

Wear resistant AM components enabled with in-HIP heat treatment

Chad Beamer¹, Pär Arumskog³, James Shipley², Anders Magnusson², Ulrik Beste³, Julia Sjöström³,
Magnus Bergman³

(1) Quintus Technologies LLC,
8270 Green Meadows Drive North,
Lewis Center, OH 43035 USA

(2) Quintus Technologies AB,
Quintusvägen 2, Västerås, SE 721 66 Sweden

(3) VBN Components AB,
Verkstadsgatan 8, Uppsala, 753 23 Sweden

ABSTRACT

Additive Manufacturing (AM) technology is being used increasingly to produce parts quickly, as an alternative option to forging or casting processes. Components can be printed in a matter of days, leading to less need for spare parts near the point of use, making it an attractive technology for many industries.

VBN Components has developed highly wear-resistant materials that are produced using powder technology, and that are printed to a near-net-shape using AM. The finished properties of these materials are then enhanced using a combined hot isostatic pressing and heat treatment strategy in Quintus Technologies modern hot isostatic press (HIP) equipment outfitted with uniform rapid quenching (URQ®) capabilities.

This paper will offer a brief background on these technologies with examples of intended end use. The resulting material performance and productivity enhancement for VBN Components' high-performing materials will be captured.