Thus, if a larger difference is found, there is reason to question one or both test results.
- 11.3 No statement can be made about bias, because there are no accepted standard or reference powders for compressibility testing.

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Research Report
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LABORATORY REPORT

FOR

SUBCOMMITTEE B09.02, BASE METAL POWDERS

PRECISION DATA AND STATEMENT FOR TEST METHOD B331-79
COMPRESSIBILITY OF METAL POWDERS IN UNIAXIAL COMPACTION

OCTOBER 8, 1983

by

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TASK FORCE CHAIRMAN

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