

Standard of Bead Test

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1. Scope of Application

This section applies analysis standard and method of bead test about bead that is used by forming metallic mold.

2. Definition of Terminology

Definition of terminology that is used in this section is like this

(1) Bead

The lug of unevenness shape that is installed in the die and on the blank holder surface for controlling of material flow and adding of tension, for protecting from wrinkling and rupture, during press working of plate material

(2) Bead go-resistance force

Bead go-resistance force is the tension per unit length that is needed when the material goes through molding surface with the bead

(3) Blank holding force

It is the force of vertical direction that applied to the plate surface by forming and female die when plate pressing process. Bead go-resistance force increases according to this numerical value.

(Unit : kg/mm x mm)

3. Test Apparatus and Device

Bead testing device is composed of omni tester, oil pressure cylinder and bead molding, and it is made for measuring bead go-resistance force of test pieces with intruding test pieces that is fixed in bead molding including bead by oil pressure cylinder with using omni tester. Drawing 1 indicates summary drawing of bead testing device. And it can be used for static pressure type test that tests with equal pressure force of molding (It becomes blank holding force in real machining.) and molding clearance holding type test that tests with equal molding clearance in bead molding.