The temperature of the substrate 10 (film formation temperature) is not particularly limited and may be, for example, room temperature (25°C).

The process gas used during film formation is not particularly limited as long as the gas species causes sputtering upon discharge and may be, for example, argon.

The discharge power during film formation is not particularly limited and may be, for example, 2.5 W/cm^2 or more and 50 W/cm^2 or less.

The film formation time is not particularly limited and may be, for example, 10 minutes or more and 60 minutes or less.

Sputtering can be performed using a typical sputtering apparatus. Conditions for sputtering are not particularly limited, and sputtering can be performed, for example, under the following conditions.

Discharge method: ion beam sputtering

Target size: 4 inches

Target inclination angle: 45°

Introduced gas: argon

Microwave power supply: 100 W

Substrate: 4-inch silicon wafer

Substrate plane orientation: (001) plane

Accelerating voltage: 2 kV

Film formation temperature: 25°C

Film formation time: 10 min

Degree of vacuum: 7×10^{-4} Pa

temperature and the firing time which were hydrogen reduction treatment conditions were 1,200°C and five hours, respectively, the holding temperature, the holding time, and the pressure which were hot-pressing treatment conditions were 1,450°C, five hours, and 100 MPa, respectively, and the holding temperature, the holding time, and the pressure which were HIP treatment conditions were 1,850°C, five hours, and 200 MPa, respectively.

[0050] (Comparative Example 1)

A Mo target was produced by the same method as in Example 1 except that the solution was passed through neither the cation-exchange resin nor the anion-exchange resin.

[0051] (Comparative Example 2)

A Mo target was produced by the same method as in Example 1 except that the solution was not passed through the anion-exchange resin.

[0052] Table 1 shows the conditions for producing the Mo targets, and Table 2 shows the relative densities and impurity analysis results (impurity contents) of the Mo target.

[0053] [Table 1]