

Title (en)

Die for self-piercing rivet

Title (de)

Matrize zum Setzen von Stanznieten

Title (fr)

Matrice pour la pose de rivets autoperforants

Publication

EP 2606993 B1 20140730 (EN)

Application

EP 12198014 A 20121219

Priority

JP 2011281060 A 20111222

Abstract (en)

[origin: EP2606993A1] To provide a die for a self-piercing rivet fastening device (1) which uses a self-piercing rivet (10) to fasten fastened members (41, 42) with poor malleability formed using a die cast or the like so that the members do not rupture. The present invention is a die (30; 35) for a self-piercing rivet fastening device (1) having a die (30; 35) and a punch (4) for driving a self-piercing rivet (10) having a large-diameter head (11) and hollow cylindrical legs (12) extending down from the head, and configured so the punch drives the self-piercing rivet (10) into fastened members (41, 42) arranged on top of the die (30; 35), wherein a cavity (31; 36) is formed in the upper surface of the die (30; 35) for receiving portions of the fastened members (41, 42) thrust out by the self-piercing rivet (10) driven by the punch (4), and wherein the cavity (31; 36) is formed as a concave spherical surface having a single radius (R) centered on the central axis (I) of the cavity. Alternatively, the cavity (36) is formed with a bottom surface (37) and a surrounding inclined surface (38), and the angle between the bottom surface and the inclined surface is from 165 to 175°.

IPC 8 full level

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CPC (source: EP US)

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Cited by

CN111581786A; US10702913B2; FR3098557A1; WO2015078794A3; DE102016103999A1; WO2017148684A1; US10632523B2

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