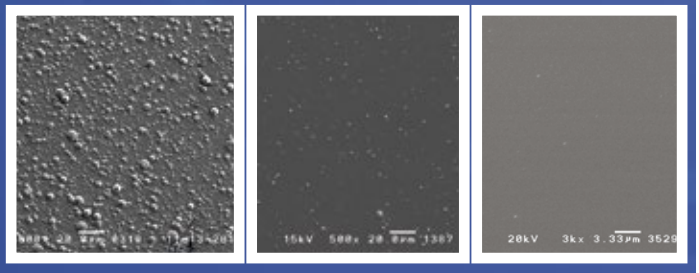
GENCOA

ARC SOURCE



The ultimate solution for smooth metal nitride coating deposition. The Gencoa Arc produces highly ionised arc plasma for dense and hard layers at high rates, without the rough surface usually associated with arc deposition.

Perfect your process
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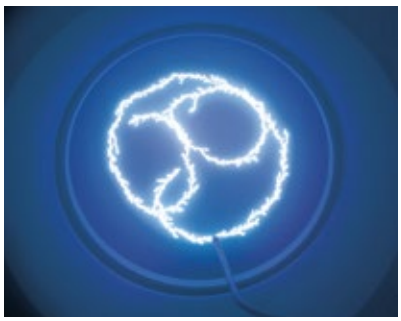
ARC SOURCE

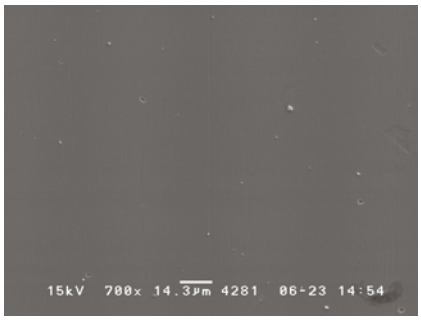
Arc PVD is a widely used and convenient method to create hard, wear resistant and decorative coatings based upon metal nitrides. Arc PVD produces a high current arc, which vaporizes and ionizes large amounts of metal target material. As a result, a highly dense coating is achieved.

A common issue of the arc PVD method is the creation of metal droplets, causing a low-quality coating with large amounts of macro-particles. Gencoa's arc source design addresses this issue by magnetic arrangement optimization, decreasing the macro-particles and resulting in smooth, defect-free layers.

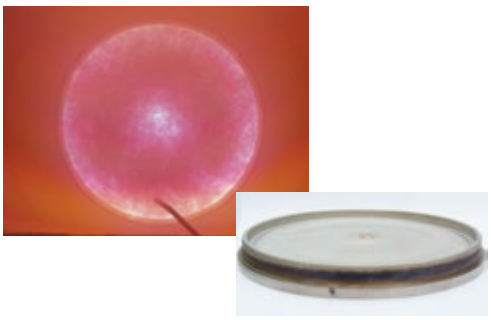
ARC PVD COATING ANALYSIS

The Gencoa Arc source allows the fast movement of the arc and optimum splitting spreads the current over a much wider area, which reduces the energy at any one point and minimizes localized heating that cause macro-particles within the coating.





Enhanced Arc length and “splitting” leads to fewer and much smaller droplets. Near zero droplets with full optimization



Optimised arc distribution produces a target usage of up to 60%

METAL NITRIDE COATINGS - MACRO PARTICLE ANALYSIS WITH SEM

The visual inspection of the metal nitride samples (coating thickness 3um) shows the high reflectivity of each sample, with the vibrant colour indicating a high density material. SEM analysis shows the dramatically reduced macroparticle count for coatings made in the Gencoa ARC source.

AlCrNx **TiNx** **TiAlNx** **CrNx** **ZrNx** **TiSiNx**

The dense and high-quality layers are deposited at much higher rates than competing HiPIMS type of sputtered metal nitride deposition, with the low cost and simplicity of Gencoa’s arc PVD solution further adding to the benefits offered over comparable methods.

FURTHER INFORMATION

Contact: **sales@gencoa.com** or visit **www.gencoa.com/arc-source**

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