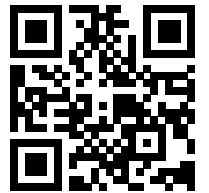


StenTech

BluPrint™

Ultra Vapor Coating



EXCLUSIVE CUTTING-EDGE VAPOR DEPOSITION SURFACE TREATMENT

Revolutionary precision engineered stencils
for high-volume printing consistency,
servicing the semiconductor and EMS industry.

Game-changing Throughput while Reducing Operating Cost

Revolutionary Precision Stencils
Redefining High-Volume Printing



StenTech BluPrint™ is highly durable vapor deposition coating designed to withstand the demands of any SMT line.

We understand the unique challenges faced in SMT production, including the gradual wear and tear stencils endure from frequent cleaning, squeegee pressure, and varying processes.

BluPrint™ improves transfer efficiency to 98%, ensuring consistent quality from the first print to the last, including high volume runs of 50,000 prints. This advanced coating technology enables engineers to push design boundaries, allowing for more intricate PCB designs and with lower area ratios than ever thought possible. This all while reducing the need for frequent stencil cleaning. Contract manufacturers who have adopted StenTech BluPrint™ report reduced cleaning cycles by up to 300%.

StenTech BluPrint™ optimizes the manufacturing process by reducing downtime, minimizing errors, and improving consistency. Whether you need to print 10 boards or 50,000, BluPrint™ stencils maintain their performance, ensuring your operations are both reliable and cost-effective.

With StenTech BluPrint™, you can achieve greater productivity, fewer disruptions, and more confidence in every print. This technology elevates your SMT processes to a new level of efficiency and reliability.

- ✓ 300% reduction in cleaning cycles
- ✓ 98% First Pass Yield
- ✓ 67% Increase in production efficiency
- ✓ 32% increase in transfer efficiency on Micro BGA Component
- ✓ 20% reduction in solder paste usage
- ✓ 18% Increase in units produced per hour
- ✓ 15% Reduction in consumables
- ✓ 13% Reduction in identified defects
- ✓ Reduced Scrap Rate to de minimis

StenTech.com/BluPrint



StenTech BluPrint™ PVD (Physical Vapor Deposited) Surface Treatment represents a ground breaking technique for applying thin material films onto a substrate. This innovative process involves introducing Physical precursors into a reactor chamber, where they undergo Physical reactions and solidify as a deposited material on the substrate's surface.

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REVOLUTIONARY TECHNOLOGY

StenTech BluPrint™ PVD Stencils.

StenTech BluPrint™ eliminates the need for frequent replacements and ensures a longer lifespan for the stencil, ultimately reducing maintenance and replacement costs associated with traditional coatings while dramatically enhancing overall performance.

We are proud to present our latest innovation in stencil coating technology – the all new **StenTech BluPrint™ PVD (Physical Vapor Deposited) Surface Treatment**. Engineered to elevate the Surface Mount Technology (SMT) processes, this advanced coating offers a comprehensive set of benefits that collectively contribute to improved stencil performance, longevity, and the overall quality of the SMT assembly process streamlining production.

WINNER:
2024 CIRCUITS ASSEMBLY NPI AWARD



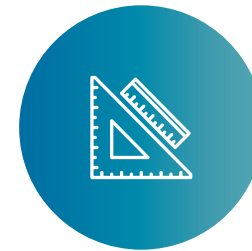
The continuous drive to reduce component sizes and circuit boards poses a challenge for solder paste printing with laser-cut stainless-steel stencils. Laser technology advancements align with coating finish improvements for these stencils. StenTech's BluPrint™ PVD is meticulously designed to be the top choice in North America for meeting the evolving requirements of the semiconductor and EMS industry.

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FEATURES

StenTech BluPrint™ is the most sophisticated stencil surface treatment available and exclusive to StenTech.



Ultimate thickness consistency

The advantage of StenTech's Physical Vapor Deposited Surface Treatment lies in its consistent thickness across all areas, eliminating the dependence on the dynamic physics involved in spraying a liquid. This revolutionary coating process also offers a range of extended advantages, including exceptional thermal stability, Physical inertness, anti-stiction properties, a refined smooth surface finish, customizable characteristics, and unwavering consistency in print quality.



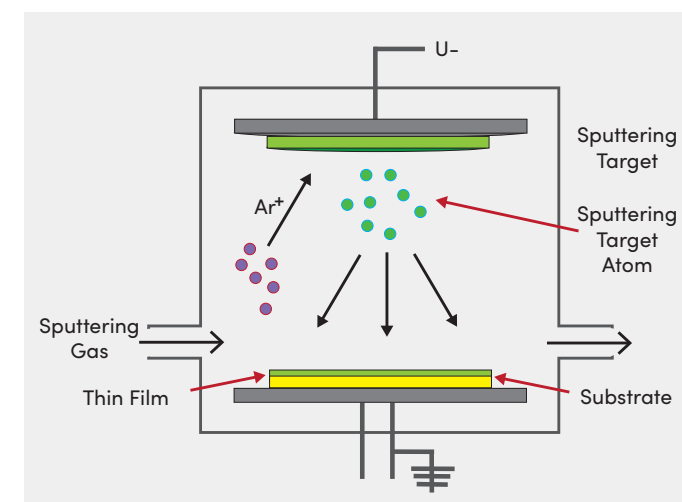
Virtually indestructible

StenTech BluPrint™ offers consistently repeatable processing without variation, providing a virtually indestructible coating that remains resilient without degradation and ensures uniform printing, with the only variation being the area ratio, while each aperture remains identical.



Enhanced performance

The StenTech BluPrint™ process begins with plasma polishing, creating a smoother, high-gloss surface with improved corrosion resistance. This process polishes both the stencil foil surface and aperture sidewalls, resulting in smoother sidewalls as a base for the subsequent coating. StenTech's BluPrint™ PVD Surface Treatment is then applied at a thickness approximately 1000 times thinner than current alternatives, ranging from 3-5 micrometers compared to 3 nanometers.



In the StenTech BluPrint™ PVD process, the wafer is exposed to one or more volatile precursors, which react and/or decompose on the substrate surface to produce the desired deposit.

This process is called Ion Beam Deposition (IBD) and involves rotating "Targets" or "Precursors," made from special materials, inside a chamber with stencils for coating. When heat and vacuum are applied, the materials undergo oxidation, vaporize, and then redeposit onto the stencil foil. These vapor-deposited materials form layers of color and coatings, resulting in a unique hydrophobic and oleophobic coating.



1ST IN THE US NORTH
AMERICA MARKET



SUPERIOR TRANSFER
EFFICIENCIES



ULTIMATE REPEATABILITY
REDUCED COSTS



CONSISTENCY OF CPKS
CONTACT ANGLE 105-107 RANGE

01

UNIFORM COATING THICKNESS

StenTech BluPrint™ PVD ensures a uniform and conformal **1 atom thick coating**, providing consistent thickness across complex geometries of SMT stencils. This uniformity is crucial for achieving precise and reliable solder paste deposition during the printing process.

02

ENHANCED DURABILITY

StenTech BluPrint™ PVD coating can significantly improve the durability and wear resistance of SMT stencils. This is important in high-volume production environments where stencils are subjected to repeated use, reducing the need for frequent replacements and maintenance.

03

HIGH THERMAL STABILITY

StenTech BluPrint™ PVD coating often exhibit excellent thermal stability, making them suitable for applications involving elevated temperatures during the soldering process. This stability helps maintain stencil integrity and performance under demanding manufacturing conditions.

04

PHYSICAL INERTNESS

The Physical inertness of StenTech BluPrint™ PVD coating makes them resistant to reactions with solder paste and other process Physicals. This resistance contributes to the longevity of the stencil and ensures consistent performance over time.

05

ANTI-STICKION PROPERTIES

StenTech BluPrint™ PVD coating can provide anti-stickion properties, reducing the likelihood of solder paste sticking to the stencil. This is particularly important for preventing defects such as solder bridging, ensuring clean and accurate paste transfer onto PCBs.

06

SMOOTH SURFACE FINISH

StenTech BluPrint™ PVD coating typically results in a smooth surface finish on the stencil. A smooth surface minimizes friction during the printing process, facilitating better release of solder paste and improving the overall quality of printed solder joints.

07

CUSTOMIZABLE PROPERTIES

StenTech BluPrint™ PVD processes allow for the customization of coating properties such as thickness, hardness, and composition. This flexibility enables manufacturers to tailor the coating to specific requirements, optimizing stencil performance for diverse applications.

08

CONSISTENT PRINT QUALITY

StenTech BluPrint™ The combination of uniform coating thickness, durability, and other properties ensures consistent print quality over multiple production cycles. This is essential for achieving high-yield and reliable SMT assembly.

