

KAWASAKI STEEL GIHO

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Manufacturing Processes and Characteristics of KMFC Powder and KMFC Graphite
Blocks

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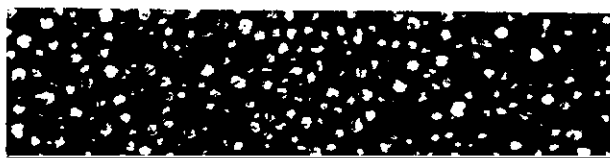
Honma)

:

(KMFC)

KMFC

1000kg/cm²

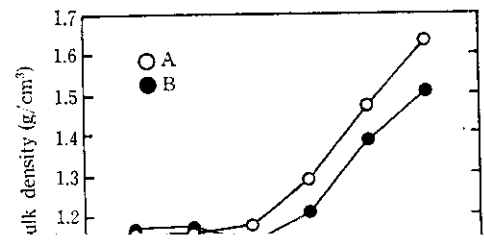
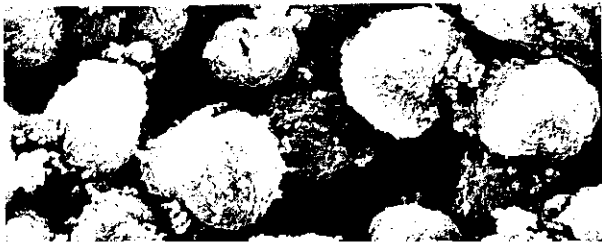


Raw material pitch



Heat treatment for mesophase spherules





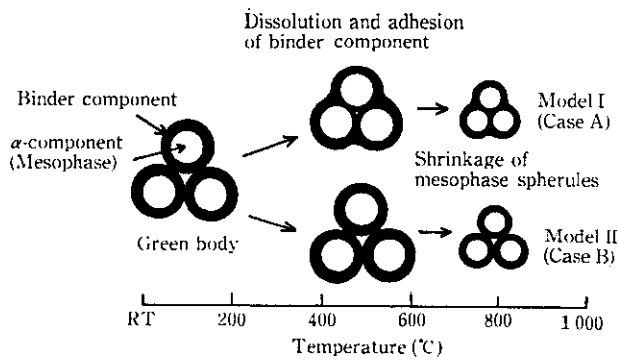


Fig. 7 Sintering model of KMFC

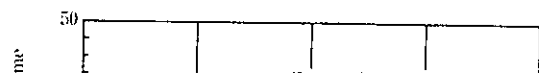
Table 2 Physical properties of graphite blocks made from KMFC powder

| | | KMFC graphite block* | Conventional graphite block |
|---|---------------------------------|----------------------|-----------------------------|
| Bulk density | (g/cm ³) | 1.90 | 1.77 |
| Shore hardness | | 85 | 54 |
| Bending strength | (kg/cm ²) | 1 000 | 400 |
| Electrical resistivity | ($\mu\Omega \cdot \text{cm}$) | 1 400 | 800 |
| Compressive strength | (kg/cm ²) | 1 850 | 1 000 |
| Young's modulus | (kg/mm ²) | 1 300 | 1 100 |
| Thermal expansion coeff. (10 ⁻⁶ /°C) | | 6.0 | 4.6 |
| Anisotropic ratio to thermal expansion coeff. | | 1.01 | 1.14 |

* Forming pressure 550 kg/cm²

5.1 黒鉛材料の製造方法と特性

KMFC 黒鉛材料の製造方法を従来法と比較して Fig. 8 に示す。KMFC は強い自己焼結性を持つため、バインダーとの混練工程を省



| | |
|--------------------|-------------|
| Work piece | Steel (SK3) |
| Electrode polarity | Positive |
| Spinning voltage | 20V |

るため放電加工用電極として使用する場合、電極消耗率が少なく、荒加工から精密加工まで高加工速度での安定した加工が可能である。