mental points from the linear curve are as follows:

t°C	$1/T\times10^3$	Spec. Cond.
565	11.9	2.74×10^{-12}
846	9.0	2.06×10^{-9}
1155	7.0	1.02×10^{-7}
1234	6.6	1.96×10^{-6}

Discussion

The measurements which are described in this paper indicate that the equatorial conductivity of quartz at very low potentials is considerably less than the published values obtained at high potentials, and that the difference manifests itself as a greater slope of the temperature-conductivity curve. This suggests the existence of an exponential relation between conductivity and field strength. For the fields used in this work, the slope of the temperature characteristic corresponds to an activation energy of 41.2 Kcal.

The temperature-conductivity curve for periclase indicates an activation energy of 30 Kcal. Because of the different slopes of the quartz and periclase curves, they cross at a point corresponding to 650°C. Below this temperature the quartz is a better insulator than the periclase; above this temperature the periclase is superior.

While the potentials used in this study varied by only a few tenths of a volt, in no case was there a sudden increase in conductivity within this range, indicating no discharge of ions. Within these narrow limits, the conduction appeared to be ohmic. It seems probable that the mechanism in these oxides is electronic in nature, and resembles that in semiconductors.

The curves for both quartz and periclase show no discontinuities, and therefore conform to a simple conductivity relation

$$\kappa = ae^{-E/RT},$$

where E has the values previously given. There is no evidence of an ionic component entering in the conduction at the higher temperatures.

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The Effect of Pressure on the Viscosity of Boric Anhydride Glass*

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The effect of pressure on the viscosity of B_2O_3 glass has been determined by a high pressure capillary flow method up to about 2000 kg/cm², at two temperatures, 516° and 359°C. The results are satisfactorily represented by the expression $\eta=\eta_0e^{\alpha p}$, with $\alpha=4.6\cdot10^{-4}$ cm²/kg at 516°, $\alpha=15\cdot10^{-4}$ cm²/kg at 359°. The ratio of the viscosity at 1000 kg/cm² to the viscosity at 1 atmosphere is therefore 1.58 at 516°, 4.48 at 359°. The results are briefly compared with those for organic liquids.

1. Introduction

Numerous studies have been made of the viscosity of glass as a function of temperature and composition, which is evidently a subject of fundamental importance for the glass manufacturer. Other factors influencing the viscosity of glass, which are of interest primarily to the geological sciences, are the pressure and the presence of volatile components in solution. The effect of these factors does not appear to have been investigated for glass-forming materials. The magnitude of the effect of pressure

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