



Designation: E 159 – 9800

Standard Test Method for Hydrogen Loss of Cobalt, Copper, Tungsten, and Iron Powders¹

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1. Scope

1.1 This test method covers the determination of the mass of hydrogen-reducible constituents in the following metal powders: cobalt, copper, iron, and tungsten. This test method consists of subjecting a sample of powder to the action of a hydrogen-containing gas under standard conditions of temperature and time and measuring the resulting loss of mass. This test method is useful for cobalt, copper, and iron powders in the range from 0.05 to 3.0 % oxygen and for tungsten powder in the range from 0.01 to 0.50 % oxygen. This test method does not measure the oxygen contained in oxides such as silicon oxide (SiO₂), aluminum oxide (Al₂O₃), magnesium oxide (MgO), calcium oxide (CaO), titanium dioxide (TiO₂), etc. and so forth that are not reduced by hydrogen at the test temperatures. For total oxygen content, vacuum or inert gas fusion methods are available.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are provided for information only.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

¹ This test method is under the jurisdiction of ASTM Committee B-9 B09 on Metal Powders and Metal Powder Products and is the direct responsibility of Subcommittee B09.02 on Base Metal Powders.

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