Additive Manufacturing Evaporative Casting

The widespread adoption of 3D printing within the defense industry is due to the rising need for near-net-shape precision parts with tight tolerance. An alternative to this is lost foam casting, a net shape casting process that is known to be faster and cheaper than traditional investment casting. Skuld has developed a process which keeps the value of additive manufacturing and merges it with the benefits of lost foam casting. Additive Manufacturing Evaporative Casting (AMEC) 3D prints a polymer form that is then vaporized during casting to achieve an exact replica of the given shape in metal. AMEC has been shown to work for irons, steels, brass, and aluminum. Because this prints only the surface rather than the whole volume, the process can reduce production time of additive parts by 90%, costing dramatically less than traditional casting methods. In addition to minimizing lead time, tooling, defects, and scrape waste, AMEC offers complex shapes, tight tolerance control, and a huge array of metal alloy choices. Once the process is fully developed, it can be used for prototypes, obsolete parts, MRO parts, and other small to medium volume production runs.

Skuld, LLC
Mark DeBruin
(330) 423-3683
mdebruin@skuldllc.com