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Thermal Conductivity Rapid Measuring Apparatus

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熱伝導率迅速測定装置

Thermal Conductivity Rapid Measuring Apparatus

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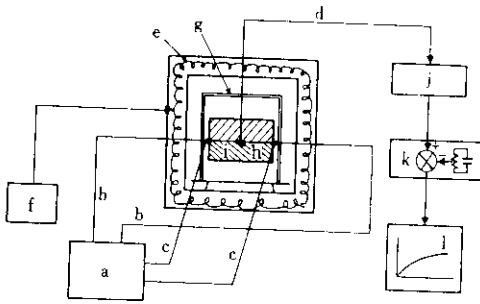
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Synopsis:

It is significant to accurately determine the thermal conductivity of refractories and adiabatics. This article describes the principle, specifications, characteristics of the thermal conductivity measuring apparatus with Hot Wire Method developed by Kawasaki Steel Corporation, together with some data obtained using this apparatus.

This apparatus has made it possible to determine the thermal conductivity of refractories and adiabatics.



- a: 直流定電力供給装置
 b: 電力供給用白金線 1mmφ
 c: 印加電圧検出用白金線 0.5mmφ
 d: 抵抗線温度検出用熱電対PR13 0.3mmφ
 e: 電気炉 20kW
 f: 電気炉温度制御盤



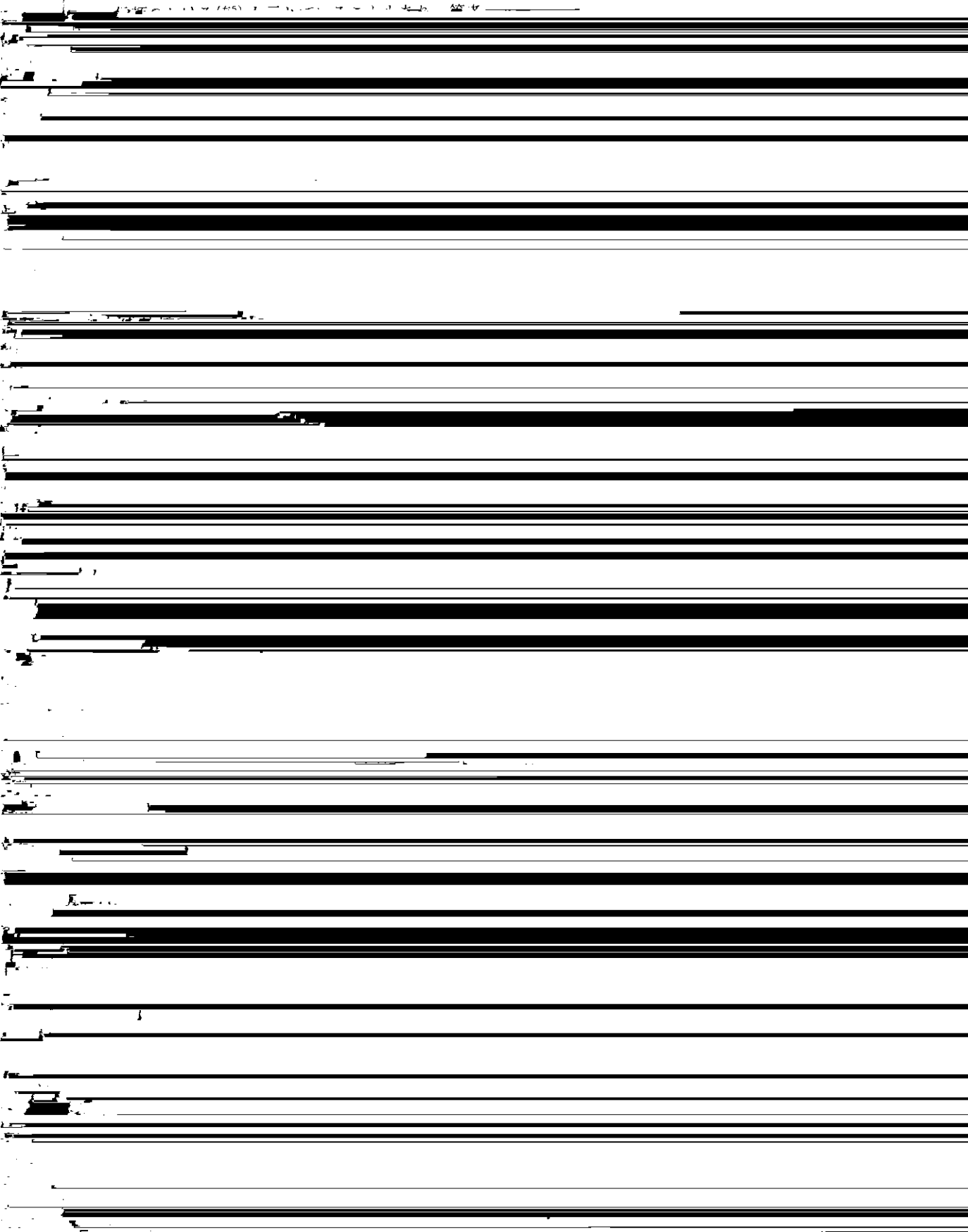
写真 3 電気炉温度制御盤



を行ったり、試料表面に熱電対を貼りつけるなどの方法を取ったが、前者はその炉内温度の変動

0.5
0.4

(79.0%) (79.4%) (81.1%)



熱材の場合に最も大きな誤差を生ずる原因

本装置の測定原理

本装置を使って測定可能な熱伝導率の上限界は