DE NORA DT^M Anodes

Printed Wiring Board Plating





1:1 Surface to through-hole performance

DE NORA DT[™] Anodes:

- Provide high quality, long life performance
- Offered in both standard and custom fabricated designs
- Improve straight line throwing power
- Copper metal plates deep into high aspect ratio holes and blind vias

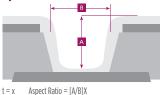
Performance advantages

- Improved Copper Plating Distribution
- 1:1 Surface to Through-Hole Uniformity
- Elimination of Nodules & Surface Sanding
- Elimination of Anode Sludge
- Improved Yield
- Eliminates Tedious Anode Maintenance
- Safer Operation with Light Weight Titanium Anodes
- Ability to Operate at Increased Current Density

DE NORA DT[™] Anodes have been specifically formulated to maintain the stability of organic plating bath additives. Operation with DE NORA DT[™] anodes provides additive consumption equivalent to soluble anodes.

Throwing Power as a Function of the Deposition Time





t = 0 Aspect Ratio = [A/B]0

Uniform current distribution plays a role in via filling. Control of the current density profile, possible with DSA[®] anodes, can help meet via filling requirements in production.

DE NORA





Trivalent Chrome Plating

• Improved metal plating distribution and ease of maintenance with light weight titanium structures.

Gravure Cylinder Plating

• Better plating distribution, eliminates sludge and nodules and improves maintenance.

DE NORA DT™ anodes versus Soluble Anodes		
	DE NORA DT™ Anodes Commercial Bath S	Soluble Cu Anodes Commercial Bath S
Anode Sludge	None	Yes
Nodules	None	Yes
Dummy Plate	No	Required
Solder Float Pass	>10X	>10X
Tensile KPSI (RT) (125° C)	Pass IPC Spec	Pass IPC Spec
% Elongation (RT) (125° C)	Pass IPC Spec	Pass IPC Spec
Brightener mI/AHr	0.32	0.33
Bath Additive Make Up	0.1% Brite 1% Carr	0.1% Brite 1% Carr
ASF	16.2	16.2

Our Commercial Experience

"We at Electrotek have commercially operated DE NORA DT[™] anodes in our automated vertical plating line for 36+ months. The benefits that we've seen using DT[™] anodes include; enhanced high aspect 15:1 through-hole plating, improved copper plating distribution, increased board throughput, ease of Plating operation and reduced maintenance."

Julie Ahlstrom Process Engineering Electrotek Corporation



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marketing@denora.com

www.denora.com

