what lower than extrapolated from Presnall's curve. The wide freezing interval (>250°C) increases with P and, in agreement with earlier work, σ remains high on cooling below T_{liq} but recovers slowly with time depending on P.

REFERENCE

PRESNALL, D. C., SIMMONS, C. L. & PORATH, H. (1972): Changes in electrical conductivity of a synthetic basalt during melting. *J. Geophys. Res.* 77, 5665-5672.

OXYGEN AND SILICON DIFFUSION-CONTROLLED PROCESSES IN SILICATE GLASSES AND MELTS

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In silicates the mobility of the network-former species (i.e., oxygen and silicon) is rate-determining for mass-transport phenomena such as reaction kinetics, crystallization kinetics, and viscous flow. The techniques for measuring silicon and oxygen diffusion are briefly outlined. The mechanisms of network-former diffusion are discussed and an approach is given to estimate the ratio of silicon and oxygen diffusivity on the basis of the extent of covalency in the Si-O bond.