

KES

Method of Measuring Fiber Flow for Steels

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1. Scope of Application

This standard determines checking defects of forging and forging state by observing the state of the inside of cold/heat forged parts.

2. Test Instruments

H₂O

HCl

Heater

Beaker

Micro Camera

3. Testing Method and Order

- (1) Cut the surface to be observed vertically little bit bigger than 1/2 of the completed product. Cut it as cooling it down enough so that there is no structure change by processing heat.
- (2) Grind the cut specimen with #220 ~ #600.
- (3) Wash the specimen grinding-processed with water and dry it.
- (4) Mix water and HCl in a beaker with 1:1 rate, and maintain 80 °C ± 5 °C, heating with a heater. (Decide the amount of mixing dissolution depending on specimen)
- (5) Put a ground specimen in HCl dissolution maintained at constant temperature.
- (6) After about 10 minutes (More or less depending on specimen) it shall show a flow as figure 1.
- (7) Take it out when forging shape comes out clearly, and wash it with water.
- (8) Right after washing it with water, dry it using alcohol.
(After even a short time there easily occurs stain or corrosion,)