



Engineering,
GM DAEWOO Auto & Technology
Standards

METHOD OF SINTERED DENSITY MEASUREMENT FOR SINTERED MATERIALS

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1. PURPOSE

This standard specifies the method of measuring sintered density of metallic sintered materials (hereinafter referred to as the "specimen").

2. APPARATUS

2.1. SOXHLET extractor

2.2. Oil impregnation device

A device capable of reducing the internal pressure of the vessel to 30mmHg.

2.3. Balance

The accuracy of the balance shall be 0.01% or less of the mass of specimen to be measured.

2.4. Dryer

A device capable of keeping the temperature at $105 \pm 5^{\circ}\text{C}$.

3. PREPARATION OF MEASUREMENT

3.1. Clean the surface of specimen.

3.2. When the specimen is impregnated with oil, remove oil according to the method specified in "Appendix".

3.3. In case moisture is contained, remove it by putting specimen in a dryer kept at $105 \pm 5^{\circ}\text{C}$ for 1 hour.

4. MEASUREMENT

One of the following methods shall be used.

4.1. Method of using molten paraffin

4.1.1. Weigh the specimen in the atmosphere.

4.1.2. After immersing specimen into the molten paraffin, take it out and wipe off the paraffin adhering to the surface, and then weigh it in the atmosphere.

4.1.3. And weigh the specimen in the water.

4.1.4. The density of the sintered materials shall be calculated as follows.

$$D = \frac{A}{(B - C) / \rho}$$

D : Density of the sintered material(g/cm^3)

A : Weight of specimen in the atmosphere(g)