

KES

Standard of Ferric Chloride Test for Stainless Steels

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1. Scope of Application

This standard shall regulate a testing method to examine a pitting corrosion resistance by measuring corrosion of stainless steel in 6 % ferric chloride solution at 35 °C or 50 °C.

2. Purpose

The purpose is to standardize the testing method to investigate the pitting corrosion resistance of the stainless steel with the 6 % ferric chloride solution out of various corrosion tests and to obtain test results with reproducibility.

3. Test Equipment

Read the following items for the test equipment.

- (1) Use a glass beaker or flask for a testing container.
- (2) For a handle of the testing plate, use the one that can hold parallel the testing plate in the middle of the solution and has little contacting area with the testing plate.
- (3) Use a constant temperature tub that can keep the temperature of the testing solution during the test.

4. Testing Plate

Read the following items for the testing plate.

- (1) The testing plate should have an area larger than 10 cm². Obtain the testing plate, which area of the surface perpendicular to a direction of rolling or forging is less than $\frac{1}{2}$ of the total area.
- (2) For a cutting method of the testing plate, use a method to cut with a saw. If using the cutting method, remove influencing parts of the cut through refining by cutting or grinding.
- (3) If a scale is on the testing plate, remove it by cutting or grinding.
- (4) Polish the surface of the testing plate by a polishing cloth or a sandpaper, standardized in KS L 6002 (Polishing cloth), KS L 6003 (Sandpaper) or KS L 6004 (Water resistant sandpaper), slowly up to 240 times, and finally wet-polish by the sandpaper regulated in KS L 6004 for more than 320 times.