

Title (en)
LAYER-STRUCTURING METHOD FOR THE PRODUCTION OF A THREE-DIMENSIONAL OBJECT, AND MATERIAL SYSTEMS SUITABLE THEREFOR

Title (de)
SCHICHTAUFBAUENDES VERFAHREN ZUR HERSTELLUNG EINES DREIDIMENSIONALEN GEGENSTANDES SOWIE DAFÜR GEEIGNETE MATERIALSYSTEME

Title (fr)
PROCEDE POUR PRODUIRE UN OBJET TRIDIMENSIONNEL PAR SUPERPOSITION DE COUCHES, ET SYSTEMES DE MATERIAUX CORRESPONDANTS

Publication
EP 1706255 A1 20061004 (DE)

Application
EP 05701113 A 20050121

Priority
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• DE 102004003485 A 20040123

Abstract (en)
[origin: DE102004003485A1] Particles with internal cavities are applied onto a surface to form a layer. An energy beam or fluid jet is directed at selected areas of the layer according to the object cross-section to bond the particles together. The process is repeated for a number of layers to progressively form the object. Cavities in the particles remain intact during an irradiation or other process for bonding particles together. Particle diameter is not >500, preferably 10-300 microns. Cavity volume in a particle is 30-90%, preferably 50-80% of total particle volume. Independent claims are included for: a) use of particles with internal cavities for forming three-dimensional objects; b) a multi-phase material system for use in 3-D printing containing particles with internal cavities and a fluid which on contact with particles joins them together; c) particles with cavities for use in selective laser sintering processes and which have a material on the surface with a softening point not >100[deg]C; d) an object made from particles joined together by the claimed process and using the claimed material system.

IPC 8 full level
B29C 67/00 (2006.01); **B22F 1/06** (2022.01); **B22F 3/105** (2006.01); **B28B 1/00** (2006.01); **B29C 41/00** (2006.01)

CPC (source: EP US)
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Citation (search report)
See references of WO 2005070654A1

Citation (examination)
• JP H02116537 A 19900501 - MATSUSHITA ELECTRIC WORKS LTD
• EP 0393676 A1 19901024 - DU PONT [US]

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DOCDB simple family (application)
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