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ABSTRACT

An induction-heated furnace, suitable for heat treatment of synthetic silica bodies, under conditions of high purity, includes a tubular susceptor (1) disposed with its axis vertical and an induction coil (3) for raising the temperature of the susceptor. The susceptor is made from graphite and/or silicon carbide, and is enclosed within a vacuum envelope (2) made from vitreous silica or fused quartz, the envelope being surrounded by the induction coil which is liquid-cooled. The design is such that the vacuum envelope (2) operates at temperatures below those at which either devitrification or sagging of the envelope might occur even when the tubular susceptor (1) is heated to a temperature of 1700°C. Thus sintering of a porous synthetic silica body (9) can be carried out under atmospheric or reduced pressure, the furnace including a shaft (7) adapted to support the body to be heated and capable of rotation about and movement along said vertical axis of the tubular susceptor (1).

This Sheet Has Been Replaced