

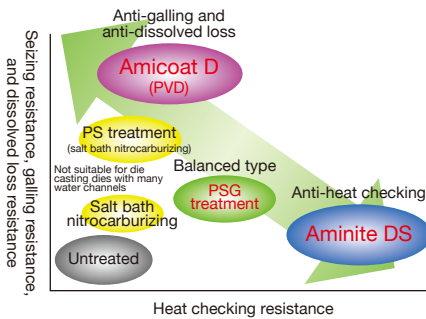
Aminite DS is a process that optimizes nitride treatment and shot peening technologies to improve the heat checking resistance, the biggest issues concerning die casting molds. Compared to earlier processes, Aminite DS shall extend the life span of molds (twice as long or more compared to high-performance nitriding* and three times as long in the case of salt bath nitrocarburizing).

* Nitriding for the purpose of improving heat checking resistance.

Features of Aminite DS

Duplex surface treatment with high compression stress added.
 ↓
 Improved heat checking resistance.
 ↓
 Substantial improvement in die casting mold life spans.

Positioning of Aminite DS



Properties of Aminite DS

Duplex surface treatment that contributes to longer die casting mold life spans (heat checking resistance in particular is improved)

Basic properties	In the case of SKD61 die material
Surface strength	1,100 HV (at 25 μm from the surface)
	Hardened (no compound layer)
Residual stress	High compression stress (1,500 MPa)
Surface roughness	Roughness Ra: 1 μm or less

The high compression residual stress of the surface slows the occurrence of heat checking.

Effects of Aminite DS

Improved heat checking resistance
 Loss ratio of die casting molds (after 5,000 casting cycles)



Aminite DS



Salt bath nitrocarburizing treatment

Life Span is at Least Three Times Longer