

Large-scale, Ultra-fast Boriding Process Licensed to Bodycote

Argonne has granted an exclusive license to Bodycote, one of the world's largest thermal processing companies, to commercialize its breakthrough ultra-fast boriding technology. This heat treatment process uses boron compounds to convert metallic surfaces into hard, durable boride layers, enhancing the mechanical strength and wear performance of metal or alloy mechanical parts. This environmental-friendly technology provides a less expensive, faster and more efficient way to strengthen metallic surfaces. Joint development of the large-scale, ultra-fast boriding process by researchers from Argonne (Ali Erdemir, Osman Eryilmaz and Greg Krumdick) and Istanbul Technical University was recognized with a prestigious R&D 100 award in 2012. Bodycote partnered with Argonne to develop the technology through a cost-shared funding agreement with the Department of Energy's Office of Energy Efficiency and Renewable Energy, Advanced Manufacturing Office.

Argonne's large-scale, ultra-fast boriding system was successfully scaled up to industrial production capacity.

Argonne R&D 100 winners are Greg Krumdick (left), Osman Eryilmaz and Ali Erdemir.

