

EDS

Engineering,
GM DAEWOO Auto & Technology.
Standards

METHOD OF TEST PIECE PREPARATION FOR CHEMICAL COMPONENT ANALYSIS

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1. PURPOSE

This standard aims at helping test personnel prepare an appropriate test piece by describing the method of test piece preparation for chemical component analysis.

2. SCOPE

This standard applies to the test piece preparation for chemical component analysis.

3. TEST PIECE

3.1. Test piece shall be taken from the product or element material of the same lot.

3.2. Test shall be performed with at least 3 test pieces for final approval and at least 1 test piece for import inspection.

4. THE METHOD OF TEST PIECE PREPARATION

4.1. For emission spectrometer

4.1.1. In case flat area is more than Ø6.

- (1) Cut into an appropriate size so that flat area may appear in far outside.
- (2) Remove foreign substances on flat area, oil, coolant and coated case with acetone, benzen.
- (3) Polish the flat area with dry grinder.
- (4) Give in analysis request with test piece. At this time, be careful for polished area not to be contaminated or etched.

4.1.2. In case the product to be analyzed or flat area of the test piece is Ø6 max.

(at least Ø5 min.)

- (1) After taking the test piece in a manner that maximum plane area comes out of it, mount it with resin.
- (2) After polishing mounted test piece with dry grinder, request it along with analysis request.

4.1.3. In case of bar material(at least Ø2 min.)

- (1) After cutting the product vertically to the rolled direction, polish the cut section with dry grinder.
- (2) Request the analysis of the test piece along with analysis request.

* Cautions

(1) In case of cast iron, heat of high temperature occurs at the time of analyzing, and so if it is mounted with resin, it is impossible to analysis. Therefore test piece shall be used as cut.

(2) Bar material whose flat area is Ø5 max. or Ø2 max. is impossible to analyze, and so other analysis methods shall be used(carbon, sulphur analysis, wet, AA analysis and EDX analysis).

(3) Only ferrous materials, aluminum alloy, and copper alloy can be analyzed with emission spectrometer, therefore, for other non-ferrous materials, other analysis method shall be used(wet method, AA analysis, XRF