

Laboratory & Production Equipment

PROCESSES & EQUIPMENT for the
 ELECTRONIC Industry -
 CERAMICS Industry -
 BATTERY Industry -
 DISPLAY Industry -
 CONVERTING INDUSTRY
 Coating & Lamination -

Display Industry

▶ [Liquid crystal](#) film, glass substrate, coating and lamination. Table top laboratory to pilot production equipment, suitable for thin coatings on flexible and rigid substrates.

Narrow web Survey

▶ [Coating - Lamination Survey](#) Review Table of Contents & Survey information. Coating Information: Methods, Lay-down, formula, Slot Spec. Coating parameters form, Pump. Typical. system block diagram

Electronics Industry

▶ [Ceramic thin & thick film](#) processing equipment. Multi-layer ceramic process equipment and systems, mixing, casting, blanking, printing, lamination, termination

Check Specific Sections for Details



Press control panel



Registration punch



Screen Printer



Print Dryer



Ceramic Bar Cutter



Mixing Canisters



Clean Room Coater



Press Control panel



Ceramic Caster



Kilns



Vert. Coater



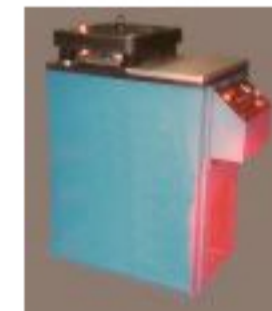
Rotary Printer



1M Slot Die



Terminator



150 Tons press



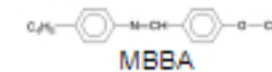
Custom Ceramics



30cm Slot Die Coater



Segmented Die



Dryer Box



Multifunction Coater



Simple Screen Printer



Small Punch



Complex Registration Laminator

Coating Equipment



▶ [Multi-purpose coater Development Coater](#)



▶ [100% Solids coater laboratory coater](#)



▶ [Table Top Coater](#)



▶ [Flat Bed glass or plastic film coater](#)



▶ [Clean Room table lam coater](#)



▶ [12cm Slot Die System](#)



Laminators with systems



▶ [One Meter Slot Die applicator](#)



Clean Room



Pilot Plant Systems

Electro Optical Testing



▶ [Photometric testing](#)



Detailed information on equipment

Laboratory Scale Development Systems, Coating & Laminating

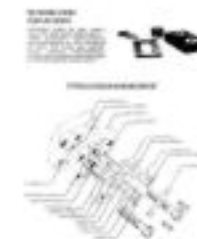
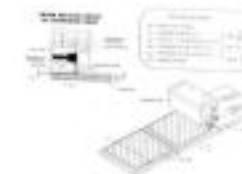
- ▶ [Table top Evaluation. \(10cm\)](#)
- ▶ [100% Solids Systems \(30cm\)](#)
- ▶ [Solvent & water based systems](#)
- Multifunctional [Clean Room coater](#)

Pilot Production Systems Coating & Laminating

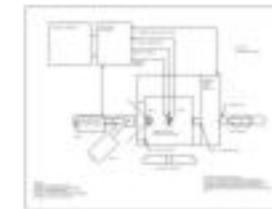
- ▶ [30 cc Slot Die Coating Installation](#)
- ▶ [1 Meter wide Slot Die Coating](#) ▶ [Installation](#)

Electro-optical Testing

- ▶ [Comparison, Characterization System](#)



▶ [Coating Info & Specification](#)



Contact Information

- ▶ [Contact](#)

To get a quote or additional information

Systems

Downloadable System Brochures as Acrobat PDF file (by request)

Installations

Photos, see specific section

Photo Archive

request additional information



Installation ▶ [more...](#) photo and information

Ceramic Processing Equipment, thin & thick film

Ceramic processing Equipment



▶ [Mixing](#)



▶ [Casting Caster2](#)



▶ [Blanking](#)



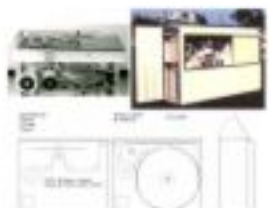
▶ [Printing](#)



▶ [Drying](#)



▶ [Drying](#)



▶ [Rotary Printing](#)



▶ [Transfer Press](#)



▶ [Cutting - Dicing](#)



▶ [Termination](#)



▶ [Punching photo2](#)



▶ [System Diagram](#)



Ceramic Components made



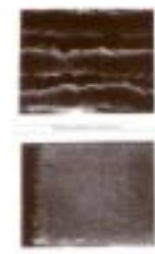
▶ [Tubular Ceramics](#)



▶ [Ferrites](#)



▶ [High count multi-layers](#)



▶ [High Voltage](#)



▶ [Fuse Devices](#)



▶ [Printed 2 mil line and spaces](#)

Contact Information

▶ [Contact](#)
To get a quote or additional information

Systems

▶ [Down / view files](#)

▶ [Equipment & manuals](#)

Installations

▶ [P3x System Installation](#)

Photo Archive

▶ [Equipment and systems](#)

White Papers

▶ [How tape transfer works brief](#)

▶ [Tape transfer overview](#)

▶ [Throughput Study](#)

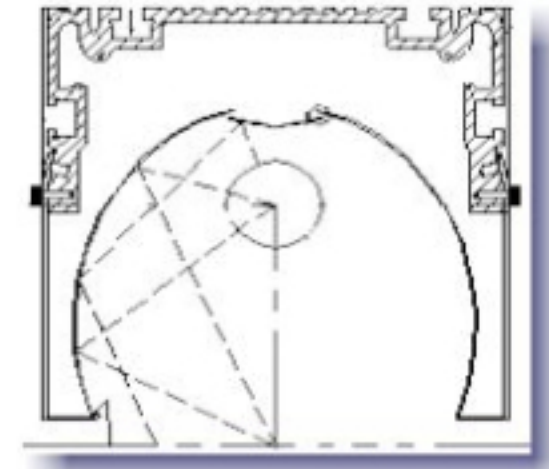
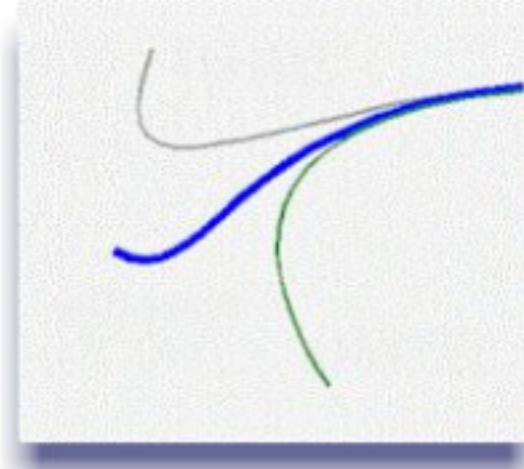
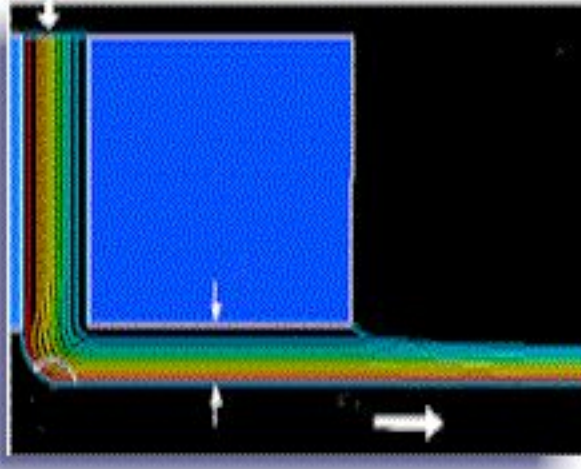
Links

▶ [Ceramic Industry - Directories](#)

▶ [The American Ceramic Society](#)

▶ [Ceramics and Minerals](#)

▶ [Virtual Library Ceramics](#)



COATING

JOINING

CURING

Industry Coating & Laminating Equipment Survey

The survey takes a fresh look at equipment available for coating and laminating thin and thick film materials onto various substrates.

TABLE OF CONTENTS

Report

- Objectives
- Methods

Equip. Resources

- Categories
- Research Reference
- Applicators & Slots
- Coating Centers & Academic
- Dir Org & Trade Group
- Dryers & UV
- Equip Curtain Coater
- Equip Medical
- Equip Narrow web
- Equip Parts & Specialty
- Equip Used
- Equip Wide web
- Laboratory
- Laminator Roll
- Materials
- Printing
- Table top
- Toll Coaters Slot die

Component Costs & Comment

- Slot Die Applicator
- Precision pump stations
- Mounting & Positioning
- Dryers
- Rewinds/Unwinds
- Controls - Drives
- Instrumentation
- Vendors - Prices - Comments
- Price Comparisons

Vendor - Choice - Pros - Cons

- Feature Comparisons

Recommendations

- Primary
- Secondary

Equip. WebLinks

- Internet links list

Summary

- Narrow web equipment
- Lab and Wide web equipment
- Toll Coaters

Appendix

- Photos
- Industry Links
- Converter Capabilities
- Converter Industry Link
- Converting links
- CMM

end of TOC

Request additional Information on site contact page

technology equipment process

[Home](#) [About](#) [Contact](#) [LCD](#) [Ceramic](#) [Converting](#) [Survey](#)

Contact

Process, Equipment, Design & Production

What we do

Engineering and Design professionals whose talents range electronics components to the flat panel display industry providing technology consulting, equipment, processes, and product development.

How we do it

We provide our principals with professional sales, customer service and rapid communications, equipping our many customers with technical solutions and development.

Contact Us

With your requirements, and visit our web pages to see descriptions of the products we make.

▶ [Prior projects](#) < click link to review

Request Additional information

[Click here to send email](#)

Call 760 509 8989 in the USA

Ceramics Multi-layer electronic

Flat Panel Display Liquid Crystal Technology

Ceramic projects include:

- SPECIALIZING IN CERAMIC DEVICE PROCESS DEVELOPMENT AND EQUIPMENT FABRICATION
- MULTILAYER CERAMIC CAPACITOR LINES IN 14 COUNTRIES
- OVER 100 CERAMIC TAPE CASTING MACHINES PRODUCED
- SEVERAL PRODUCTION LINES FOR CERAMIC IC PACKAGING
- R&D PROGRAMS FOR A WIDE VARIETY OF CERAMIC DEVICES

Equipment developed & produced

- Ceramic tape casters large and small
- Lamination presses 30 to 400 tons
- Screen printers of all kinds
- CNC Capacitor dicing machines
- CNC VIA Punching machines
- Automatic sequencing and stacking machines
- Electrode coaters for battery production
- Roll mills for ceramic processing

A partial list of Clients:

- US. Army - miniature high voltage energy storage capacitors
- General Electric - Equipment for mfg. of Medical transducers
- Motorola - Unique process line for cellular phone parts
- Westinghouse - Process for integrated capacitor / MCM
- Astek Industries - Cap array substrate for cellular phone
- EG&G - high power hermetic semiconductor package
- Quantic Ind. - Electronic Detonator capacitors
- Martin Marietta - Very High Voltage pulse capacitors
- Cordis Pacemakers - Implantable defibrillator capacitor
- Navy China Lake - Detonator capacitors
- ITT Cannon - Connector filter capacitors
- Dupont - Very thin tape casting process and equipment
- Alcoa - Tape casting Process equipment
- Kent State Univ. - Film coater for liquid crystal panels.
- Ferro Transelco - Process development for thin dielectric capacitors
- NEC - Electrode coating process for Lithium batteries
- Silicon Video - Process for very high density MCM production
- Du Pont- Chambers Works
- Du Pont research triangle
- Alcoa Tech Center
- Electro Science Labs
- Palomar Systems
- Moli Energy Limited
- Westinghouse
- Kemet Electronics

Display technology and market Projects:

Type	Product	Project
Multi-client study	HDTV digital evolution and opportunities	Market & technology survey
Multinational development company	Head-set display development	Technology, equip. & processes
Client Study	Opportunity assessment coated glass substrates	Market & technology survey
Client Study	Portable Communication	Market survey
Client Study	Personal Display markets	Internet site & databases Micro- & tech. display tech.
Academic Research & Development, LC mat.	Multi-functional lab coating & lamination	Manufacture & installation of lab system
European Window Manufacture	LC materials for dynamic windows	R&D development of new LC prototypes
Flat screen development company	Electro-optical test equipment	Custom manufacture. Testing system.
Multinational components company	specialized substrates for electronic materials	Business development assessments
Flat panel display company	Flat panel display	Business development and Sales
National Laboratory	Ceramic substrates and components	Technology development
Multinational Toy company	Novel flat panel display products	Technology & business development
Multinational materials Company	Large area switchable film products	Process development and equipment
European multinational	Environmental testing program development	Custom equipment and development strategies
Multi-national products company	3-dimensional products development	Technology development
Multi-national products company	LCD project device	Technology development
Multi-national products company	Laboratory development	Technology development electro-optical materials
Electronics components company	Multi-color LCD displays	Technology & business development

- National Semi
- Fiat
- DARPA
- Pilkington
- Western Publishing
- StereoGraphics
- Digilens
- Canon
- HP
- GE
- GM
- 3M
- Rohm & Haas
- LCI