

EDS

Engineering,
GM DAEWOO Auto & Technology
Standards

METHOD OF DEFECT TEST FOR BOLT AND NUT

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1. PURPOSE

This standard aims at helping test personnel perform the test in an appropriate method by describing the method to examine the defects which may occur on the surface and inside during the manufacture and processing of hardware^{Note 1)}.

^{Note 1)} The hardware refers to bolts, nuts, pins, washers, rivets, etc. But it refers to only bolts and nuts in this standard.

2. SCOPE

This standard specifies the method to examine the occurrence of surface defects of hardware used for automobiles.

3. DEFINITIONS

3.1. Surface defects: Surface defects are the surface discontinuities on parts, caused by cracks, seams, folds, and laps. etc.

3.2. Cracks: A crack is a crystalline fracture passing through or across the grain boundaries without inclusion of foreign elements.

^{Note 2)} The cracks are divided into quench cracks, forging cracks, grinding cracks, etc.

3.3. Seams: A seam is a continuous line discontinuities running parallel to the product axis, caused by dents, tensile flaws, blowholes, etc.

3.4. Folds: A fold is a doubling over of metal at a intersection of diameter configuration changes which may occur during a faulty forging operation.

3.5. Lap: A lap is a fold-over of metal parallel to the surface of the threads, caused by an inappropriate thread rolling.

4. TEST

4.1. Testing equipment

4.1.1. Stereoscope: The adjustment of magnification shall be practicable, and the observation by magnifications of 3 to 30 shall be possible.

4.1.2. Microscope: The adjustment of magnification shall be practicable, and the observation by magnifications of 50 to 200 shall be possible.

4.2. Test piece

4.2.1. For the test piece, the product as it is(bolt, nut) shall be used.