

XL410B - November 16, 2023

Item # XL410B was discontinued on November 16, 2023. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

FIBER-OPTIC CLEAVERS AND SCRIBES

- Ruby Scribe and Carbide Scribe for Cleaving Excess Fiber
- Ceramic Scribe for Cleaving Polyimide- or TECS-Coated Large-Core Fiber
- Suspension Fiber Cleaver for Consistent 0.5° Cleaves
- Disposal Unit for Cleaved Fiber



XL411
Fiber Cleaver

S90R
Ruby Fiber Scribe



Close-Up View

S90C
Carbide Fiber Scribe



CSW12-5
Ceramic Fiber Scribe
(Pack of 5)



FTDU
Disposal Unit

[Hide Overview](#)

OVERVIEW

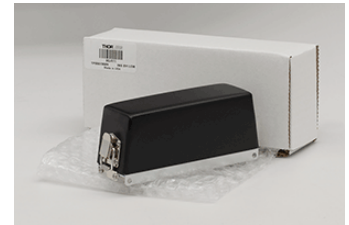
Thorlabs offers the CSW12-5 ceramic scribe, the S90R ruby-tipped scribe, the S90C carbide-tipped scribe, and the XL411 suspension cleaver as solutions for easy, manual cleaving of fibers. The CSW12-5 ceramic scribes are optimal for scoring and cleaving hard-coated and large-core fiber. The S90R ruby-tipped wedge scribe and the S90C carbide-tipped scribe can be used for easy scribing of excess fiber from ferrules in the connectorization process. The S90C in particular is adept at cleaving metal coated fiber. The XL411 suspension cleaver is an ideal solution for the high-quality, repeatable cleaves needed for fusion splicing of fiber optics. The FTDU provides a simple safe solution for disposing of all cleaved fiber ends. We recommend using such a disposal unit to protect against injuries caused by fiber shards. In addition, Thorlabs offers a variety of complementary products and tools for fiber termination.

[Hide Smart Pack](#)

SMART PACK

Smart Pack

- Reduce Weight of Packaging Materials
- Increase Usage of Recyclable Packing Materials
- Improve Packing Integrity
- Decrease Shipping Costs



Click to Enlarge XL411 Packaging

Item #	% Weight Reduction	CO ₂ -Equivalent Reduction ^a
XL411	25.19%	1.47 kg

Thorlabs' Smart Pack Initiative is aimed at waste minimization while

still maintaining adequate protection for our products. By eliminating any unnecessary packaging, implementing packaging design changes, and utilizing eco-friendly packaging materials for our customers when possible, this initiative seeks to improve the environmental impact of our product packaging. Products listed above are now shipped in re-engineered packaging that minimizes the weight and the use of non-recyclable materials.^b As we move through our product line, we will indicate re-engineered packages with our Smart Pack logo.

- Travel-based emissions reduction calculations are estimated based on the total weight reduction of packaging materials used for all of 2013's product sales, traveling 1,000 miles on an airplane, to provide general understanding of the impact of packaging material reduction. Calculations were made using the EPA's shipping emissions values for different modes of transport.
- Some Smart Pack products may show a negative weight reduction percentage as the substitution of greener packaging materials, such as the Greenwrap, at times slightly increases the weight of the product packaging.

[Hide Ceramic Fiber Scribes](#)

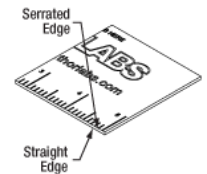
Ceramic Fiber Scribes



- ▶ Durable 1" x 2" x 0.03" Aluminum Oxide (Al₂O₃) for Longterm Use
- ▶ Capable of Scoring Optical Fiber with Polyimide, TECS, or Polymer Coatings
- ▶ Engraved Metric Scale for Measuring Short Fiber Lengths Quickly
- ▶ Convenient for Quickly Cleaving Optogenetics Cannula to Desired Length
- ▶ Sold in Packs of 5



Click to Enlarge Cleaving Fiber Optic Cannula with the CSW12-5



Click for Details The CSW12-5 has Straight and Micro-Serrated Edges

These Ceramic Fiber Optic Scribes have four straight edges for scoring fiber optics and four micro-serrated edges for glass-lined metal capillary and stainless steel hypodermic needle stock. Its hard ceramic (98% Al₂O₃) edges are capable of cleaving polyimide-, TECS-, or polymer-coated optical fiber. These scribes feature a large surface area for secure handling, are suitable for small or large core fibers, and have an engraved metric scale that can be used for quick and repeatable measurements. These ceramic scribes are autoclavable for applications that require sterile procedures.

The straight edge is any edge on the un-engraved side, and the serrated edge is any edge on the engraved side. The edges can also be distinguished by running your fingernail along each edge; the straight edge will feel smooth, whereas the serrated edge will be noticeably rough. See the diagram to the right for details. The CSW12-5 scribes are designed for longterm use but will eventually dull. When all four sides of the scribe become dull, discard and replace with a fresh scribe. This will help to minimize adding undue force onto the fiber due to a dull edge.

For information on scoring fiber with the ceramic fiber scribe, please see our *Cleaving Guide* tab above.

Part Number	Description	Price	Availability
CSW12-5	Ceramic Fiber Optic Scribes, 5 Pack	\$51.38	Today

[Hide Ruby Fiber Scribe](#)

Ruby Fiber Scribe



- ▶ 30°, Single Bevel, Ruby Tip
- ▶ 5.2 mm to 5.5 mm Long Contact Area Aids Cleaving of Large-Core Fiber
- ▶ Cleave Bare Fiber to Produce Optical Quality Surfaces
- ▶ Scribe Excess Fiber from the Connector Ferrule in Preparation for Polishing

This Ruby Fiber Scribe has a 30°, single bevel, ruby blade with a 5.2 mm to 5.5 mm long contact area. The blade is reversible, which doubles the life of the scribe (see below for details). However, replacement blades

are not available. The soft, non-slip grip provides precise control during scribing. The scribe is approximately 5" long from end to end. Each scribe comes with a clear safety cap to protect the blade from damage when not in use.



Click to Enlarge
Ruby Fiber Scribe has a
Reversible Blade with
30° Bevel

Blade Reversal

To reverse the blade, unscrew the knurled end of the scribe and pull it slightly out of the handle. This releases the blade mount. Push the knurled end back into the handle. The blade and its mount will be pushed away from the handle allowing the blade to be removed, flipped, and reinserted. While holding the blade and mount in the handle, screw the knurled end back in, securing the blade.

For information on scoring and cleaving fiber with the Ruby Fiber Scribe, please see our *Scribe Guide* tab above.

Part Number	Description	Price	Availability
S90R	Ruby DualScribe Fiber Optic Scribe	\$60.27	7-10 Days

[Hide Carbide Fiber Scribe](#)

Carbide Fiber Scribe



- ▶ 30°, Single Bevel, Carbide Tip
- ▶ Capable of Scoring Optical Fiber with Aluminum Coatings
- ▶ 5.2 mm to 5.5 mm Long Contact Area Aids Cleaving of Large-Core Fiber
- ▶ Cleave Bare Fiber to Produce Optical Quality Surfaces
- ▶ Scribe Excess Fiber from the Connector Ferrule in Preparation for Polishing

This Carbide Fiber Scribe has a 30°, single bevel, carbide blade with a 5.2 mm to 5.5 mm long contact area. The blade is reversible, which doubles the life of the scribe (see below for details). However, replacement blades are not available. The soft, non-slip grip provides precise control during scribing. The scribe is approximately 5" long from end to end. Each scribe comes with a clear safety cap to protect the blade from damage when not in use. Carbide blades typically last two to three times longer than ruby or sapphire blades, and are recommended for use with metal-coated fibers.



Click to
Enlarge
Carbide Fiber Scribe has a
Reversible Blade with 30° Bevel

Blade Reversal

To reverse the blade, unscrew the knurled end of the scribe and pull it slightly out of the handle. This releases the blade mount. Push the knurled end back into the handle. The blade and its mount will be pushed away from the handle allowing the blade to be removed, flipped, and reinserted. While holding the blade and mount in the handle, screw the knurled end back in, securing the blade.

For information on scoring and cleaving fiber with a scribe, please see our *Scribe Guide* tab above.

Part Number	Description	Price	Availability
S90C	Carbide DualScribe Fiber Optic Scribe	\$80.72	Today

[Hide Fiber Cleaver](#)

Fiber Cleaver



- ▶ Precision Engineered to Produce Consistent 0.5° Cleaves
- ▶ 3-Step Cleaving Process Clearly Indicated on Unit
- ▶ Switchable Blade Position
- ▶ Mechanical Design Allows for Easy, Precise Blade Replacement
- ▶ For Use with Standard Ø125 µm Cladding and Buffers Ranging from Ø250 to Ø900 µm
- ▶ Ribbon Fiber Option (Requires Adapter Plate Sold by Alcoa Fujikura)

The XL411 Suspension Cleaver has an easy to follow 3-step process that produces consistent 0.5° cleaves. For ease of use, this sequence is clearly indicated on the

tool making this an ideal instrument for laboratory or production environments. Unlike rotating cleavers where the blade accesses the fiber from the side, the flat blade of the XL411 cleaves the fiber from the top, which results in the best cleave possible.

The blades on this suspension cleaver last longer than traditional cleavers because the point of contact between the flat, rectangular blade and the fiber can be moved to reduce blade wear, providing up to 5000 cleaves per blade. In addition, the precision mechanical design of the XL411 allows the blade to be replaced quickly and precisely in any location.

Part Number	Description	Price	Availability
XL411	High Precision Fiber Cleaver, Switchable Blade Position	\$1,703.86	Today
XL410B	High Precision Fiber Cleaver Replacement Blade	\$105.11	Today

[Hide Fiber Optic Disposal Unit](#)

Fiber Optic Disposal Unit



- ▶ Safe Solution for Disposing of Cleaved Fiber Ends
- ▶ One Circular and One Rectangular Covered Hole in Lid
- ▶ Dimensions (L x W x H): 2.75" x 2.75" x 6" (6.99 cm x 6.99 cm x 15.24 cm)
- ▶ Disposable: Do Not Reuse



[Click to Enlarge](#)

The FTDU offers a safe solution for disposal of cleaved fiber ends, epoxy and syringes, and other sharp objects. This high-density polyethylene (HDPE) bottle features a translucent lid with one circular and one rectangular hole in it (see the photo to the right). Both of these holes have individual covers that snap closed to keep the contents inside the unit. Tabs on the side of the lid hold the covers open for hands-free use. The two hole covers are connected by a plastic tab. Cut, or pull, the covers apart to use the holes separately.

To use, insert sharps into one of the holes in the lid. Do not remove the lid itself from the unit. Use the "Contents" space on the label to clearly indicate what is inside. To protect against spills, keep the holes covered when not inserting sharps. When it is full, securely cover both holes in the lid by inserting the tab on the cover into the slot in the lid and dispose of the canister according to the contents. Do not fill the sharps container past the indicated "Full" line on the label. Do not reuse this unit; it is a one-time-use container only.

Part Number	Description	Price	Availability
FTDU	Fiber Optic Disposal Unit	\$8.57	Today