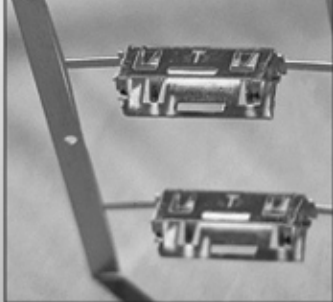
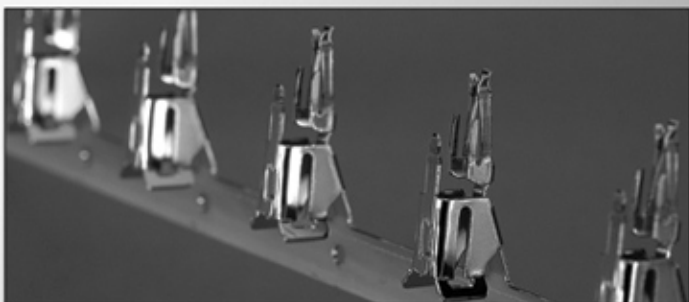
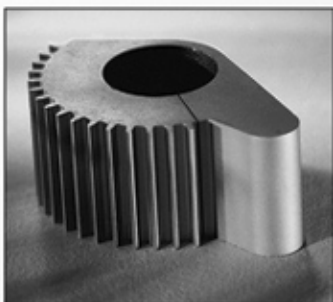
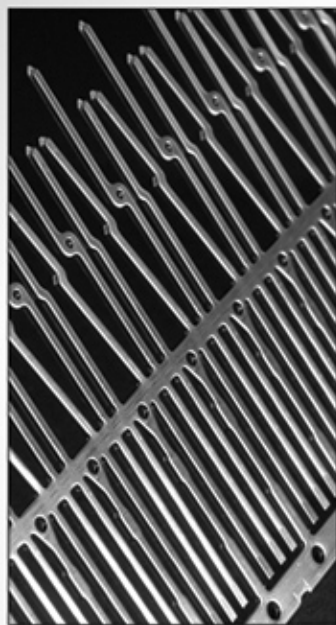
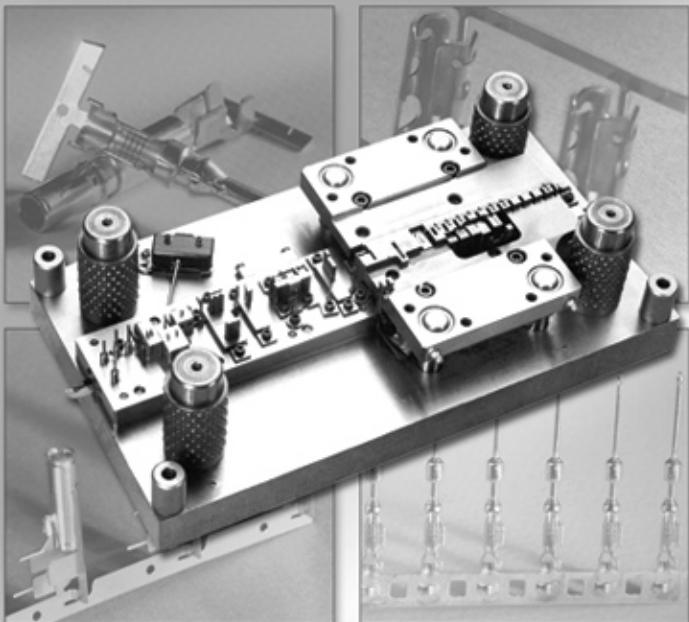
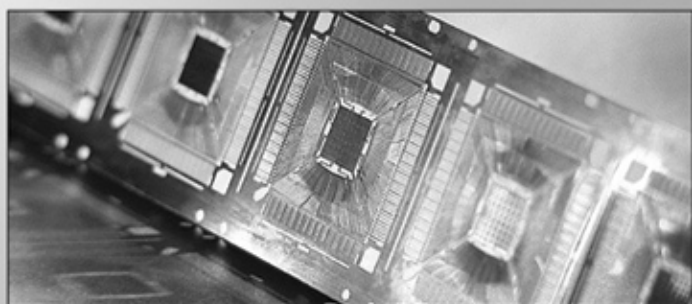


COMPOSIDIE

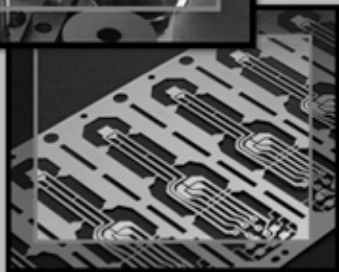
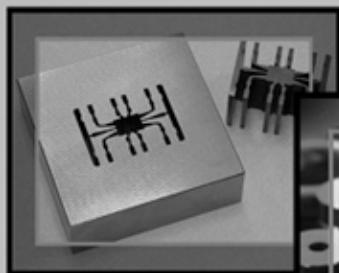
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WORLD-CLASS
PROVIDER OF
MANUFACTURING
SOLUTIONS



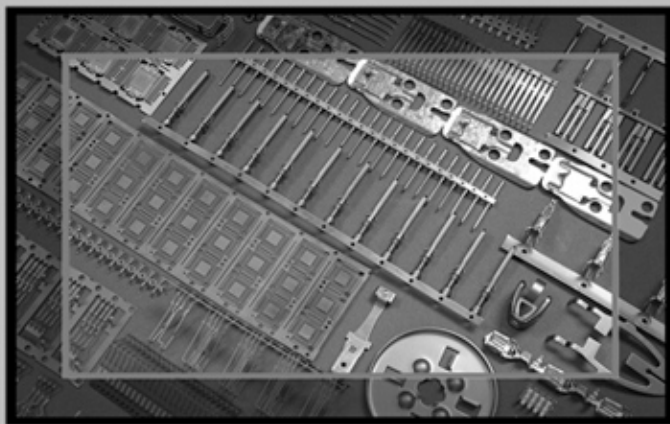
In today's global marketplace, you need a **STRATEGIC PARTNER** that combines the flexibility and attention to detail of a small manufacturer with the convenience and cost benefits of a full-service market leader.



VERTICAL INTEGRATION

allows Compositdie to shorten the supply chain by offering complete in-house manufacturing services including:

- ✓ Custom **ENGINEERING & PRODUCT DESIGN**
- ✓ Rapid **PROTOTYPING** ✓ Precision **GRINDING & MACHINING**
- ✓ Carbide **PROGRESSIVE DIES** ✓ Forming & **STAMPING TOOLS**
- ✓ High-Speed **METAL STAMPING** ✓ Reel-to-Reel **ETCHING**
- ✓ Reel-to-Reel **PLATING** ✓ Automated & Manual **IN-DIE ASSEMBLY**



A shorter supply chain cuts out hassles and "finger pointing" while saving you time and money.

At Compositdie, experience, technology and **INNOVATION** fuel our engineering and product design capabilities. Tap into our manufacturing expertise in any combination your solutions require and experience the power of vertical integration.

THE COMPOSITDIE FAMILY OF COMPANIES

Compositdie started designing and building progressive carbide stamping dies in 1971 with three employees. Four decades of growth including internal expansion and the addition of independent companies with established reputations as leaders in their fields have made Compositdie the full-service manufacturing leader it is today. Our winning team features:

CTE INC.

Specialty: Die Design & Build; High-Speed Stamping

EDM SERVICES INC.

Specialty: High-Precision Machining, Grinding & Wire/EDM

LEADING TECHNOLOGIES INC.

Specialty: Reel-to-Reel Etching & Plating; Product Finishing

TOOLEX MANUFACTURING

Specialty: High-Precision Machining, Grinding & Wire/EDM

Each outstanding in its own specialty, these companies work seamlessly with Compositdie to meet our clients' every need.



COMPOSIDIE INC

1295 Route 380, Apollo, PA 15613-9658

Phone: (724) 727-3466 Fax: (724) 727-3788

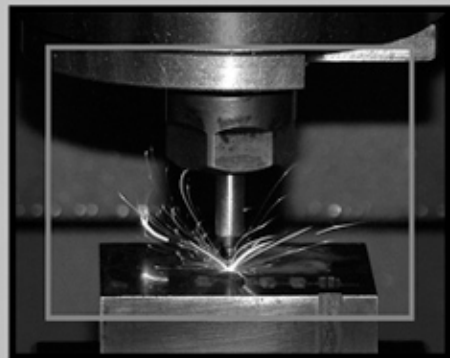
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MACHINING ♦ TOOLING ♦ STAMPING ♦ ETCHING ♦ PLATING ♦ ASSEMBLY

PRECISION MACHINING & GRINDING

Composidie Inc. has multiple precision machining and grinding capabilities spread across our various divisions. Our Journeymen toolmakers and grinders average 20 years of experience.

We are staffed and equipped to handle high-volume die programs, spare part orders and highly specific production machining opportunities as well as miscellaneous tooling requests.



QUALITY EQUIPMENT

The Composidie family of companies maintains a wide variety of capable equipment ready to meet your needs including more than 100 grinders (surface & jig) and more than 30 EDM machines (wire, CNC & conventional).



QUALITY MATERIALS

- Magnesium
- Precious Metal Alloys
- Stainless Steel
- Compact Powder Metals
- Tool Steel
- Aluminum
- Carbide
- Ceramics
- Titanium
- Inconel

THE RIGHT TOOLS FOR THE JOB

Our water jet reduces lead time, cutting materials up to four inches thick. A CNC milling job that might otherwise take hours takes the water jet only minutes. If your tooling application requires a higher level of precision and innovation, we'll design and build tools in-house to your exact specifications.

ACCURACY & CLOSE TOLERANCE

Composidie ensures precision accuracy up to ± 0.00001 " (0.00025 mm).





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PRECISION HIGH-SPEED PROGRESSIVE DIES

Composidie specializes in the detailed design and manufacture of high-speed progressive dies. Highly trained professional tool and die makers with more than 20 years of experience utilize our precision manufacturing resources to produce the highest quality progressive dies to exacting standards and tolerances.

The Composidie advantage includes:

- In-House Stamping
 - Allows for Constant Performance Feedback
 - Leads to Any and All Needed Improvements of Die Design
- Carbide and High-Speed Steel Cutting and Forming Components
- Capability of Building Steel Tools
- Flexibility to Design to Customer Standards
- Assistance With Part Development

SOFTWARE

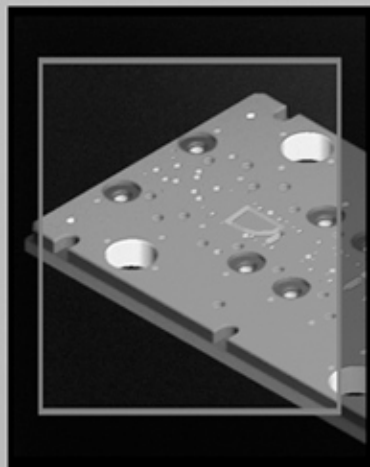
Updated SolidWorks, Auto CAD and Visionael programs allow us to design in, work with, import and export all common file formats.

EXPERIENCE

- High-Speed, Progressive Stamping & Forming Dies
- High-Speed Bandolier Dies
- Compound Dies
- Assembly Dies
- Prototype Dies

ADVANCED TECHNIQUES

Composidie has the ability and experience to utilize state-of-the-art techniques in computerized feedback & tracking, in-die monitoring and in-line post-stamping processing.



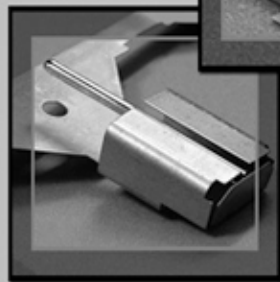
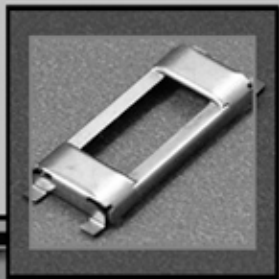
RAPID PROTOTYPING & ENGINEERING

Experience, technology, and innovation fuel our engineering and product design capabilities.

We engineer custom prototyping solutions to fit our customers' volume requirements. With Composidie's broad engineering support, we excel at becoming involved on the front end and assisting in product development from prototype through each step of production.

Our array of capabilities include:

- Etched Parts
- Prototype Tooling
 - Class B & C Designs Utilizing Standard Die Sets
 - Single Station Mock-Up Tooling
- Wire EDM
- Water Jet





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HIGH-SPEED STAMPING & FORMING

Composidie's 80 presses in three facilities make the stamping possibilities virtually endless. Our presses run up to 1,800 strokes per minute. With both reel-to-reel and loose-piece stamping capabilities, we are sure to be the right fit for any job.

CAPABILITIES

- High-Speed Production (Up to 1,800 Strokes/Min.)
- Progressive, Compound, and Bandolier Tools
- Journeyman Tool & Die Makers on Site

MATERIALS

- Aluminum
- Nickel
- Copper
- Brass
- Steel
- Titanium
- Nickel Silver
- Beryllium Copper
- Phos Bronze
- Stainless Steel

EQUIPMENT

We have 80 high-speed stamping presses to meet every need. Each of Composidie's stamping facilities can utilize cost-effective dies for short-run, low-volume projects as well as high-speed dies designed for high-volume production.

Our inventory of presses includes:

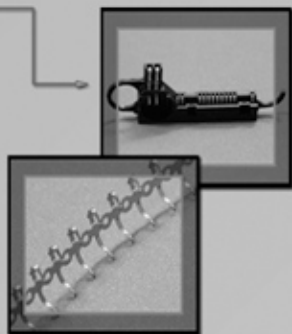
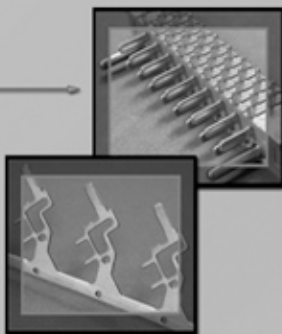
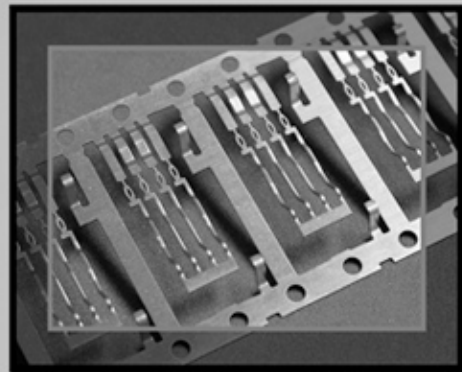
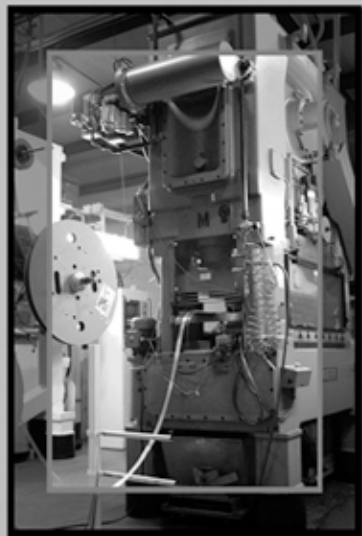
7 90-Ton Bruderers	10 22-Ton Bruderers	16 Gap Frame Presses
4 75-Ton Bruderers	2 18-Ton Bruderers	1 380 Bruderer
12 60-Ton Bruderers	10 16-Ton Bruderers	1 80" Double Bed Bruderer
13 30-Ton Bruderers	4 Mini Bruderers	

MARKETS WE SERVE

Products and services produced by Composidie are used in a diverse variety of industries. Each industry brings a unique product emphasis and requirements. This broad range of experience allows us to bring a creative approach to your specific product requirements.

- Automotive
 - Right-Angle Pins
 - Dual-Diameter Bandolier Pins
- Medical
 - Bone Plates
- Consumer
 - Lighter Components
- Military & Aerospace
 - Contact Blades
 - Tool Tips
- Electronics
 - Eye-of-the-Needle Contacts
 - TPS Terminals

- Telecom
 - Cell Phone Battery Terminals
 - CAT 6 Terminal Jacks
 - 25-Pin Connectors
- Computer
 - PCM CIA Contacts
 - IDC Contacts
 - S.O. Dim Latches
- Semiconductor
 - Heat Sink Leadframes
 - High-Pin-Count Leadframes
- Appliance/White Goods
 - Switch Contacts





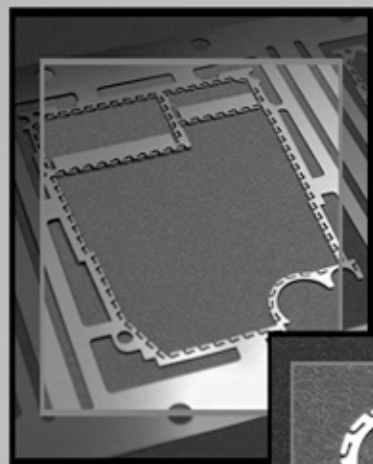
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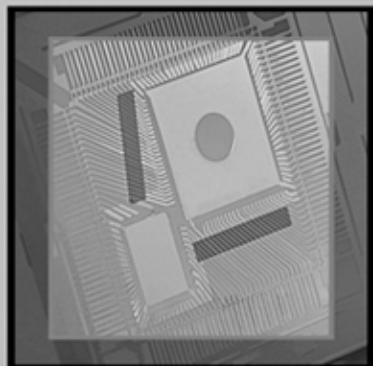


REEL-TO-REEL CHEMICAL ETCHING

Chemical etching is a low-cost alternative to stamping tools utilized for prototyping and low-volume production. Composidie can support your production requirements with our Leading Technologies, Inc. etching facility.

We offer:

- High-Speed, Continuous Process
- Non-Contact Glass Mask
- 0.002" to 0.025" Thick Materials
- Dry Film Type Photoresist
- Automated vision alignment system for exposure assures +/- 0.0005" (0.0127mm) offset mismatch
- Accurate unit-to-unit progression tolerance of +/- 0.001" (0.025mm)
- Leadframe, Connector, RF/EMI Products
- Major benefit in prototyping designs due to inexpensive tooling costs and shorter lead times



ETCH DESIGN GUIDELINES

Material Thickness	Typical			Advanced		
	Minimum Channel Size	Minimum Hole Size	Minimum Radius	Minimum Channel Size	Minimum Hole Size	Minimum Radius
.003"	.0029"	.0059"		.0026"	.0053"	
.004"	.0034"	.0064"		.0031"	.0058"	
.005"	.0039"	.0068"	.0046"	.0035"	.0062"	.0040"
.006"	.0046"	.0074"	.0057"	.0039"	.0067"	.0050"
.007"	.0049"	.0079"		.0044"	.0072"	
.008"	.0052"	.0084"	.0068"	.0047"	.0076"	.0060"
.010"	.0062"	.0095"	.0069"	.0056"	.0086"	.0065"

Note: Each product's features must be evaluated individually. This chart is only intended to provide capability guidelines.

Typical Material Thickness: .005" to .010" | Top-to-Bottom Mask Registration: .0005" Maximum
 Advanced Material Thickness: .002" to .004" & .011" to .023"
 Unit-to-Unit Progression Tolerance: +/- .001" | Strip Pitch Tolerance: +/- .002"
 Maximum Stair Step Tolerance: .0015" | 1/2 Etch Depth Tolerance: 30% to 60% of Material Thickness
 Min. Part (Strand) Width: .500 +/- .002" | Max. Part (Strand) Width: 5.000 +/- .002"

ETCH TOOLING GUIDELINES

Mylar Tool	vs.	Chrome/Glass Tool
Low Cost ----- Best for Low-Volume Production ----- Fast Delivery (2-3 Days) ----- Geometry Confirmation Prior to Chrome Tool	PROS	Permanent ----- Best for High-Volume Production ----- Highest Precision & Accuracy ----- Greatest Clarity/Flatness
Scratches Easily ----- Not Capable of Highest Resolution (Accuracy) ----- Less Stable (Guaranteed for 1500')	CONS	Higher Cost ----- 1-Week Leadtime
We can provide the right tool for every job!		



Workers utilize a Class 1000 clean room for exposing dry film photoresist in the etching process.



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REEL-TO-REEL CONNECTOR & LEADFRAME PLATING

Composidie can support your production requirements with our Leading Technologies, Inc. plating facility.

We are RoHS compliant.

Process Chemistry	Selective Plating Tool Type				
	Overall	Selective Stripe	Selective Brush	Selective Spot	Selective Depth
Gold (Hard & Soft)	Yes	Yes	Yes	Yes	Yes
Palladium	Yes	Yes	Yes	Yes	Yes
Palladium/Nickel Alloy	Yes	Yes	Yes	Yes	Yes
Silver	Yes	Yes		Yes	Yes
Tin (RoHS)	Yes	Yes		Yes	Yes
Tin/Lead Alloy	Yes	Yes		Yes	Yes
Nickel	Yes	Yes			Yes
Nickel/Cobalt Alloy	Yes	Yes			Yes
Electrolytic Nickel Phosphorus	Yes	Yes			Yes
Copper (Acid & Cyanide)	Yes				Yes
Black Trivalent Chrome (RoHS)	Yes				
Electropolish or Microetch	Yes				

EQUIPMENT

- 11 Continuous Plating Lines (20 Strands) with Selective Capabilities
- Laboratory Plating Capable of Producing Prototype Samples

CHEMISTRY TYPES

- Gold (Hard & Soft)
- Palladium
- Palladium/Nickel Alloy
- Silver
- Tin
- Tin/Lead Alloys
- Nickel
- Nickel/Cobalt Alloy
- Electrolytic Nickel Phosphorus
- Copper (Acid & Cyanide)
- Black Trivalent Chrome (RoHS)



Plating lines are automated to ensure consistent product plating and quality. The high-speed lines run up to 60 feet per minute. Speed is dependent upon chemistry and thickness requirements.





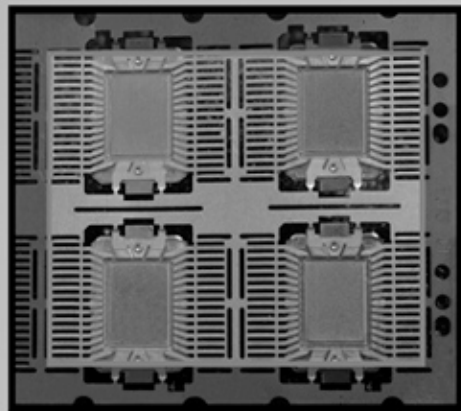
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1295 Route 380, Apollo, PA 15613-9658

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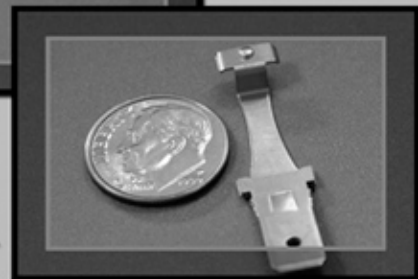
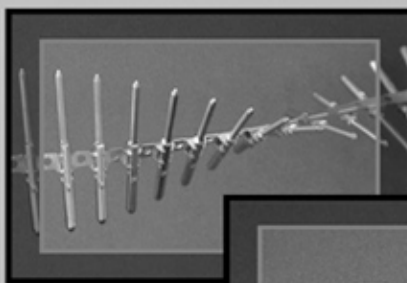
AUTOMATED & MANUAL IN-DIE ASSEMBLY

Compositdie can assemble combinations of purchased parts and parts manufactured in-house to produce an assembled product. Vertical integration allows us to combine stamped metal parts, etched parts or plastic components to produce your value-added assemblies and sub-assemblies.

Compositdie's in-house assembly shortens the supply chain, reduces freight costs and eliminates quality issues and "finger pointing" common in other operations. Most importantly, it drives down the total cost of any project.

Our assembly line capabilities include:

- Laser Etching
 - Part Mark/Identity
 - Oil Grooves
- Packaging
 - Product Interleaving
 - Bagging & Labeling
- Low-Volume Manual Assembly
- Semi-Automated Assembly
- High-Volume Fully Automated Assembly
 - Heat Sink Attachment
 - Precious Metal Contact Feeding & Insertion
 - Wire-to-Pin Bandolier Strips
 - In-Die Tapping
 - Silver Wire Contact Insertion



TAPE, CUT & DOWNSET CAPABILITIES

We have the ability to fasten tape to high lead count products to maintain product integrity throughout our customers' assembly process.

Our cut and downset equipment enables us to cut reel-to-reel product into specified strip lengths and downset a die pad according to specifications. This ensures compatibility with customer process equipment and proper wire bondability.

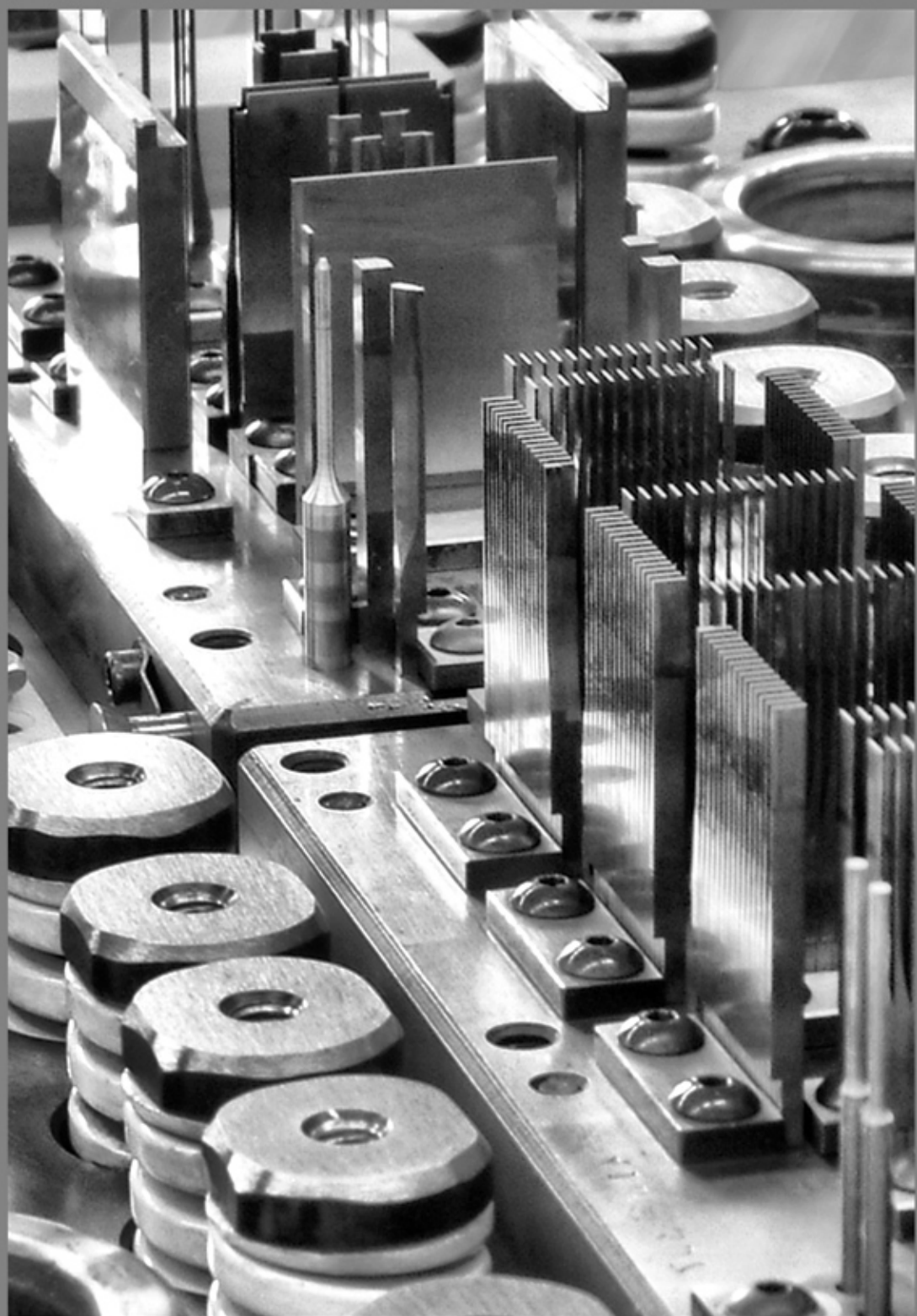
We design and build tooling internally to ensure quality, reduce leadtime and minimize downtime for our customers.

COMMITMENT TO QUALITY

Quality assurance begins in the design phase, when potential manufacturing problems are identified, evaluated and solved. During production, the Compositdie quality plan enables us to monitor each stage to ensure delivery of parts and dies that consistently meet the specifications and expectations of our customers.

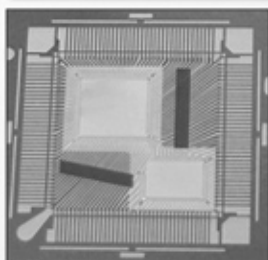
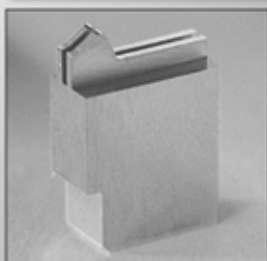
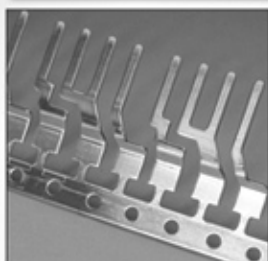
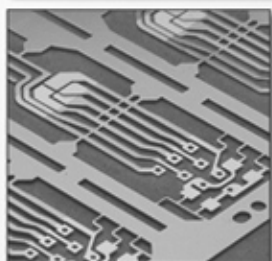
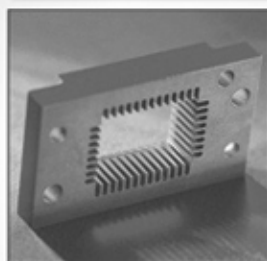
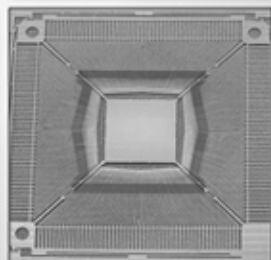
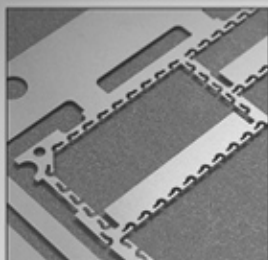
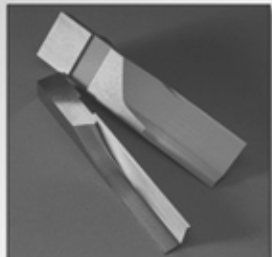
Compositdie Inc. is ISO 9001:2000 registered, RoHS compliant and TS 16949 capable.



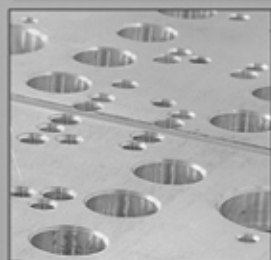
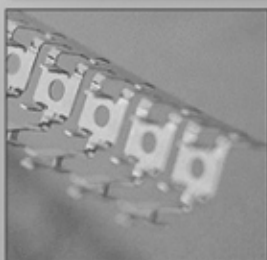




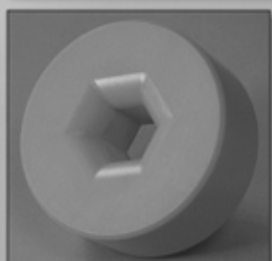
COMPOSIDIE CORPORATE HEADQUARTERS



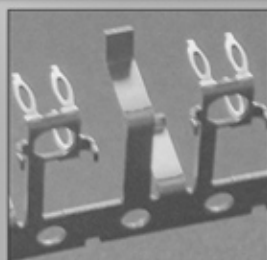
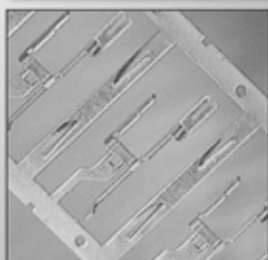
A STRATEGIC PARTNER
DEDICATED TO QUALITY,
SERVICE AND
ENGINEERED SOLUTIONS
• ISO 9001 REGISTERED



EDM SERVICES DIVISION



LEADING TECHNOLOGIES INC.



TOOLEX DIVISION

COMPOSIDIE INC.
1295 ROUTE 380
APOLLO, PA 15613-9658
PHONE: [724] 727-3466
FAX: [724] 727-3788
E-MAIL: SALES@CDIE.COM
WWW.COMPOSIDIE.COM