



FACTS

Alcoa Howmet, located in Exeter, England, is one of the world's leading producers of complex investment-cast turbine airfoils for the industrial gas turbine and aerospace markets. It specializes in the casting of single-crystal, directionally solidified and equiax airfoils. These castings have broad applications, from small helicopter engines through the largest industrial gas turbines currently in manufacture.

The facility manufactures its own complex ceramic cores used in the production of these high-technology, single-crystal and directionally solidified components. It holds ISO9002 and AS9100 certification. Built in 1970, the facility has seen steady expansion and now has two plants with 264,000 sq ft (23,760 sq m) of manufacturing space.

PRODUCTS

Turbine blades and nozzle guide vanes for all sizes and applications of aerospace and industrial gas turbine engines. Alcoa Howmet supplies machined and coated components by accessing outside resources.

Alloys Poured

Nickel- and cobalt-based, including:

- IN713, IN738, IN792, IN939, IN6203, Mar-M 002, Mar-M 247, PD21, U500, X40, X45, CMSX-4

Inspection

- Full nondestructive test capabilities
- Laser scanning

- Coordinate measurement machine
- Advanced Unigraphics® CAD/CAM solid modeling
- Fixtureless checking, proofing and production
- 3D best fit of part
- CAD model interfacing and reporting

Growth Areas

- Aerospace and IGT complex aerofoils
- Aerospace and IGT directionally solidified and single-crystal aerofoils
- Supply of components machined and coated
- Single-crystal heatshields/liner segments

CAPABILITIES

Manufacturing Process

- Lost wax/investment casting of parts with controlled microstructures

Single-Crystal and Directionally Solidified

Aerospace and Industrial:

- Turbine blades, solid and hollow
- Nozzle guide vanes, solid and hollow
- Heatshields/liner segments

Equiax Aerospace and Industrial

- Turbine blades, solid and hollow
- Nozzle guide vanes, solid and hollow
- Multi-guide vanes, solid and hollow

Maximum Sizes

- Equiax: 33 in (83.82 cm)
- Directional solidification: 33 in (83.82 cm)
- Single-crystal: 28 in (71.12 cm)

CONTACT INFORMATION:

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