ABSTRACT

A METHOD OF MANUFACTURING AN ARTICLE BY DIFFUSION BONDING AND SUPERPLASTIC FORMING

In a method of manufacturing an article (28) by diffusion bonding and superplastic forming stop off material (122) is applied to prevent diffusion bonding in a predetermined pattern on a first surface (106) of a first metal workpiece (100) and the predetermined pattern is spaced from the edges of the first surface (106) of the first metal workpiece (100). Stop off material (124) to prevent diffusion bonding is applied in a predetermined position on the first surface (106) of the first metal workpiece (100) and the predetermined position extends from the predetermined pattern of stop of material (122) on the first surface (106) of the first metal workpiece (100) towards one edge of the first surface (106) of the first metal workpiece (100). A recess (130, 132) is provided in a second predetermined position on the second surface (108) of the first metal workpiece (100) or a fourth surface (112) of a second metal workpiece (102), the recess (130,132) extends towards the same edge of the first metal workpiece (100) or a corresponding edge of the second metal workpiece (102). The first and second metal workpieces (100, 102) are diffusion bonded together. During superplastic forming the recess (130, 132) and the stop off material (124) in the predetermined position define an inflation passage (148) for superplastic forming of the metal workpieces (100, 102) to a hollow article (28).

(Figure 3)