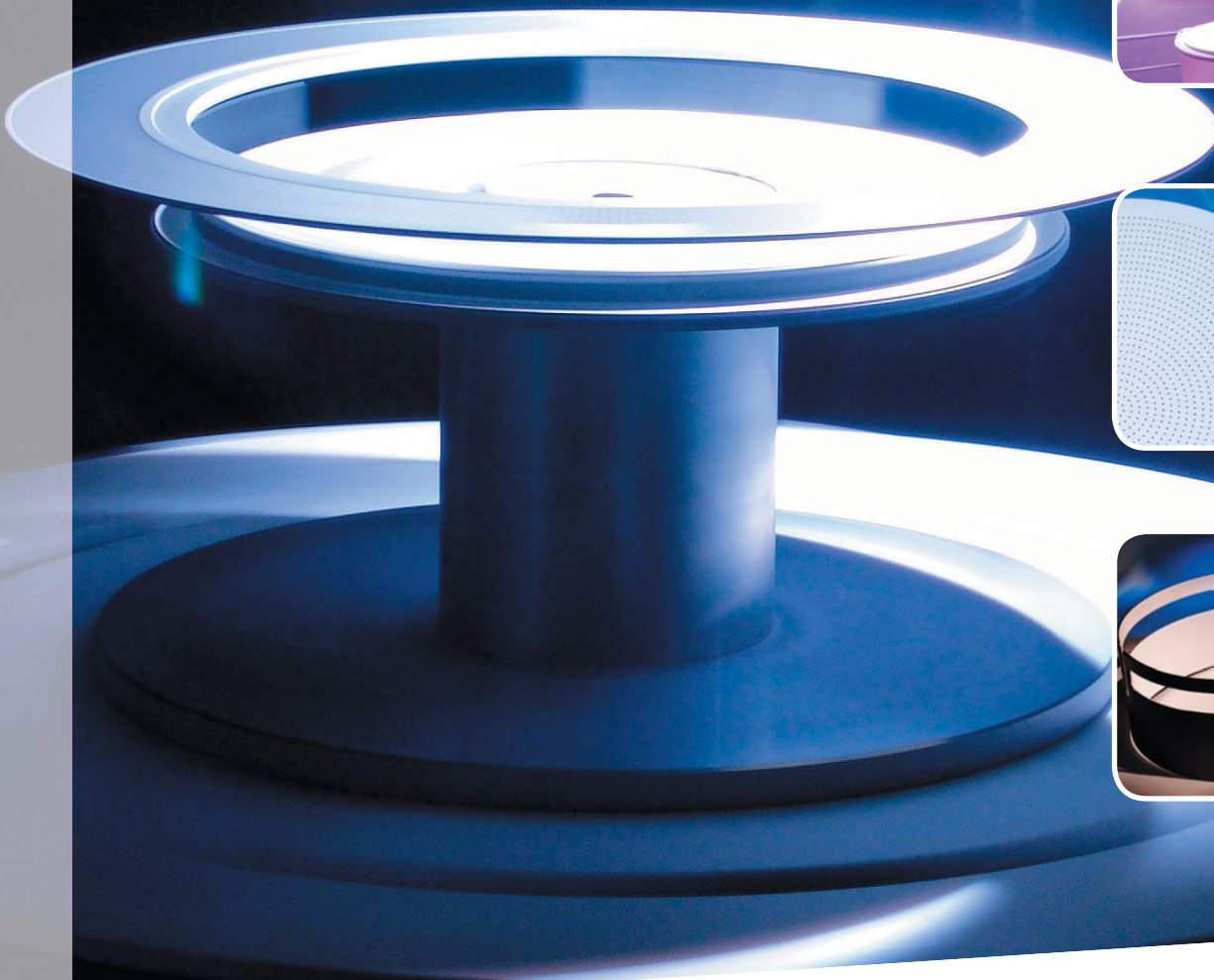


# Plasma Thermal Spray



advanced  
coatings

cleaning and  
refurbishment

original parts  
manufacturing

quality  
assurance

# PLASMA THERMAL

## Advanced Coatings

### Plasma Thermal Spray

NxEdge is a world-class supplier of plasma/thermal spray applications for the semiconductor industry. Over the past 12 years, we have developed and refined our processes and capabilities to address critical industry applications.

**CAPABILITIES** NxEdge is committed to supporting our customers through continuous investment in our capabilities. We currently feature:

- Application-targeted coatings built to customer specifications
- Innovative plasma process engineering
- In-house expertise on advanced materials development and qualification
- State-of-the-art equipment, including plasma process metrology, with engineered redundancy for repeatability and control

**ENGINEERED MATERIALS** NxEdge develops plasma and twin-wire arc spray processes. Our highly skilled team is constantly engaged with customers and other strategic partners to deliver plasma thermal spray coatings that maximize yield and reduce the cost of ownership. Materials currently engineered and developed in-house include:

- *Ceramics:*  $Y_2O_3$ ,  $Al_2O_3$ , SiC and Si
- *Metals:* Al, Ti, Sn, Mo, Ag, etc.
- *Metal Alloys:* Stainless Steel and Bronze
- *Specialty Materials:* TiOx

**SPECIALIZATION** NxEdge specializes in "yttria" ( $Y_2O_3$ ) and alumina ( $Al_2O_3$ ) coatings for major OEM customers. NxEdge is a licensed supplier of the patented yttria coating technology, which minimizes particulate levels to result in better device yields and lower production costs. We also support end-use customers through plasma spray application services, such as revitalization of Applied Materials DPS chambers.

### Analytical Capabilities

- Hitachi S3000N Scanning Electron Microscope
- Oxford Instruments' Energy Dispersion X-ray (EDX) Spectrometer for elemental analysis
- A network of certified partner labs for quality controls: ICP-AES and GDMS
- Comprehensive analytical testing and controls:
  - Electrochemical Impedance Spectroscopy (EIS)
  - Nikon Optical Microscope
  - Buehler Micro Hardness Tester for Knoop & Vickers
  - Profilometers
  - Rockwell Tester
  - Tensile Adhesion Pull Tester

### Equipment

- Sulzer Metco Unicoat Thermal Plasma Spray System: F4 Plasma Spray Gun
- Sulzer Metco 9 MB
- Sulzer Metco Smart Arc
- GMF S-700 and S-420A Fanuc
- Six Axis Robots with custom manipulators for quality and repeatability
- Multiple Miller SG-100 Thermal Spray Systems
- Briggs Thermal Spray System
- Accuraspray by Technar for critical production process monitoring
- Closed Atmospheric Reaction Chamber (CARC) Generation III & IV
- Miller Twin Arc Wire Spray Gun
- Flame A 1400 Twin Wire Arc Spray Gun

### Quality Assurance & Engineering

As an ISO-certified facility, we are committed to meeting the high quality standards that our customers demand. Novel coatings, specialized hardware engineering, process design and optimization, and materials science R&D are all part of our ongoing efforts to provide flexible solutions.