MEC PCB Solutions from Uyemura:

Global leadership in the interface treatment of electronics components

MEC PCB Surface Treatments

MEC offers world class products for PCB surface treatment. Most products are designed to promote adhesion of organic based material such as dry film, soldermask or laminate, to the copper surface. Other than FlatBOND GT, these products are based on varying degrees of micro-roughening for the intended application. Dry film requires sufficient roughening for fine line definition and must also be strippable. Soldermask adhesion is permanent, and the highest level of adhesion is required for multilayer lamination.

For dry film and soldermask adhesion applications, MEC offers three distinct chemistries:

1. Organic acid based, EtchBOND CZ-2030
2. Nitric acid based, EtchBOND CZ-5480
3. Hydrogen peroxide based, MECBRITE CB-5002C

The different chemistries are required to meet customers' equipment compatibility needs and local environmental regulations.

For lamination (black oxide replacement) MEC offers:

- **Hydrogen peroxide based, V-BOND 7710**

For high frequency (25GHz+) applications:

- **FlatBOND GT; chemical bonding / no micro-roughening**

MEC also offers application-specific products, including PowerEtch HE-7000, MEC V-Bond, DIRECT DL-7800 Series, Post-Treatment, and MEC REMOVER NH 1866.

For surface copper thickness reduction:

- **PowerEtch HE-7000**

For selective nickel etching:

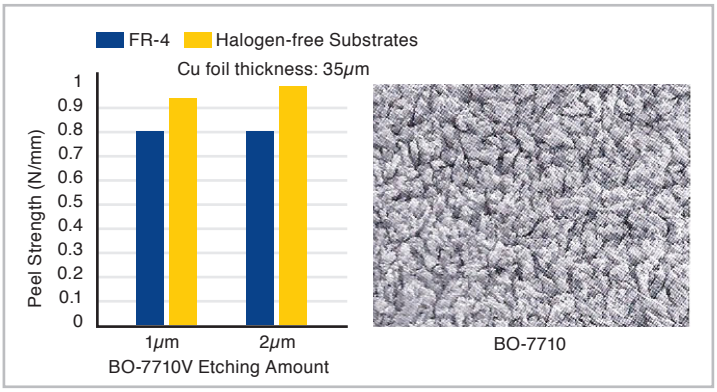
- **MEC REMOVER NH-1866**

For copper splash removal from CO2 laser vias:

- **MEC V-Bond DIRECT DL-7800 Series**
- **MEC V-Bond DIRECT Post-Treatments**

V-BOND 7710

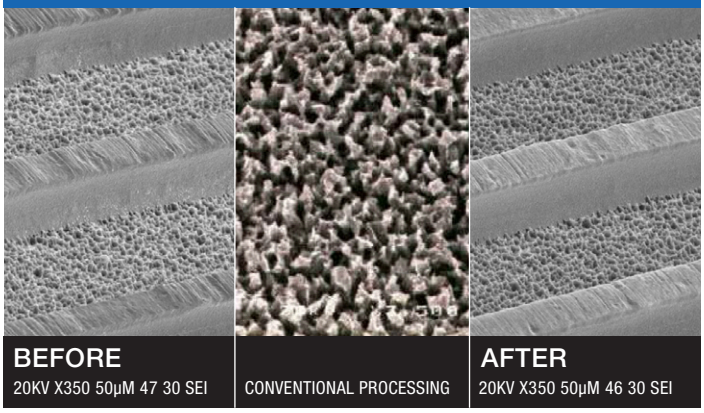
V-BOND 7710, a peroxide / sulfuric microetchant, is a "black oxide" alternative. V-BOND 7710 has the highest peel strength in the industry for FR-4, Tg and Halogen-free material. It has high copper holding capacity for reduced waste and is ideally suited for conveyor applications.



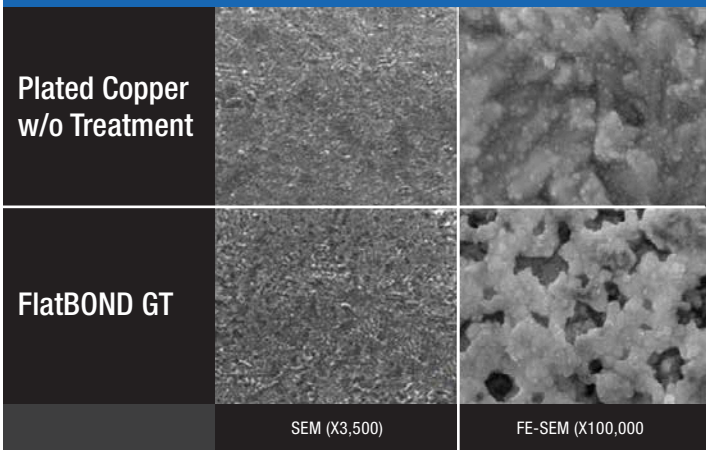
FlatBOND GT

FlatBOND GT produces a chemical bond between a flat copper surface and low dielectric resin. There is no micro-roughening, which would produce signal loss in high frequency (>25 GHz) applications. It is an elite alternative for “next gen” applications that require higher speeds and frequencies.

FlatBOND Preserves Signal Strength By Maintaining Original Topography



Surface Topography by FE-SEM



PowerEtch HE-7000

PowerEtch HE-7000 is peroxide / sulfuric etchant designed for the uniform reduction of laminate copper thickness. It is a highly effective pretreatment for fine pattern applications.

MEC REMOVER NH-1866

NH-1866 is a selective nickel etching solution that removes nickel without attacking the underlying copper.

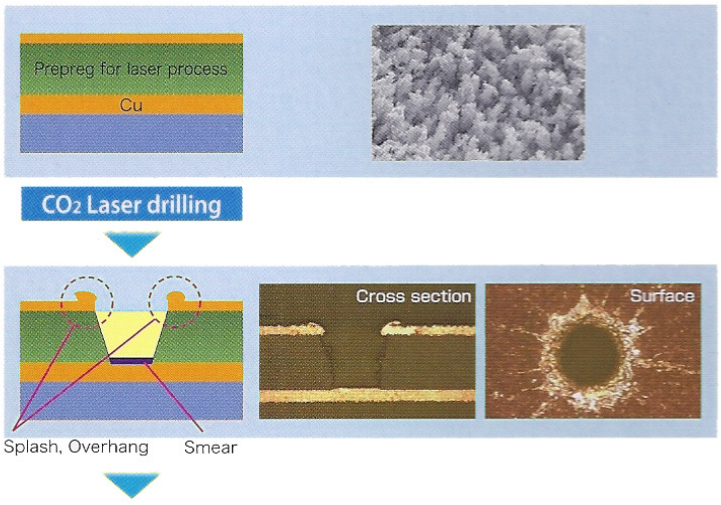
MEC V-Bond DIRECT DL-7800 Series

DL-7800 is an H2SO4-H2O2-type microetching pretreatment for CO2 laser direct drilling. DL-7800 allows the use of low drilling energy; the process also prevents copper splash or overhang, as well as damage to the bottom of the via holes.

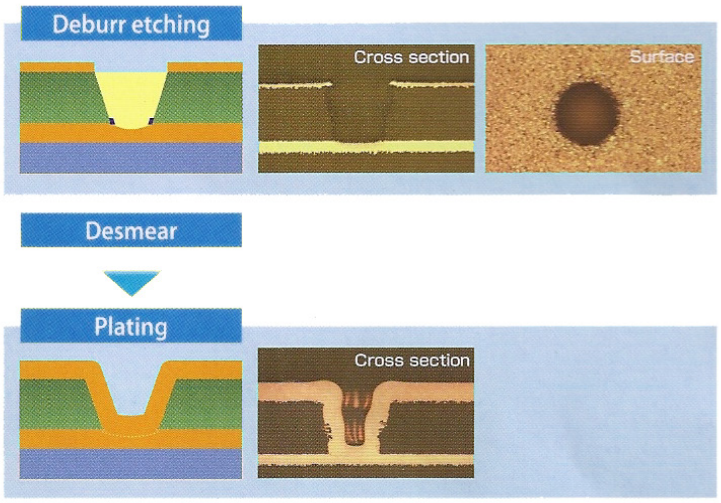
MEC V-Bond DIRECT Post-Treatment

V-Bond DIRECT Post-Treatment is a microetching agent that effectively removes copper splash and burr produced by CO2 lasers.

Pretreatment of CO2 Laser Direct Drilling

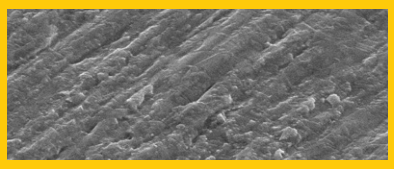
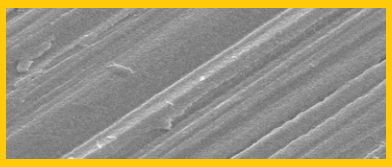
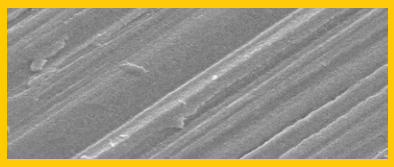
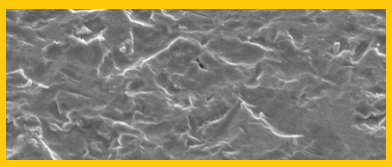
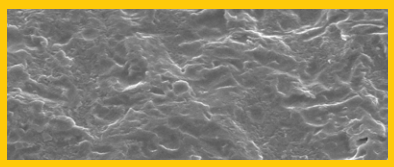
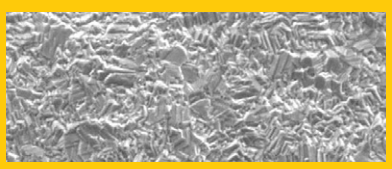
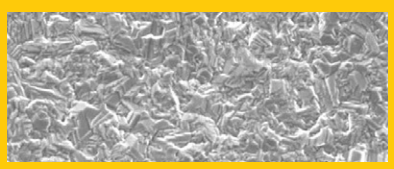
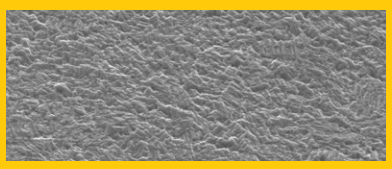
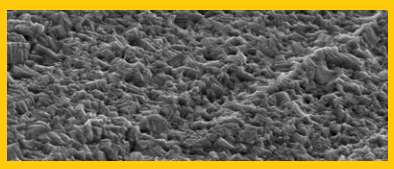


Post-Treatment of CO2 Laser Direct Drilling



Laser Direct Drilling Machine
: MITSUBISHI ELECTORIC CORPORATION/ ML605GTWⅢ5200U

MEC Products Optimize Copper Surface Topography

	Plated Copper	Copper Foil
Unprocessed		
Brush Scrub		
Pumice		
CZ-2030		
CZ-5480		
CB-5002		

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