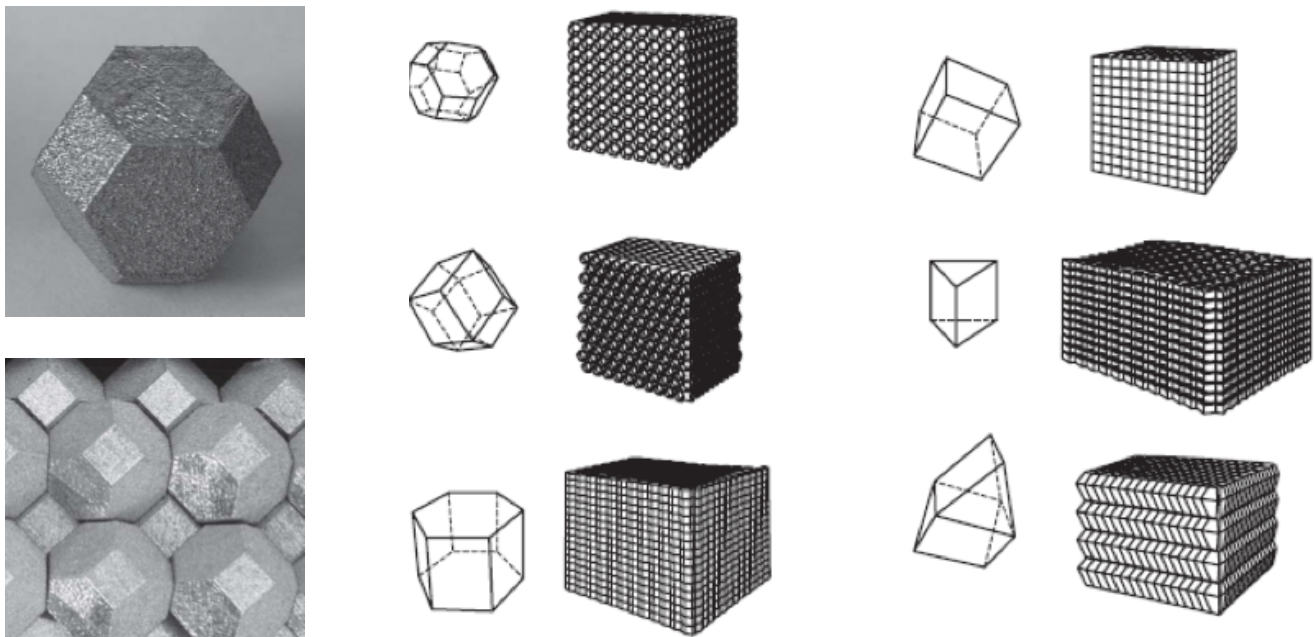


PAT 601 | METHOD OF CONSTRUCTING A METALLIC COMPONENT FROM MATERIAL VOXELS



CONTEXT

The main techniques currently used for manufacturing components are casting, forging, and/or machining. However these techniques have certain limitations and are not a good choice for certain materials or shapes.

The current technology provides an alternative system of manufacturing metallic component with complex shapes or complex material composition. It also provides virtually no deformation of the product shape and opens unique possibilities of making metallic parts.

APPLICATIONS

The current system can be used in different sectors for manufacturing complex components such as:

- AERONAUTICS
- AUTOMOTIVE
- PROSTHESIS
- TOOLING
- ENERGY SYSTEMS

TECHNOLOGY SUMMARY

The method is based on the use of small (mm-cm sized) metallic units with specific geometries that are completely space filling and melted via hot isostatic pressing (HIP).

BENEFITS

MORE CAPACITY: The method minimizes the oxidation and removes oxides on the surface of the melt. In addition, it increases the preservation of the preform and minimizes the residual porosity.

LESS COST: It reduce the material consumption in comparison to conventional machining.

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IP STATUS

This invention is currently protected by a patent but not national phases have been enforced yet.

TECHNOLOGY READINESS LEVEL AND TIME TO MARKET

The process has been partly demonstrated.

ORGANIZATION PROFILE

European intergovernmental organization with patents in many sectors, especially in telecommunications, new materials and structures.



BUSINESS OPPORTUNITY

Technology transfer via IP licensing/ patent transference.

Product co-development agreement.

KEYWORDS

HOT ISOSTATIC PRESSING

METALLIC COMPONENT

METAL GRADIENT

VOXE-BASED

COMPLEX MANUFACTURING

CONTACT INFORMATION

ELISENDA CASANELLES

COMERCIALISATION RESPONSIBLE

ecasanelles@kaalliance.com

+34 93 266 71 38