

SLURRY-DESIGNATED SILICON NITRIDE POWDER AND METHOD FOR PRODUCING SAME, SILICON NITRIDE POWDER SLURRY FOR USE IN MOLD RELEASE AGENT AND METHOD FOR PRODUCING SAME, SILICON NITRIDE POWDER FOR USE IN MOLD RELEASE AGENT, MOLD RELEASE AGENT, AND POLYCRYSTALLINE-SILICON-CASTING MOLD AND METHOD FOR PRODUCING SAME

Abstract

Provided are: a silicon nitride powder slurry for use in a mold release agent and capable of forming, on a polycrystalline-silicon-casting mold, a mold release layer which exhibits favorable mold release properties of a polycrystalline silicon ingot, and which exhibits favorable adhesion to the mold after casting the polycrystalline silicon ingot, without requiring use of an additive such as a binder, and without requiring execution of a plating step; a method for producing the same; a silicon nitride powder for use in a mold release agent; a mold release agent; a slurry-designated silicon nitride powder for obtaining the silicon nitride powder slurry for use in the mold release agent; a method for producing the same; a polycrystalline-silicon-casting mold which exhibits favorable mold release properties of a polycrystalline silicon ingot; and a low-cost method for producing the same. The present invention pertains to a silicon nitride powder to be used in a slurry for forming a mold release layer for a polycrystalline-silicon-casting mold, wherein the specific surface area thereof is 5-50m²/g, the proportion of amorphous silicon nitride is 1.0-25.0 mass%, and the oxygen content is 0.6-2.5 mass%.

FIG.1