KES

Method of Measuring Eutectic Cells for Cast Iron

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1. Scope of Application

This standard determines the method of measuring eutectic cells for piece shape graphite cast iron.

2. Test Instruments

(1) Eutectic Cell Etching Fluid : Chlorized 2nd copper 5 g, Chlorized Mg 20 g, ethyl alcohol 500 mℓ, distilled water 2.5 mℓ

(2) macro structure picture, macro camera

(3) mm ruler

3. Testing Method and Order

(1) Sample the specimen of piece shape graphite cast iron, and do grinding and polishing.

(2) Clean up the testing surface done with polishing, and dry it.

(3) Make the eutectic cell shows up clearly by etching the testing surface of specimen at the room temperature with a proper etching fluid.

(4) Photograph the specimen that eutectic cell shows up with 10 ~ 20 times of proper magnifying rate with a macro camera. Calculate the number of cell in unit area (cm^2).

Example : Magnifying rate 15 times → Picture size : 90 x 60mm

(Actual specimen size 6 x 4 mm) number of eutectic cell : 112

112EA / 4 x 6 mm = 112EA / 24 mm^2 = 4.116 EA / mm^2 = 467 EA / cm^2

∴ About 467 EA of eutectic cells in 1 cm^2

(Attach eutectic cell picture.)

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