

NEW SURFACE TECHNOLOGY FOR ALUMINIUM MOULDS

In a variety of moulding applications, Keronite Plasma Electrolytic Oxidation (PEO) enables aluminium to be used as a replacement for expensive steel tools by improving both the durability and the release properties of the surface.

HARDNESS AND WEAR RESISTANCE

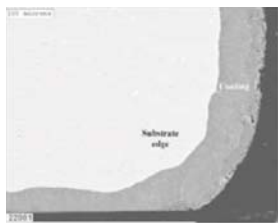
Using the patented and **environmentally-friendly** Keronite technology, the surface of the mould is transformed into a complex ceramic matrix with excellent **wear and abrasion characteristics**. Depending upon the alloy used and the thickness of the ceramic layer, Keronite surfaces at 2000 HV are at least three times harder and seven times more wear resistant than hard anodising, considerably harder than tool steel and even out-perform electroless nickel in ball-on-disk tests.

Harder than most glass or silicon-containing compounds, Keronite protects the mould from wear, even in the most vulnerable areas opposite the injection point. When impregnated with PTFE, the wear resistance of Keronite surfaces can be even further enhanced.

ADHESION

The Keronite layer is attached to the substrate alloy by means of a strong molecular bond, ensuring adhesion properties similar to the fracture strength of aluminium itself. Components are easily released, time after time, without damaging the surface of the mould.

EDGE PROTECTION

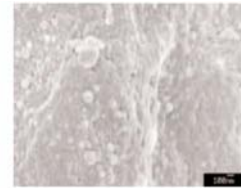


Aluminium moulds tend to wear along the edges where conventional dip processes produce thinner layers of protection and where hard anodising has a tendency to crack, creating points of weakness. Producing a

uniform layer across all contours, the Keronite process provides added protection in these critical areas.

RELEASE PROPERTIES

On top of the hard, crystalline protective layer, Keronite surfaces have a thinner, porous outer layer, providing an ideal base for impregnation with PTFE. DuPont, who declared Keronite a winner of the 2002 Plunkett Award for innovation with Teflon®, states that "a dispersion of Teflon® will penetrate up to one-third the depth of the Keronite ceramic, typically 10-100 microns". This ensures that the surface remains non-stick and that moulded parts are easily released.



INNER SURFACES AND CAVITIES

As an immersion process with outstanding throwing power, Keronite can be used to treat the inner surfaces of even the most complex shapes.



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