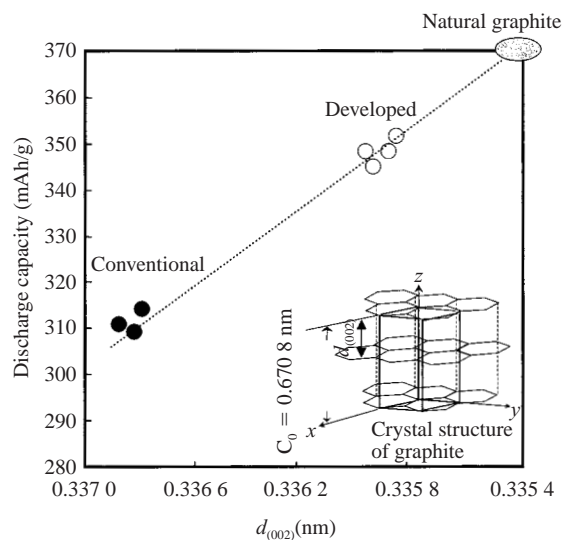




mesophase spheres formed during the heat treatment

referred to as the mesophase spheres formed during the heat treatment



Measurement conditions of discharge capacity:  
 Electrolyte; 1 M  $\text{LiPF}_6$  in EC/EMC (1:2 volume)  
 Discharge; Constant current to 1.5 V (1.5 V cut off)  
 (Discharge rate: 0.1 C)  
 EC: Ethylene carbonate  
 EMC: Ethyl methyl carbonate

## 5. Conclusion

The KMFC developed by JFE Steel and JFE Chemical is a distinctive carbon material having a spherical shape and is easily graphitized. With these characteristics, the developed KMFC can be used as a raw material for high-density, high-strength carbon materials, and the KMFC graphite powder can be used as the negative electrode material for lithium ion secondary batteries. Demand for higher capacity lithium ion secondary batteries is increasing year after year, and so a higher capacity negative electrode material is required. In

response, JFE Steel Group has increased the capacity by improving the raw material and manufacturing conditions, and has developed a KMFC graphite powder that has a discharge capacity of 350 mAh/g, which is about 40 mAh/g greater than that of the conventional type. This high-capacity KMFC graphite powder also shows excellent discharge rate characteristics.

JFE Steel Group has the world's largest KMFC manufacturing facilities which assure stable supply of products, and the operating period of the facilities is also the longest in the world. JFE Steel Group is continuing R&D to ensure the delivery of products with stable quality that meet customers' requirements.

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