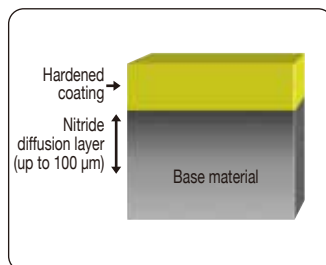


Amicoat C

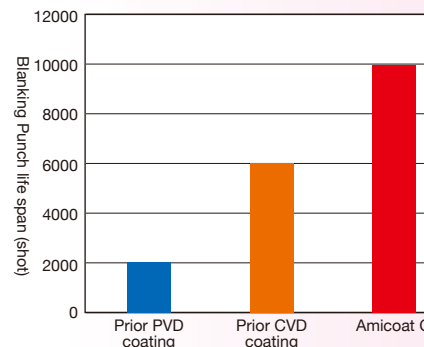
New PVD coating that achieves separation resistance equal to or better than CVD coating



Features

- PVD coating combined with special nitride treatment to provide better separation resistance and a longer life than CVD coating.
- Duplex PVD treatment greatly improved dimension accuracy compared to CVD.
- A PVD coating optimal for precision, high-surface pressure cold work dies.



Comparison of Blanking Punch Life Spans



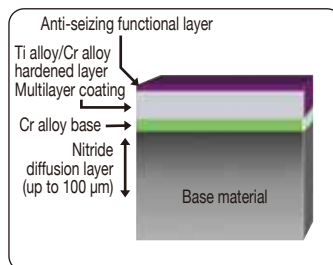
	Blanking Punch	Drawing die
Product name		
Current status	SKH51+CVD	DC53+PVD
Amicoat C application results	Life span is 1.5 to 2 times longer than CVD coated product	Life span is 7 times longer than PVD coated product

Amicoat D

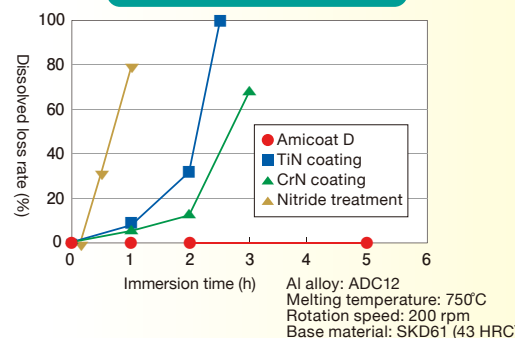
Greatly increases the life of die casting molds



Features

- Greatly improved wettability with melted aluminum. → Minimal seizing and bonding and improved galling prevention.
- Coating with high heat resistance has exceptional aluminum dissolved loss resistance.
- Improved base nitriding treatment and coating adhesion provide better heat checking resistance.



Aluminum Dissolved Loss Resistance



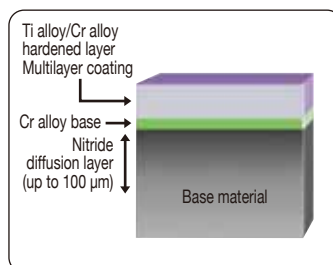
	Aluminum Die Cast Pin	Aluminum Die Cast Cavity (core)
Product name		
Current status	SKD61+CrN	SKD61 + Gas nitrocarburizing
Amicoat D application results	Life span is at least 2.4 times longer (in use)	Life span is 2.9 times longer on average (use without maintenance)

Amicoat H

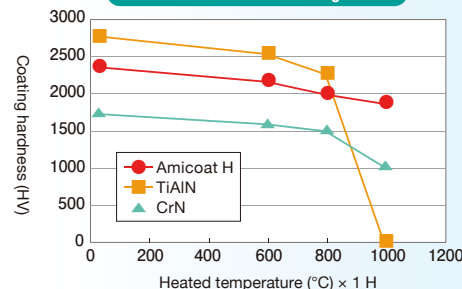
New coating provides the properties needed for warm and hot working die parts



Features

- Coating has high heat and oxidation resistance and exhibits high wear resistance even at high temperatures.
- Improved base nitriding treatment and coating adhesion provide better heat checking resistance.



Heat Resistance Testing



	Warm forging punch	Warm forging die
Product name		
Current status	Matrix high speed steel	Matrix high speed steel
Amicoat H application results	Life span is 2.5 times longer than before	Life span is 2.0 times longer than before