Choices in Hand Crimping Tools
Engineered for Superior Quality, Built for Life
Anyone can make a tool to crimp terminals onto a wire. **But not everyone can manufacture a tool to crimp them right.**

Crimp termination of wires isn’t easy. At least, doing it right isn’t easy. **We know. We started it.** Tyco Electronics developed the technology of hand crimping over 50 years ago.

Why is this experience important to you? That’s easy to answer. It’s because along the way we’ve learned how to do crimping correctly. We’ve learned how the forces of crimping can affect how a tool works, whether it meets specs, and even whether it reaches its expected service life. We’ve led the way, with tool frames and die sets that maintain their geometry and produce consistent crimps time after time after time. There are differences that aren’t readily apparent, **the materials, the manufacturing processes, the designs to diverse requirements** for different applications. These are all part of what we’ve known and practiced for years.

Your business, your profitability depend on your product yields. When you can take advantage of our quality, selection, and tradition of innovation, why would you choose otherwise?

**Crimping correctly saves you money and makes you money.** Make crimp tooling from Tyco Electronics your standard.
Choose the Tooling that Satisfies Your Requirements

Not all crimping demands are the same. That’s why Tyco Electronics engineers and manufactures tools for a broad range of application needs. Those needs range from basic tensile force requirements through UL standards and the exacting specifications of military applications.

**Choices at Any Production Level**

We can offer you a **performance continuity in tools**, so you can have the same crimp functionality and quality whether you’re developing, building, or servicing your product. In many cases you can use the same die set in tooling that spans the range from hand operation through battery, pneumatic, and even electrically powered tools.

**Choices Driven by Your Design**

Freedom. It’s a good thing. Feel free to design your wiring harness to meet the specifications it must. Then turn to Tyco Electronics for the tooling to do the crimping. We have the broadest selection of tooling and crimp dies available.

**The Tools to Choose Your Tooling**

Once you’ve identified the wire and the terminal you need to crimp, there’s a convenient selection process on our web site, www.tooling.tycoelectronics.com. Just type the terminal part number in the Search box at the upper right, click on Search, and you’re on your way.

If you don’t find the tooling you need for your application, we usually can make it to your specification. It’s a capability made possible by our experience and our engineering and manufacturing resources.

That’s easy to answer.

**Tyco Electronics Hand Tools—Precision Crimping from Bench to Factory to Field**
CERTI-CRIMP Tools for the Highest Level Specifications

Technology and engineering drive quality terminating. The design, precision, and quality of our CERTI-CRIMP family of hand tools set the standard for all our tools. Designed to produce consistent, high quality terminations, CERTI-CRIMP tools are the best choice when you must comply with the most stringent industry and performance specifications. CERTI-CRIMP tools meet them all. With proper maintenance, decades of service are possible.

CERTI-CRIMP tools can be recalibrated at the factory to maintain compliance with specifications. Every tool is serialized for traceability.

Selecting the CERTI-CRIMP Tool for Your Needs

CERTI-CRIMP precision and quality are available in many options. The actual tool to select for your application depends on the terminal and wire, and the environment where you’ll use the tool. Choose the appropriate straight action or double-action, T-head or heavy head, or any of the seven choices available, and single die or combination nest, or even power options to work with CERTI-CRIMP heads. The online selection process will help you decide.
Characteristics of a Premium Crimping Tool

Every CERTI-CRIMP hand tool incorporates features for optimum performance. They include locating, straightening, and insulation crimp adjustment features—quality options that set us apart from our competitors.

Crimp Designs—Optimum Performance

It’s more than squeezing a terminal over a wire. Our crimp designs incorporate percent of compression that optimizes electrical and mechanical performance.

Bottoming Dies—An Assurance of Repeatability

Repeatability in consistently reducing Circular Mil Area is the real measure of a crimp tool. The entire design of the tool—crimp form, force application, materials, and manufacturing tolerances—ensures that dies fully bottom, independent of operator technique or fatigue, or tool wear.

Applying the Crimp Force

Handle force is a key factor for any combination of hand tool, crimp die, terminal, and wire to crimp successfully. The design of the tool must take into account the crimp force requirement, as well as friction in the linkage and the need to bottom the dies. CERTI-CRIMP tools are set to specific handle pressures at our factory; a Certificate of Calibration allows tracking and performance verification.

Ratchet System to Improve Repeatability

The reliable ratchet system in all the CERTI-CRIMP tools is an aid to the operator, making sure the die bottoms before the tool opens. It complements the actual tool and die design in ensuring crimp repeatability.

Tool identification and application parameters are marked on the crimp head.

Insulation crimp height is easy to adjust.
Maintaining the high engineering standards that are the Tyco Electronics tradition, our complete family of commercial hand tools offers the best combination of easier operation, crimping precision, and cost-effectiveness. All include ratchet adjustment, ratchet release, and interchangeable dies.

**PRO-CRIMPER III Hand Tools**

PRO-CRIMPER III Hand Tools combine the versatility of general purpose, commercial tools with the reliability and features incorporated in our premium grade tools. They’re ideally suited for R&D prototyping, networking applications, and commercial, industrial, and institutional maintenance work.

- Angled head and optimized handle force, for easy operation in tight spaces.
- Releasable, adjustable ratchet, with emergency release, for a complete crimp cycle every time.
- PRO-CRIMPER tools are compatible with SDE die sets to allow the use of powered tool options, as your production grows.

**SDE PEW-12 Hand Tool**

With a unique geometry and comfortable, easy-to-use handle design, this tool is optimized for easy accessibility in space-constrained applications. The large crimp jaw arc minimizes “roll,” particularly important when crimping open barrel terminals.

**SDE-DA Hand Tool**

Specifically designed for closed barrel terminals with SDE compatibility, this tool incorporates the convenient operational features of other Tyco Electronics hand tools. The long handles give it excellent mechanical advantage, enhancing user comfort.

**SDE Standard Die Envelope Tooling—Smoothing Your Growth Path**

Crimp dies can be a significant investment, so you shouldn’t have to buy new ones when your crimping requirements change. There can be lots of reasons it could happen. You might be moving up from prototyping and R&D to production. You might need to do the crimping on the factory floor or in the field, in tight spaces or customer sites where a faster crimp means a return to production.

These are all good reasons, and Tyco Electronics has responded with the SDE Standard Die Envelope system of interchangeable crimp dies. Start with a hand-operated tool. Then move up to a powered portable option, or even a benchtop terminator. You can move the dies you have from one tool to another, with only a screwdriver needed to make the change.

It’s a long-term solution that lets your dies move with your application, as your volume demands grow.
Today’s industries demand more power, more capability, more flexibility. By adding power to the basic heads from the CERTI-CRIMP series of hand tools or to SDE dies, you can increase production beyond what a person can do by hand, and reduce fatigue even for lower volume work. Choices are available for operation from the bench to the field, both with tool-specific, CERTI-CRIMP die sets and with SDE Standard Die Envelope tooling.

### 6-26 Pneumatic and Micro-Pneumatic Systems

Increase production, especially on larger wires, and reduce hand crimping fatigue, as well. Crimp wires 6-26 AWG [0.12-13.0 mm\(^2\)] with the 6-26 Pneumatic Tool; 14-26 AWG [2.0-13.0 mm\(^2\)] with the lightweight (0.7 kg [1.15 lb]) Micro-Pneumatic Tool.

- Compact size—work in tight spaces.
- Ratchet options to eliminate partial crimps.

### Battery-powered Crimp Tool Kit

Take crimping power to isolated locations or just to factory locations where a power cable or air hose isn’t an option. The versatile Battery-powered Crimp Tool is a good match for the requirements of prototyping, networking applications, and maintenance work. It can terminate wires to 10 AWG [6 mm\(^2\)].

- Complete portability, with over 100 crimps per charge; charging time only 40 minutes.
- Compact—360 mm [14 in] long; lightweight—1.59 kg [3.5 lb].

### SDE Electric Benchtop Terminator

Offering an excellent price-to-performance ratio, the SDE Electric Benchtop Terminator incorporates features normally found on more expensive models. It is well suited for low- to medium-volume production and harness assembly. It can terminate wires to 10 AWG [6 mm\(^2\)].

- Compatible with over 100 SDE dies, for maximum production versatility.
- Also compatible with CERTI-CRIMP II heads and large dies (with adapter).
Crimping with Hydraulic Tooling

For the largest wires and terminals, the versatility of Tyco Electronics hydraulic tooling is the answer. Tyco Electronics heavy duty hydraulic crimp heads provide a lifetime of dependable service. Add the appropriate hydraulic pump and controller, and get the maximum quality benefits in high crimp force applications.

Building a Head for Life

Heads are designed and built to withstand the large forces incurred in hydraulic crimping, starting with a high grade, custom alloy steel. Then we forge the frame, heat-treat it, and machine and grind it to the precise dimensions required. Finally, we ensure the quality and safety with multiple Magnaflux* inspections.

Of course, heads are fully repairable in our Tooling Service Center, followed by a Magnaflux inspection for safety and confidence.

Configuring Your Hydraulic Crimping System

All heads require 10,000 psi [68,950 kPa], compatible with current industry standards. For applications calling for a crimp force of up to 14 tons [125 kN], choose U-die tooling. For crimp forces greater 14 tons [125 kN], select from five heavy-duty AMP crimp head configurations that are compatible with shank dies.

Hydraulic power sources range from heavy-duty electric pumps to a battery-powered pump, self-contained crimping tool integrated with a battery, hand tools, and manual hand- and foot-driven pumps. There are also a fully integrated head and integrated hand tool for SOLISTRAND terminals 8-2 AWG [7-34 mm²].

A complete hydraulic system requires a pump, hose (there’s a full selection of lengths), controller, crimp head, and crimp die. For more information, go to tooling.tycoelectronics.com.

* Magnaflux is a registered trademark of Illinois Tool Works Inc.
The Hydraulic Tooling that is Right for the Task

Throughout our application tooling family of products Tyco Electronics provides a comprehensive selection of tools to match your particular requirements. Hydraulic tooling is no exception. This summary gives an overview of the hydraulic crimp heads and hand tools available.

**Medium-Duty Crimp Heads and Hand Tools (U-Die Compatible)**

- 12 ton 1 in Stroke Compression Head
- 12 ton 1.5 in Stroke Compression Head
- 12 ton 1 in Stroke Titanium Compression Head
- 14 ton 1.5 in Stroke Hand Compression Tool
- 1 in Stroke Hand Compression Tool

**Heavy-Duty Crimp Heads (Shank Die Compatible)**

- 33 ton 250 MCM - 600 MCM
- 22 ton 8 - 4/0 AWG
- 26 ton 4/0 AWG - 1000 MCM
- 33 ton 8 - 4/0 AWG
- 18 ton 12-10 AWG - 350 MCM

**SOLISTRAND Tools (Integrated Crimp Dies)**

- B-2 AWG Compression Head
- B-2 AWG Compression Tool No Crimp Dies Required
**Whatever Your Hand Tooling Needs**

### A Full Selection of Standard Tooling

Tyco Electronics offers a vast selection of standard tooling for the myriad of combinations of terminals and wires used in today’s industry. Take a look at a few in this chart. To find the right tooling for your application, go to our website www.tooling.tycoelectronics.com (see Page 3 for more details) or contact your Tyco Electronics representative.

### Matching the Terminal to the Tooling

<table>
<thead>
<tr>
<th>SOLISTRAND</th>
<th>W-Crimp</th>
<th>Closed-end Splices</th>
<th>Confined Crescent</th>
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</thead>
<tbody>
<tr>
<td>Uninsulated DIAMOND GRIP</td>
<td>Crescent</td>
<td>AMPLI-BOND</td>
<td>Confined Crescent</td>
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<tr>
<td>PIDG</td>
<td>Crescent</td>
<td>TERMINYL</td>
<td>Confined Crescent</td>
</tr>
<tr>
<td>STRATO-THERM</td>
<td>W-Crimp</td>
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<td>PIDG STRATO-THERM</td>
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<td></td>
<td>F-Crimp</td>
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</tbody>
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### Custom Tooling—If What You Need Isn't in Our Catalog

While we offer die sets for thousands of terminal and wire combinations, in most cases our engineering capability allows us to create a custom die set to meet your specific requirements, with the same high quality as our standard products. You can take advantage of the same portability across platforms with the custom die sets as for a standard die set. And since we know that custom requirements often arise during the prototyping stage of your product development, a time when you can’t afford to wait for normal engineering cycles for custom tooling, we’ve set up a special rapid response program.

Take advantage of this service. Talk to us with your non-standard tooling requirement. Sometimes we can even point you to an existing solution that will get you on your way fast. If not, we’ll find a way to get you back on your prototype or production path. Just fill out a custom order form, and give it to your local Tyco Electronics sales person.
Service and Certification—Keys to Ongoing Crimp Performance

Once you’ve made the right choice in crimp tooling—AMP quality tooling, Tyco Electronics quality certification and maintenance are the right choices to keep your crimp tooling operating at peak performance. CERTI-CRIMP hand tools and die sets; pneumatic crimping heads and die sets; and hydraulic hand tools, crimping heads, and die sets all benefit from factory or on-site service.

• Recertification—promotes ongoing tooling maintenance in accordance with accepted industry and ISO 9001 standards. We recommend recertification to original production specifications every 6 months or 5,000 cycles.

• Visual Inspection—checks tool operation and looks for missing or damaged parts.

• Handle Pressure Check—measures pressure with calibrated machine or gauge; adjusts to match design specification.

• Quality Inspection Plan (QIP).

With factory or on-site service, your Certification of Calibration is assurance of continuing, high quality crimp operation.

Hand crimping tooling that meets virtually any need.

Work, Really Work with Tyco Electronics Hand Crimping Tools

From prototype to production, factory to the field, you and your customers deserve the crimping quality, tool dependability, and versatility of Tyco Electronics hand crimping tools. Based on our over 50 years of experience in designing and building superior crimping equipment, developing the technology and leading the field, our hand crimping tools will help you become more productive and build your bottom line. We’re the pioneers of crimping and we know how to do it right. Whatever the terminal crimp profile, we have a tool and die set to match it. Virtually every time. Contact your Tyco Electronics representative now to put our tools to work.

We have a tool and die set for virtually every terminal and crimp cross section, with quality like this.