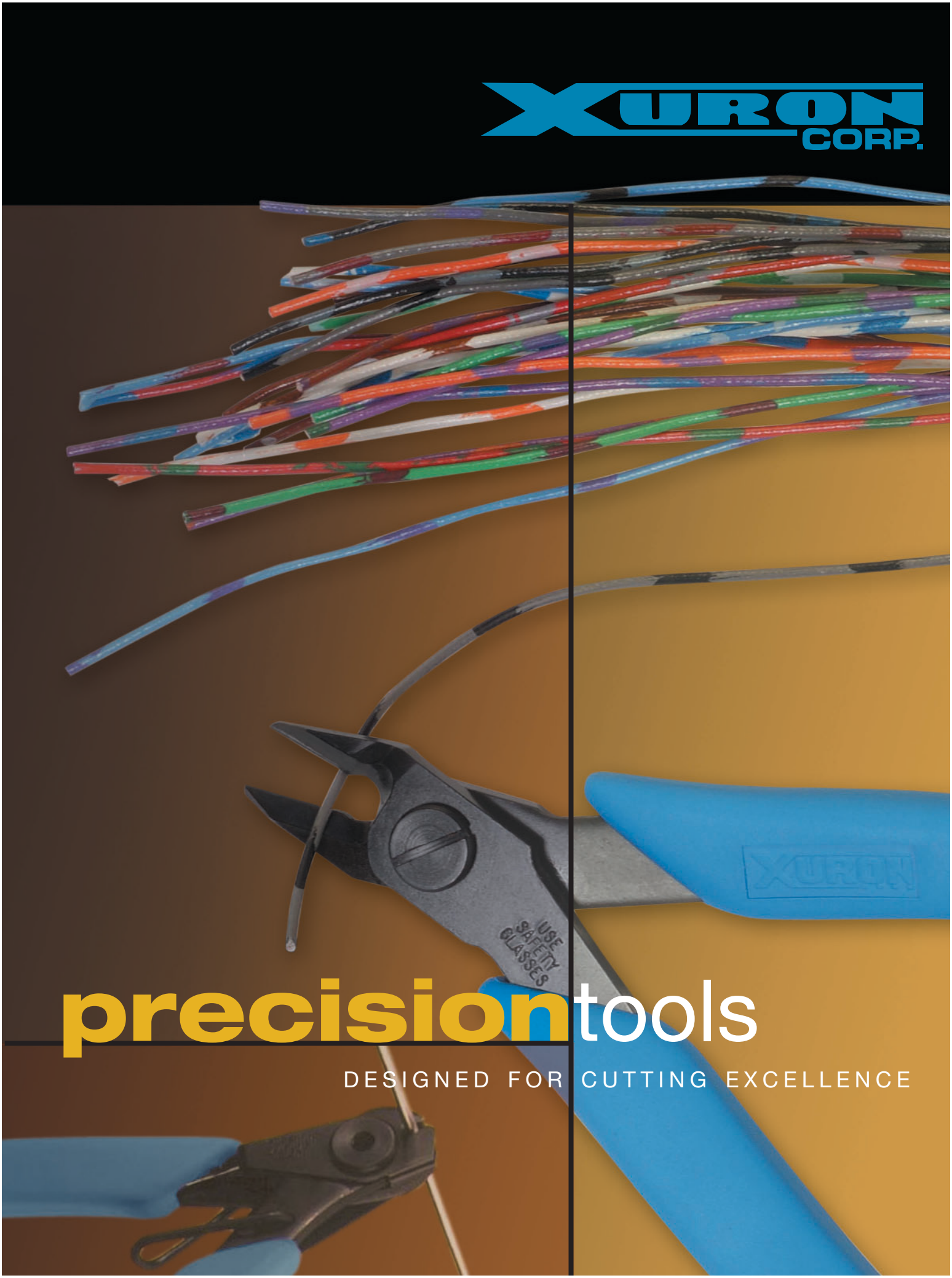
XURON CORP.

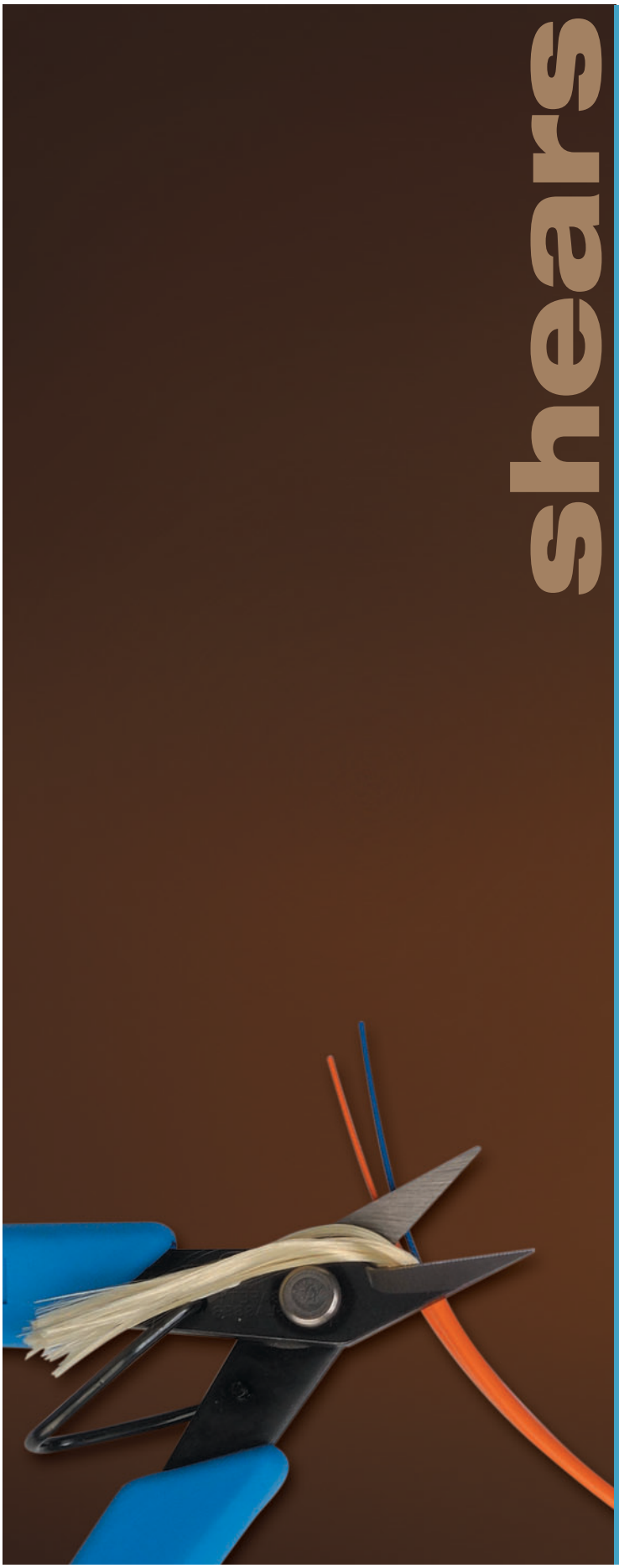


precision tools

DESIGNED FOR CUTTING EXCELLENCE

SHEAR FACTS

Arlex®



shear facts Q&A.

Q. Why do Micro-Shear® flush cutters cut so well?

A. The term Micro-Shear® flush cutter is a registered trademark of XURON CORP. and is applied only to our products which utilize our patented, blade by-pass shear cutting action.

Conventional wire cutters utilize a compression-type cut, with the advancing cutting edges forcing the metal of the wire out of their way.
Micro-Shear® flush cutters utilize a shearing cut, with the by-pass cutting edges slicing cleanly through the metal (see illustration at bottom of adjacent page).

Shear cutting greatly reduces mechanical shock delivered to the component and requires only about half the effort to cut a wire as compared to conventional compression-type wire cutters.

Q. What's the difference between a Micro-Shear® flush cutter and a conventional wire cutter?

A. All primary cutting surfaces on our 170-II, 410 and LX Series Micro-Shear® flush cutters are generated on high precision, three microprocessor-controlled, self diagnostic grinding equipment. The grinding on every blade is as precisely identical to that on every other blade as their computer controlled tolerances allow. It is also exactly the same type of grinding as used on such fine tools as LINDSTROM® and EREM®.

We're not suggesting any company use XURON Micro-Shear® flush cutters instead of these other great tools, but why should you sacrifice that level of quality just because your requirements call for "economically priced" tools?

Q. Why do Micro-Shear® flush cutters last so long?

A. XURON Micro-Shear® flush cutters ensure durability by design. Let's use a little basic physics to illustrate how:

If you generate 10 pounds of pressure on the grips of a conventional, compression-type wire cutter to cut a wire, that 10 pounds of force must be dissipated somewhere (Law of Conservation of Energy). Part of it is dissipated into the severed section of wire, which is why it sails across the room. A portion travels down the lead wire and is dissipated into the component or solder joint,

SHEAR FACTS

Arlex®

which can cause damage. The balance is dissipated into the opposing cutting edge of the cutter, which is why they get dull.

Using a Micro-Shear® flush cutter requires only about half the pressure (approximately 5 pounds) to cut the same wire. Part of the force is dissipated into the severed section of the wire. But if you're using our patented lead retainer the wire won't sail across the room. Because of our shearing cut very little is dissipated into the component or solder joint; the rest is dissipated into the opposing cutting jaw. Because of our blade by-pass, edge-to-edge contact is eliminated and the life of our Micro-Shear® flush cutter's precision cutting edges is extended.

Q. What is the difference between a stamped tool and a drop-forged tool?

A. Precision stamped Micro-Shear® flush cutters have more in common with precision drop-forged tools than with conventional drop-forged tools.

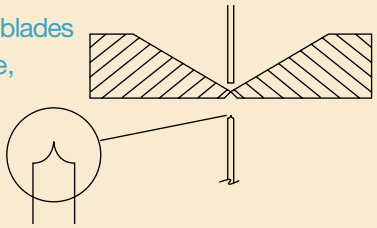
The most obvious difference is that the blank shape of a drop-forged tool is created from hot metal. A stamped tool does not require heat at this stage. Beyond this point the differentiation becomes less distinct.

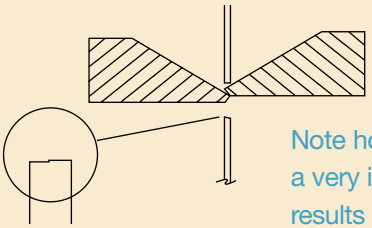
In conventional drop-forging a crude, basic shape is created. With precision drop-forging a more refined shape with reference points for subsequent grinding operations is created. Conventional drop-forged tools typically then undergo hand-guided grinding operations. With precision drop-forged tools these grinding operations are usually done with computer controlled machines utilizing the reference marks on the blank.

When we manufacture precision stamped Micro-Shear® flush cutters a refined shape, complete with reference points for our computer controlled grinding operations, is generated in the stamping process.

All tools, regardless of the method of manufacture, have to be heat treated. In the electronics industry return springs and cushion grips are required. The distinction between drop-forged and stamped tools is further blurred since, due to the high density areas electronics pliers are required to be able to work in, one of the more popular head configurations on drop-forged tools is the "relieved head." On these tools additional grinding operations remove head stock to reduce the tool's profile, increasing access and maneuverability. The result Is a head shape very similar to our standard XURON Micro-Shear® flush cutter.

Compression cutter blades meet edge-to-edge, causing a spiked cut and an eventual dulling of the tool.





This is a cross section view of a XURON Micro-Shear® flush cutter from the tip end. Note how the blades by-pass – this is a very important patented feature that results in a clean square cut with no spikes.

SHORT CUT™

Short Cut™ Series Micro-Shear® Flush Cutters

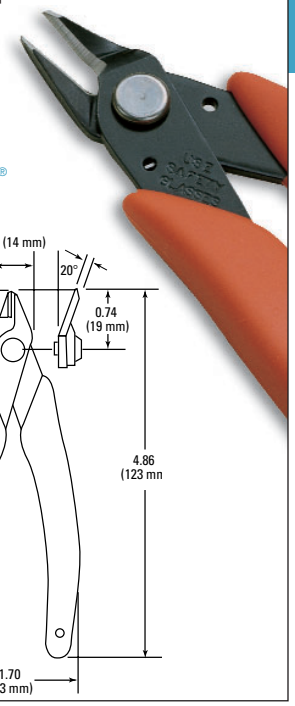
Short-Cut™ Series shears feature an ergonomically-enhanced size and shape. Hand grip dimensions are optimized to the size and shape of the human hand. Their unique shape and Xuro-Rubber™ grips provide a secure “fit” in the operator's hand resulting in more precise control.

Short-Cut™ Series shears feature a glare eliminating black finish for operator comfort and enhanced contrast between the component lead and tool and our patented, lifetime warranted, *Light Touch*™ return spring.

Static dissipative grips are optionally available.

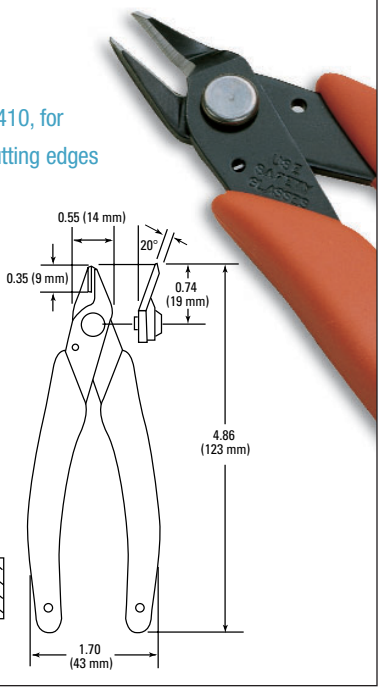
410 Micro-Shear® Flush Cutter

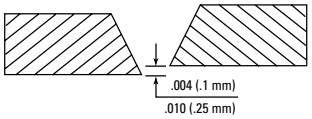
The premium grade version of our world famous 170-II Micro-Shear® Flush Cutter. Its size and shape are optimized for work in high density areas. The patented Micro-Shear® blade by-pass reduces both cutting effort and mechanical shock (impact) transmitted to the component. High carbon steel blades are precision ground to ultra sharp cutting edges. Its unique, state of the art heat-treating process yields a Rockwell hardness of 55-57C. The result is a tough, precise, durable flush cutter capable of reliably and economically cutting soft wire up to 18AWG (1.02mm).



410A Micro-Shear® Flush Cutter

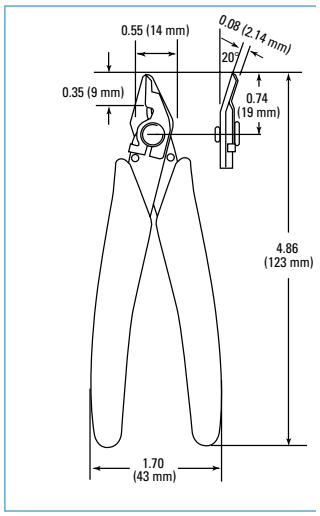
Ultra flush cutting version of our 410, for fine work. Very lightly bevelled cutting edges allow for minimal blade by-pass (see diagram) ensuring the finest flush cut possible while still retaining the Micro-Shear® blade by-pass type of cut. Glare eliminating black finish and ergonomically shaped, non-slip Xuro-Rubber™ grips for operator comfort. Cuts soft wire up to 20 AWG (0.8 mm)





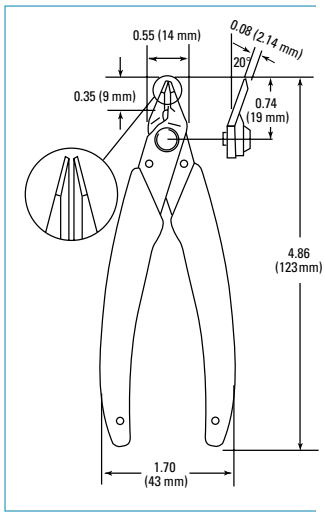
410F Micro-Shear® Flush Cutters

Our 410 with a factory-installed lead retainer. Design provides a low profile and non-slip mounting on the shear. Helps prevent flying leads and component shorting from stray leads. Cuts soft wire up to 18 AWG (1.02mm).



410T Micro-Shear® Flush Cutter

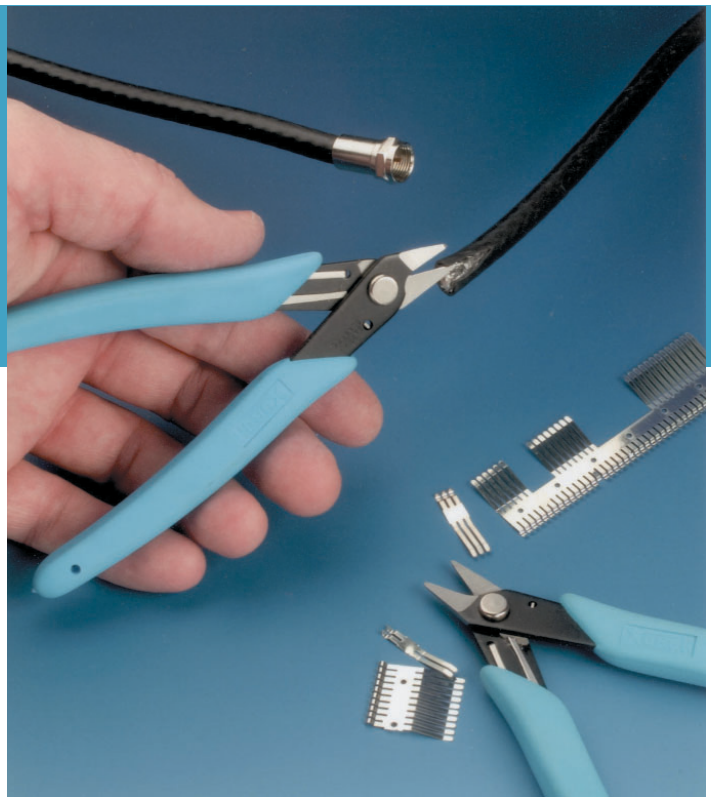
Our 410 shear with ultra sharp precision tips and an extra thin tip profile. Provides the ultimate in maneuverability and operator control; allows work in areas other tools cannot even enter. Ideal for SMD or high density areas. Due to the low mass of the cutter head, care should be exercised to avoid overstressing the tips. Maximum cutting capacity is 22 AWG (0.64mm) soft wire.



FEATURING QUALITY & PRECISION

SHORT CUT™

Short Cut™ Series Micro-Shear® Flush Cutters



420T Angled Micro-Shear® Flush Cutter

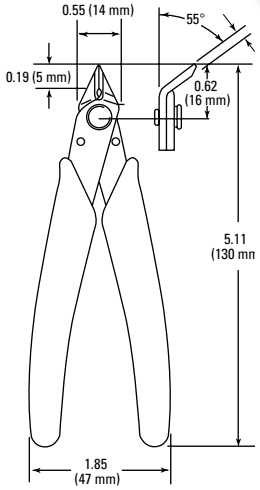
Our 420 shear with ultra sharp precision tips and an extra thin tip profile. Provides the ultimate in maneuverability and operator control; allows work in areas other tools cannot even enter. Ideal for SMD or high density areas. Due to the low mass of the cutter head, care should be exercised to avoid overstressing the tips. Maximum cutting capacity is 22 AWG (0.64 mm) soft wire.

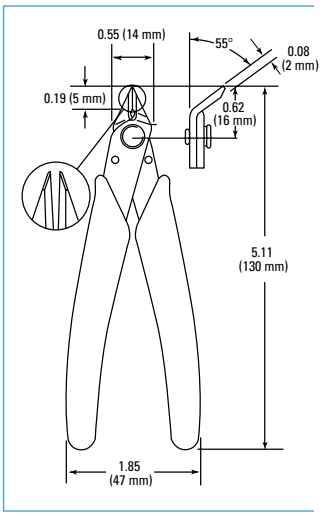
440 Mini-Shear

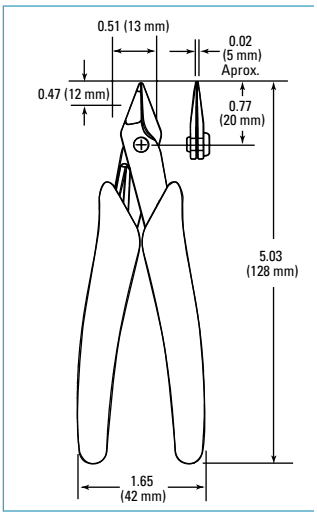
An ultra precise scissor, cuts fine or delicate items with a clean, square edge. Cushion grip, Xuro-Rubber™ handles and our *Light Touch*™ return spring replace conventional finger loops for increased comfort and precision. This innovative design is especially advantageous for users with arthritic hands. Rated for cutting soft metals up to 0.005".

420 Angled Micro-Shear® Flush Cutter

Allows easier cutting in difficult areas. Angled head provides excellent sight lines when used in either the vertical or horizontal position. Slim profile for accessibility. Glare eliminating black finish, non-slip Xuro-Rubber™ grips and light weight for operator comfort. Flush cuts soft wire up to 20 AWG (0.8 mm).







cutters

Bead stringing, chainmaille, metalsmithing or general jewelry design? Whether you're a beginner or professional designer, there's a Xuron® Micro-Shear® Flush Cutter to meet your needs. These are Xuron Corp.'s most versatile and long lasting cutters, offering Micro-Shear® blade bypass cutting for flat, clean cuts. Excellent craftsmanship requires excellent tools. The proof is in the results.

All Xuron® tools come with comfortable, soft, non-slip rubber hand grips and, a built-in return spring that brings the cutter back to the open position after each cut.

Micro-Shear® Flush Cutter
#410

An essential tool for bead stringers. This cutter is perfect for flexible stranded beading cable as well as soft bead and craft wire up to 18 ga. (1 mm). *The slim profile of the cutter head means you can reach into small spaces and cut close to a clasp, bead or other finding.*

Thread & Cord Scissors
#441

Smaller in size than the Models 9180 or 9180NS, this scissors is perfect for cutting a variety of threads and cords including high strength weaving threads, waxed linen, hemp, cotton, pearl knotting thread, embroidery floss and yarn.

Choosing The Right Micro-Shear® Flush Cutter

	Soft Wire							Hard Wire		
Model #	24ga/.5mm	22ga/.6mm	20ga/.8mm	18ga/1mm	16ga/1.3mm	14ga/1.6mm	12ga/2mm	Half Hard 16ga/1.3mm	Hard Wire/Steel 18ga/1mm	Hard Wire/Steel 15ga/1.45mm
410										
9100										
9200										
9100F										
9200F										
2175										
691										
2193										
2193F										

TOOL OPTIONS

Xuron Tools Options

Model	Page #	Materials Rating	Ultra Flush (A)	Flush	Semi Flush (B)	Lead Retainer	Static Control Grips	Extended Handle Length
9100 Oval Head Shear Cutter	4	12 AWG (2.0mm) soft wire		•		•	•	•
9180 Kevlar® Shear* Scissor Type	4	Either Kevlar® fiber or soft wire up to 12 AWG (2mm), as well as soft sheet metal up to .030" (0.8mm)					•	
9180NS Shear Scissor Type	4	12 AWG (2.0mm) soft wire as well as soft sheet metal up to 030" (0.8 mm)					•	
9200 Tapered Head Shear Cutter	5	14 AWG (1.6mm) soft wire		•		•	•	•
9250ET Shear Cutter	5	18 AWG (1.02mm) soft wire		•			•	
LX Shear Cutter	6	18 AWG (1.02mm) soft wire		•		•	•	
LXT Tapered Head Shear Cutter	6	20 AWG (0.8mm) soft wire		•			•	
2175 Shear Cutter	6&7	12 AWG (2.05mm) soft wire	•	•	•	•	•	
2193 Hard Wire Shear	7	12 AWG (2mm) soft wire as well as music and spring wire up to 0.040" (1.0mm)		•			•	
2193F Hard Wire Shear	7	12 AWG (2mm) soft wire as well as music & spring wire up to 0.60" (1.5mm)		•		•	•	
410 Shear Cutter	8	18 AWG (1.02mm) soft wire	•	•		•	•	
410T Tapered Head Shear Cutter	8	20 AWG (0.8mm) soft wire		•			•	
420 Angled Head Shear Cutter	9	20 AWG (0.8mm) soft wire		•			•	
420T Tapered Head Shear Cutter	9	22 AWG (.64mm) soft wire		•			•	
440 Mini-Shear - scissor type	9	20 AWG (0.8 mm) soft wire as well as 0.005" (.127 mm) mylar, plastic and shielded cable					•	
170-II Shear Cutter	10	18 AWG (1.02mm) soft wire	•	•		•	•	
280-II Angled Head Shear Cutter	10	20 AWG (0.08mm) soft wire		•			•	
8500 Bio-Shear® Shear Cutter	11	18 AWG (1.02mm) soft wire		•		•	•	
635 Shear Rise Cutter	11	20 AWG (0.08mm) soft wire		•			•	
670 Cut & Crimp Tool	11	20 AWG (0.08mm) soft wire					•	
670HD Heavy Duty Cut & Crimp Tool	11	18 AWG (1.02mm) soft wire					•	
501 Wire Stripper/ Cutter	13	10-26 AWG (2.59-.405mm) soft wire		•			•	
505 Wire Stripper/ Cutter	13	12-26 AWG (2.05-.405mm) - solid wire (soft)		•			•	
505ST Wire Stripper/ Cutter	13	12-26 AWG (2.05-.405mm) - stranded wire (soft)		•			•	
590 Pneumatic Cutter	17	16 AWG (1.3mm) soft wire		•		•		
590LP Low Profile Pneumatic Cutter	17	20 AWG (0.08mm) soft wire		•				

*Usage Note: If using the 9180 to cut Kevlar® fiber, best results are achieved when it is used for this purpose exclusively.