

POLYCRYSTALLINE SILICON INGOT CASTING MOLD AND METHOD
FOR PRODUCING SAME, AND SILICON NITRIDE POWDER FOR
MOLD RELEASE MATERIAL FOR POLYCRYSTALLINE SILICON
INGOT CASTING MOLD AND SLURRY CONTAINING SAME

Abstract

Provided are a polycrystalline silicon ingot casting mold and a method for producing a polycrystalline silicon ingot casting mold, with which high-quality silicon ingots can be obtained at high yields by minimizing sticking with the surfaces of the silicon ingot casting mold, and losses and damages that occur when solidified silicon ingot is released from the mold. The method for producing a polycrystalline silicon ingot casting mold having a release layer is characterized by being provided with : a slurry forming step for forming a slurry by mixing a silicon nitride powder with water, the silicon nitride powder being obtained by blending a silicon nitride powder (A) having an average particle diameter along the short axis of 0.6 to 13 μm and an oxygen content of 0.3 to 1.0% by weight with a silicon nitride powder (B) having an average particle diameter along the short axis of 0.1 to 0.3 μm and an oxygen content of 1.3 to 20% by weight at a weight ratio of 5 : 5 to 9 : 1; a slurry coating step for coating the surface of the mold with the slurry; and a heating step for heating the mold at 400 to 800°C in an atmosphere containing oxygen, after the slurry coating step.

Figure 1