

Title (en)
Method and device for manufacturing a compact from metal powder

Title (de)
Verfahren und Vorrichtung zum Herstellen eines Presslings aus Metallpulver

Title (fr)
Procédé et dispositif de fabrication d'une pièce moulée en poudre de métal

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Application
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Priority
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Abstract (en)
The method comprises filling a metal powder into a mold cavity that is formed by a drivable upper- (9) and lower die arrangement (10) and a matrix arrangement (11) of a powder press and pressing the die arrangements against each other to form a blank (1), filling a lower part of the matrix arrangement with a first filling shoe (26) having the metal powder, and lowering an upper part of the matrix arrangement with a transversal male mold retracted in the mold cavity onto the lower part of the matrix arrangement after filling the lower part of the matrix arrangement. The method comprises filling a metal powder into a mold cavity that is formed by a drivable upper- (9) and lower die arrangement (10) and a matrix arrangement (11) of a powder press and then pressing the die arrangements against each other to form a blank (1), filling a lower part of the matrix arrangement with a first filling shoe (26) having the metal powder, and lowering an upper part of the matrix arrangement with a transversal male mold retracted in the mold cavity onto the lower part of the matrix arrangement after filling the lower part of the matrix arrangement and then filling the upper part of the matrix arrangement with a second filling shoe having the metal powder. The lower part of the matrix arrangement is present in a filling position. After the completion of the filling process, the pressing process is carried out and the blank is pressed. The transversal male mold is retracted from the mold cavity filled by the blank and from the blank. The upper and lower parts of the matrix arrangement are removed from the blank, which is kept by the die arrangements. After lowering the upper part of the matrix arrangement, a part of the lower die arrangement is raised to fill a given mass with the powder around the area, which lies under the transversal male mold in the cavity. After the pressing process and the retracting process, the blank is released by a corresponding return movement of the die arrangements. For carrying out a drawing process, the upper part of the matrix arrangement is removed from the lower part of the matrix arrangement away from the blank during the blank is kept by the upper die arrangement and then the lower part of the matrix arrangement is removed from the upper part of the matrix arrangement away from the blank during the blank is kept by the lower die arrangement. An independent claim is included for a device for producing a blank made of metal powder.

Abstract (de)
Ein Verfahren zum Herstellen eines Presslings (1) aus Metallpulver wird mit einer Pulverpresse durchgeführt, die eine antreibbare obere Stempelanordnung (9), eine antreibbare untere Stempelanordnung (10) und eine Matrizenanordnung (11), welche den Formhohlraum bilden, aufweist. Ein unterer Teil (22) der Matrizenanordnung (11) wird mit einem ersten Füllschuh (26) mit Metallpulver aufgefüllt, wonach ein oberer Teil (21) der Matrizenanordnung mit in den Formhohlraum eingefahrenen Querstempeln (23) auf den unteren Teil (22) der Matrizenanordnung (11) abgesenkt wird. Dieser abgesenkte obere Teil (21) der Matrizenanordnung wird mit einem zweiten Füllschuh (28) mit Pulver aufgefüllt, wonach der Pressvorgang ausgeführt und der Pressling (1) gepresst wird. Danach werden die Querstempel (23) aus dem durch den Pressling (1) ausgefüllten Formhohlraum und aus dem Pressling (1) zurückgefahren, der obere Teil (21) der Matrizenanordnung (11) und der untere Teil (22) der Matrizenanordnung werden vom Pressling (1) abgezogen, der durch die Stempelanordnungen (9 und 10) gehalten wird. Mit diesem Verfahren können Presslinge mit komplexen Formen in einem Pressvorgang hergestellt werden.

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