

Title (en)
NICKEL POWDER DESULFURISATION

Title (de)
ENTSCHWEFELUNG VON NICKELPULVER

Title (fr)
DESULFURATION DE POUDRE DE NICKEL

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Application
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Abstract (en)
[origin: WO0132945A1] A process and apparatus for desulfurisation of nickel powder is disclosed in which the nickel powder is heated in a hydrogen-containing atmosphere to promote the formation of hydrogen sulfide gas. The hydrogen sulfide gas is then removed using a desulfurisation agent. Hydrogen gas is used as a transfer agent to transport the sulfur from the nickel powder to a suitable desulfurisation agent. In this way the sulfur content of the nickel powder can be substantially reduced. The apparatus (30) includes a rotary kiln (32) in which the off-gases are recycled back into the kiln via an adsorbent H_2S filter (34). The nickel powder is fed to the rotary kiln (32) via a nickel powder feed hopper (35) which pre-heats the powder prior to entry into the kiln. The kiln is indirectly heated using natural gas. A gas blower (36) maintains a flow of hydrogen containing gas through the rotary kiln in a counter-current direction relative to the direction of transport of the nickel powder through the kiln. Filter (34) incorporates a filter membrane made from a suitable non-volatile desulfurising agent such as calcium, magnesium metal or calcium hydroxide which can be periodically replaced as required. The desulfurised nickel powder exits from the rotary kiln (32) via a discharge hopper (42) where some cooling of the nickel powder occurs. From there the desulfurised nickel powder is fed to a hot briquetting machine (44) which presses the powder into small briquettes. A significant improvement in the production of on specification nickel briquettes can be achieved.

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