

High Density Isotropic Carbon Blocks KMFC Made from Coal Tar Pitch^{*1}

Noriyoshi Fukuda^{*2} Makoto Honma^{*3} Ken Nagasawa^{*2}
Yasuyuki Muranishi^{*4} Hiroshi Abe^{*5}

1 Introduction

2 Manufacturing Method for KMFC

widely used in various fields. However, it also has several separation of mesophase spheres, which are generated

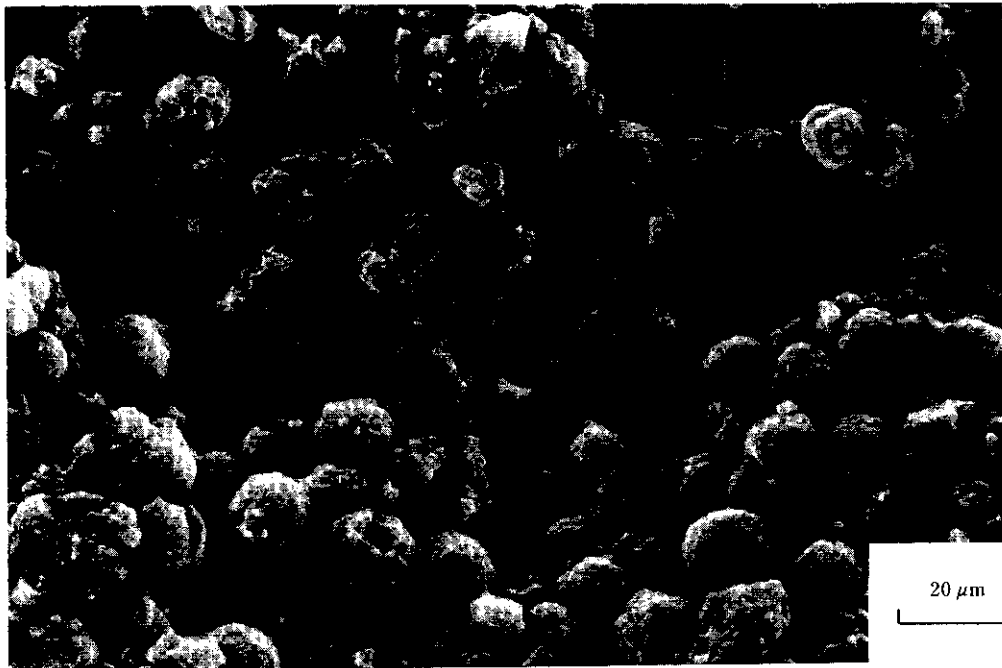


Photo 1 Scanning electron micrograph of KMFC

in Photo 1. KMFC is a powder and is of spherical shape with an average particle diameter of about 10

4 Manufacturing Method for KMFC Blocks

to 15 μm .

(2) Excellent Self-healing Capacity

The manufacturing method for KMFC carbon blocks in comparison with that of conventional carbon

5 Characteristics of KMFC Carbon Blocks

Physical property values of KMFC carbon blocks, which have been given graphitization treatment at

6 Applications of KMFC Carbon Blocks

Major applications of KMFC carbon blocks are as follows:

about 2500°C, are shown in Table 2. Results indicate that KMFC carbon blocks have two to three times the

mechanical strength value and twice the fracture toughness value of general isotropic graphite currently available commercially. The anisotropic ratio in the measurement of the thermal expansion coefficient reaches 1.01, indicating nearly perfect isotropy.

- (1) Electro-discharge Machining
Electrodes for electro-discharge machining
- (2) Metallurgical Use
Jigs, hot press molds, continuous casting nozzles, crucibles, etc.
- (3) Machine Use
Bushes, industrial water-meter discs, etc.

Table 2 Physical properties of KMFC graphite blocks

- (4) Electrical Use
Motor brushes, trolley shoes, etc.
- (5) Nuclear Applications