Liquid Forging Technology

Liquid forging (LF) is an innovative manufacturing process combining casting and forging techniques. In the LF process, a pre-quantified amount of molten metal is poured into a die cavity and squeezed under pressure during solidification to form components in a single process utilizing re-useable dies.

Advantages
The key advantages of LF lie in its ability to produce near net shape components that are:
- Porosity free
- High-aspect ratio features
- Reduce materials wastage by the elimination of runners and gating

All of these unique properties are achieved by a certain amount of cold working process.

Applications
- Liquid Forging is able to process both cast and wrought aluminium alloys suitable for applications in the electronic, aerospace and automotive industries.
- LF is the process currently underpinning the design and production of high performance heatsinks for high powered LED lightings (>10 watts).

Production Capabilities
Liquid forging is currently in production mode in SIMTech’s LF integrated production cell consisting of a 200Ton hydraulic press with robotic melt ladling. R&D work is supported by a 400Ton hydraulic press fed with dosing furnace.

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