

KAWASAKI STEEL TECHNICAL REPORT

No.42 ( May 2000 )

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Copper Segregation-free Premixed Iron Powder for Powder Metallurgy

Satoshi Uenosono, Hiroshi Sugihara, Kuniaki Ogura

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Synopsis :

Kawasaki Steel has developed two kinds of copper segregation-free premixed iron powders. One is "binder treated type" segregation-free iron powder, in which fine copper powders are adhered on surface of iron powder by the binder and the other is "partially alloyed type" segregation-free iron powder. The characteristics of these two types of powders such as compressibility, Rattler value and ejection force are almost equal to those of conventional segregation-free iron powder, and the properties of sintered products, including tensile strength, Charpy impact value and dimensional change, are almost equal to those made of conventional segregation-free iron powder. The "partially alloyed type" segregation-free iron powder reduces the segregation of copper by 70% and improves dimensional accuracy by 20% compared with conventional segregation-free iron powder.

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**The body can be viewed from the next page.**

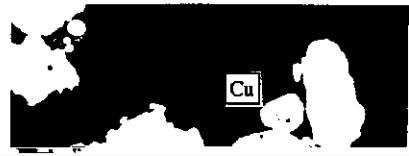
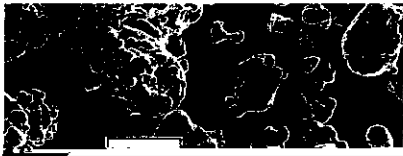
# Copper Segregation-free Premixed Iron Powder for Powder Metallurgy\*

*Synopsis:*

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## 2 Experimental Procedure

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simultaneously, which had been difficult with conventional segregation-free powder. The new powders are a binder treated type, in which fine copper powder is made to adhere to the surface of the iron powder by

conventional one.

- (3) The partially alloyed type powder causes copper segregation to reduce by 70% and improve dimensional accuracy by 20% compared with the conven-