



# GROBET USA®

*The World Leader of Precision Files  
and Cutting Tools*

- **American Pattern Files**
- **Swiss Precision Files**
- **Carbide Rotary Files**
- **High Speed Steel  
Rotary Files**

ISO Certification



## **Growing to serve you better!**

*Our 40,000 square-foot state-of-the-art production plant in Cheyenne, WY is allowing us to meet the increased demand for our products and will accommodate the further expansion of our product design & manufacturing capabilities.*

Welcome to the **GROBET USA**® File Catalog.

We have a proud heritage of over 140 years in the design, production and distribution of precision tools for professional technicians and craftsmen.

**GROBET USA**® maintains state-of-the-art production facilities in the US and Switzerland, as well as a global network of suppliers to provide an offering of more than 18,000 products used by:

- Manufacturers
- Machinists / Metal Workers
- Jewelers
- Lapidaries
- Dental Laboratory Technicians
- Hobbyists & Model Makers

**GROBET USA**® products are available worldwide through our international network of authorized distributors.



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# American Pattern Files

**Grobet American Pattern Files** are uniform in cut to permit fast metal removal. Extremely durable and scientifically balanced, each file is the product of a long tradition of superior craftsmanship combined with the most advanced technology. Every file is heat-treated to exacting standards to provide top performance and long life.

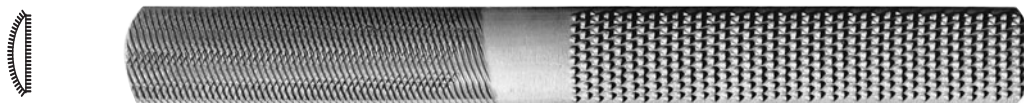


- **GROBET BRAND**
- In Stock for Immediate Delivery
- Strict Quality Control Program
- Excellent Cutting Efficiency
- ISO 9001 : 2000 Certified
- Superior Longevity

## COMPARABLE CUT DESIGNATIONS FOR SWISS PRECISION AND AMERICAN PATTERN FILES

SWISS	No. 00	No. 0	No. 2
AMERICAN PATTERN	Bastard	Second Cut	Smooth Cut

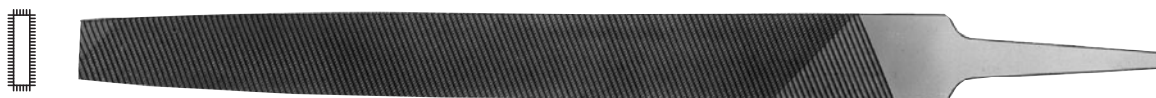
There is no equivalent in American Pattern Files for Swiss cuts numbered from No. 4 to No. 8.



### ALL PURPOSE FILE

For the homeowner, home craftsman, boat builder and mechanic. Half-round shape. Has file section and rasp section on both flat side and half-round side. **Both sides of file section are double cut – Both sides of rasp section are rasp cut.**

Length	Width	GROBET SWISS	
		Thickness	Bastard Cut
8"	7/8"	1/4"	32.502



### ALUMINUM TYPE A, FLAT

Special tooth construction is effective in eliminating clogging. Developed for use on soft material, such as aluminum. This double cut file tapers in thickness and width. **Double cut top and bottom – Both edges are single cut.**

Length	Width	Thickness	Bastard Cut
6"	5/8"	5/32"	32.260
8"	25/32"	7/32"	32.261
10"	31/32"	1/4"	32.262
12"	1-5/32"	9/32"	32.263

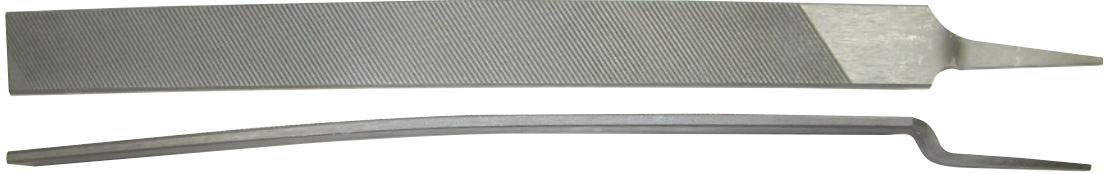


### ALUMINUM TYPE A, HALF-ROUND

Eliminates chip clogging. Designed for soft materials, such as aluminum. The Half-Round file allows modification of concave surfaces and holes. This tapered file is rounded on one side and flat on the other. **Double cut on both sides.**

Length	Width	GROBET	
		Thickness	Bastard Cut
6"	19/32"	5/32"	32.265
8"	3/4"	7/32"	32.266
10"	15/16"	9/32"	32.267
12"	1-1/8"	11/32"	32.268

*Note: See pages 33-35 for our complete file handle line, including charts on plastic file handles.*



**BENT BODY**

Grobet's Body Files are precision hand cutting tools designed to cut or level off a metal surface. Body Files are commonly used in Automotive industry for metal finishing and repair work. The thin metal and aluminum used to form the auto body is easily damaged or dented. Before painting, all dents and deep scratches have to be removed. This file tapers toward the end. **Cut bottom - Top is safe - Both edges are safe.**

Length	Width	Thickness	TPI	Second Cut	Smooth Cut
14"	1-5/16"	7/32"	13	<b>32.48801</b>	—
14"	1-21/64"	7/32"	20	—	<b>32.48802</b>



**CHAIN SAW, ROUND** - See page 11 for Chain Saw File Sets

Use for sharpening all sizes of chain saw teeth. This file maintains the proper tooth shape throughout extensive use. The chain saw file user will experience a fast, smooth cutting action creating an excellent finish. **Double cut.**

Length	Diameter	GROBET	GROBET SWISS	GROBET PREMIUM SWISS
		Smooth Cut	Smooth Cut	Smooth Cut
8"	13/64"	<b>32.27001</b>	<b>32.270S</b>	<b>32.270</b>
8"	3/16"	<b>32.27101</b>	<b>32.271S</b>	<b>32.271</b>
8"	5/32"	<b>32.27201</b>	<b>32.272S</b>	<b>32.272</b>
8"	7/32"	<b>32.27301</b>	<b>32.273S</b>	<b>32.273</b>
8"	1/4"	<b>32.27401</b>	<b>32.274S</b>	<b>32.274</b>



**CONTACT POINT**

Use for cleaning engine distributor points, contact points of magnets, switches, electric bell, etc. and spark plugs. **Single cut top and bottom - Both edges are safe.**

Length	No.
5"	<b>32.500</b>



**FARMER'S OWN FILE**

General purpose file with rectangular shape. **One side double cut - One side single cut - One edge single cut - One edge is safe.**

Length	Width	Thickness	Bastard Cut
8"	31/32"	3/16"	<b>32.498</b>
10"	31/32"	3/16"	<b>32.499</b>



**FLAT**

Most often used by machinists, machinery builders and repair personnel. Use when rapid material removal is required. This double cut file is tapered in width and thickness. **Double cut top and bottom - Both edges are single cut.**

Length	Width	Thickness	Bastard Cut	Second Cut	Smooth Cut
4"	15/32"	5/64"	<b>32.288</b>	<b>32.295</b>	<b>32.302</b>
6"	5/8"	5/32"	<b>32.289</b>	<b>32.296</b>	<b>32.303</b>
8"	25/32"	7/32"	<b>32.290</b>	<b>32.297</b>	<b>32.304</b>
10"	31/32"	1/4"	<b>32.291</b>	<b>32.298</b>	<b>32.305</b>
12"	1-5/32"	9/32"	<b>32.292</b>	<b>32.299</b>	<b>32.306</b>
14"	1-11/32"	5/16"	<b>32.293</b>	<b>32.300</b>	<b>32.307</b>



### HALF-ROUND

These files are popular with foundries and machinists. Use for rapid material removal while leaving a smooth finish. Used for filing concave, convex and flat surfaces as well as rounding out holes. This file is rounded on one side and flat on the other. **Double cut on both sides.**

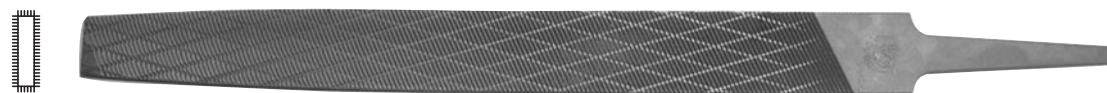
Length	Width	Thickness	Bastard Cut	Second Cut	Smooth Cut
4"	7/16"	1/8"	<b>32.309</b>	<b>32.317</b>	<b>32.324</b>
6"	19/32"	5/32"	<b>32.310</b>	<b>32.318</b>	<b>32.325</b>
8"	3/4"	7/32"	<b>32.311</b>	<b>32.319</b>	<b>32.326</b>
10"	15/16"	9/32"	<b>32.312</b>	<b>32.320</b>	<b>32.327</b>
12"	1-1/8"	11/32"	<b>32.313</b>	<b>32.321</b>	<b>32.328</b>
14"	1-9/32"	13/32"	<b>32.314</b>	<b>32.322</b>	<b>32.329</b>



### HAND

Use for rapid metal removal on sharp corners, shoulders and flat surfaces. This double cut file is similar to the Flat file without the taper. The Hand file offers one safe edge which reduces damage to the workpiece when filing up to a corner. **Double cut top and bottom – One edge single cut – One edge is safe.**

Length	Width	Thickness	Bastard Cut	Second Cut	Smooth Cut
6"	5/8"	5/32"	<b>32.331</b>	<b>32.336</b>	<b>32.341</b>
8"	25/32"	7/32"	<b>32.332</b>	<b>32.337</b>	<b>32.342</b>
10"	31/32"	1/4"	<b>32.333</b>	<b>32.338</b>	<b>32.343</b>
12"	1-5/32"	9/32"	<b>32.334</b>	<b>32.339</b>	<b>32.344</b>



### HIGH SPEED CHIPBREAKER

This tapered file features two sets of chipbreakers, forming a diamond pattern. The High Speed chipbreaker reduces chip clogging and generates a smooth finish. The coarse teeth remove metal quickly. This file can also be used on cast iron, bronze, brass and plastics. **Diamond Pattern cut top and bottom – Both edges are single cut.**

Length	Width	Thickness	Bastard Cut
8"	25/32"	7/32"	<b>32.345</b>
10"	31/32"	1/4"	<b>32.346</b>
12"	1-5/32"	9/32"	<b>32.347</b>



### KNIFE

The Knife file is the file of choice by tool and die makers for filing keyways, slots and acute angles. **Both sides are double cut – top edge is safe – knife edge is single cut.**

Length	Width	Thickness	Bastard Cut	Second Cut	Smooth Cut
4"	15/32"	7/64"	—	<b>32.354</b>	<b>32.359</b>
6"	21/32"	5/32"	<b>32.350</b>	<b>32.355</b>	<b>32.360</b>
8"	27/32"	3/16"	<b>32.351</b>	<b>32.356</b>	<b>32.361</b>
10"	1-1/32"	1/4"	<b>32.352</b>	<b>32.357</b>	<b>32.362</b>

*Note: See pages 33-35 for our complete file handle line, including charts on plastic file handles.*



**LONG ANGLE LATHE**

Primarily for lathe work, the Long Angle Lathe file can be used for bench filing of brass, bronze and aluminum. The teeth were designed with a long angle which provide for free cutting, rapid filing. **Single cut top and bottom – Both edges are safe.**

Length	Width	Thickness	Bastard Cut
10"	31/32"	1/4"	<b>32.364</b>
12"	1-5/32"	9/32"	<b>32.365</b>
14"	1-11/32"	5/16"	<b>32.366</b>



**MILL**

Where a smooth finish is desired, a Mill file is the file of choice. The Mill file has many applications such as sharpening saws and tools, finishing metal, lathe work, draw filing as well as general shop use. **All sides are single cut.**

Length	Width	Thickness	Bastard Cut	Second Cut	Smooth Cut
4"	7/16"	5/64"	<b>32.368</b>	<b>32.378</b>	<b>32.384</b>
6"	19/32"	7/64"	<b>32.369</b>	<b>32.379</b>	<b>32.385</b>
8"	25/32"	9/64"	<b>32.370</b>	<b>32.380</b>	<b>32.386</b>
10"	31/32"	11/64"	<b>32.371</b>	<b>32.381</b>	<b>32.387</b>
12"	1-5/32"	7/32"	<b>32.372</b>	<b>32.382</b>	<b>32.388</b>
14"	1-5/16"	1/4"	<b>32.373</b>	<b>32.383</b>	<b>32.389</b>
8"	2 Round Edges		<b>32.376</b>	—	—
10"	2 Round Edges		<b>32.377</b>	—	—

**MILLED CURVED TOOTH FILES**

Designed for automotive and aircraft manufacturers, these efficient files are known for their fast cutting action and longer life. The sharp edges are also popular with machinists, foundries, railroad and shipyards.



**FLAT WITH TANG**

Designed for use on aluminum, brass, copper, steel and hard rubber. Essential when fast filing is required.

Length	Width	Thickness	No.
10"	1"	7/32"	<b>32.48201</b>
12"	1-5/32"	17/64"	<b>32.48301</b>
14"	1-11/32"	5/16"	<b>32.48401</b>

ADJUSTABLE FLEXIBLE FILE HOLDER



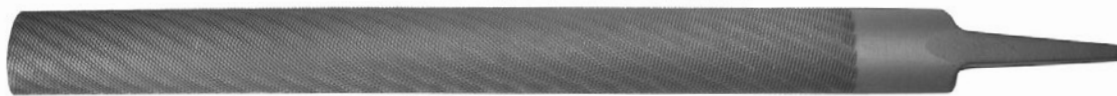
See Page 39

**FLEXIBLE WITHOUT TANG**

When working with sheet metal, this is the file of choice. A holder is required when using this file. This file was designed for outward, inward and flat use as teeth are present on both sides of the file.

Length	Width	Thickness	No.
10"	1"	5/32"	<b>32.49001</b>
12"	1-5/32"	3/16"	<b>32.49101</b>
14"	1-11/32"	3/16"	<b>32.49201</b>

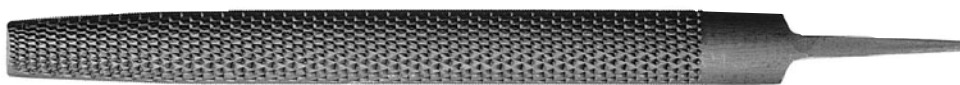
*Note: See pages 33-35 for our complete file handle line, including charts on plastic file handles.*



### PIPE-LINER

This file is used to file weld beads and scale off pipeline. **Double cut on both sides.**

Length	Width	Thickness	No.
14"	1-9/32"	13/32"	32.497



### RASP, HALF-ROUND

When working with plywood, plastics, wallboard or other soft materials, rasps are the file of choice for cabinet makers and woodworkers. The teeth of a rasp are uniform and individually formed.

**Rasp cut on top and bottom – Both edges are single cut.**

Length	Diameter	Bastard Cut	Second Cut
8"	5/16"	32.503	32.507
10"	3/8"	32.504	32.508
12"	1/2"	32.505	32.509
14"	5/8"	32.506	



### ROUND

When holes need enlarging and corners rounding, a round file is the solution. This file tapers, making it adaptable to a variety of hole sizes.

**Double cut.**

Length	Diameter	Bastard Cut	Second Cut	Smooth Cut
4"	5/32"	32.395	32.402	32.408
6"	7/32"	32.396	32.403	32.409
8"	5/16"	32.397	32.404	32.410
10"	3/8"	32.398	32.405	32.411
12"	1/2"	32.399	32.406	32.412
14"	5/8"	32.400	—	—



### SQUARE

This double cut file is used when filing slots, grooves, keyways, inside corners and square holes. Tapered toward the point, all four sides are equal filing surfaces. **Double cut on all four sides.**

Length	Diameter	Bastard Cut	Second Cut	Smooth Cut
4"	5/32"	32.414	32.421	32.427
6"	7/32"	32.415	32.422	32.428
8"	5/16"	32.416	32.423	32.429
10"	3/8"	32.417	32.424	32.430
12"	1/2"	32.418	32.425	32.431
14"	5/8"	32.419	—	32.432

*Note: See pages 33-35 for our complete file handle line, including charts on plastic file handles.*

### TAPER SAW, SINGLE CUT

The Taper Saw file is a triangular, single cut file designed for filing a variety of saws with 60 degree angled teeth. Tapered toward a point, this file has cut edges for filing gullets between saw teeth. Taper saw files are available in a number of widths: regular, slim, extra slim and double extra slim. **Single cut on all three sides.**



#### REGULAR TAPER

Length	Width	No.	Length	Width	No.
4"	1/4"	32.43101	7"	17/32"	32.434
5"	5/16"	32.43201	8"	19/32"	32.435
6"	15/32"	32.433	10"	23/32"	32.436



#### SLIM TAPER

Length	Width	No.	Length	Width	No.
4"	7/32"	32.438	7"	13/32"	32.441
5"	9/32"	32.439	8"	15/32"	32.442
6"	11/32"	32.440	10"	5/8"	32.443



#### EXTRA SLIM TAPER

Length	Width	No.	Length	Width	No.
4"	3/16"	32.445	7"	5/16"	32.448
5"	15/64"	32.446	8"	13/32"	32.449
6"	9/32"	32.447			



#### DOUBLE EXTRA SLIM

Length	Width	No.	Length	Width	No.
4"	5/32"	32.450	7"	1/4"	32.453
5"	3/16"	32.451	8"	5/16"	32.454
6"	7/32"	32.452			



### THREE - SQUARE

The Three Square file is the file of choice by machinists when filing angles more acute than 90 degrees, for cleaning out corners and filing taps and cutters. This triangular file is tapered to the point. This file can get into corners other files cannot. **Double cut on all three sides.**

Length	Width	Bastard Cut	Second Cut	Smooth Cut
4"	11/32"	32.455	32.45501	32.45502
6"	15/32"	32.456	32.460	32.464
8"	5/8"	32.457	32.461	32.465
10"	3/4"	32.458	32.462	32.466
12"	31/64"	32.459	32.463	32.467



### WARDING

A popular file with locksmiths, the Warding file was designed for filing or repairing "wards" in locks and keys. As the Warding file is thin, it is also suited for any application where the space is too narrow for other files to fit. This file tapers toward the end. **Double cut top and bottom - Both edges are single cut.**

Length	Width	Thickness	Bastard Cut	Second Cut	Smooth Cut
4"	15/32"	3/64"	32.468	32.473	32.477
6"	5/8"	5/64"	32.469	32.474	32.478
8"	25/32"	3/32"	32.470	32.475	32.479

Note: See pages 33-35 for our complete file handle line, including charts on plastic file handles.



## CHAIN SAW SHARPENING KITS

This sharpening kit was designed with the assistance of a forestry school. It is suited to the needs of non-professional and occasional users. In the blister pack version, the kit is delivered with a CD, which will guide the user in acquiring proper chain sharpening technique. File diameters must be selected according to the type of chain to be sharpened.

Benefits:

- Guaranteed easy learning
- Precise and efficient sharpening
- Increased safety
- Smooth cut and bite
- All tools close at hand
- Always neat and tidy
- Saves space
- Easily transportable



This kit contains:

- File Guide
- Depth Gauge
- Chain Saw File
- Flat File
- File Handle
- Bar Groove Cleaner

A demonstration CD is supplied with the blister pack version



Part Number	(in)
No. <b>32.28001</b>	13/64"
No. <b>32.28002</b>	3/16"
No. <b>32.28003</b>	5/32"
No. <b>32.28004</b>	7/32"



Part Number	(in)
No. <b>32.28201</b>	13/64"
No. <b>32.28202</b>	3/16"
No. <b>32.28203</b>	5/32"
No. <b>32.28204</b>	7/32"

## 7-PIECE FILE SETS

Recommended for both professional and home use. Comes in a heavy duty black canvas pouch - no handles

- Quality in hardness and regularity
- Efficient bite to the edges
- Long life

No. **32.4807**



### Set Includes:

10" Mill Bastard Cut, 10" Half Round Bastard Cut, 10" Flat Bastard Cut, 10" Flat Smooth Cut, 10" Round Bastard Cut, 10" Square Bastard Cut, 7" Slim Taper.

## 5 PIECE AMERICAN PATTERN FILE SETS

- Uniform cut for fast metal removal
- Extremely durable
- Unsurpassed in accuracy of shape and cut
- Best results on steel, cast iron, wood and thermoplastics



### Each Set Includes:

Round, Half Round, Mill, 3 Square and Flat Files with handles.

No. **32.520** - Bastard Cut 8"  
No. **32.522** - Bastard Cut 10"

No. **32.521** - Second Cut 8"  
No. **32.523** - Second Cut 10"



## 9-PIECE FILE SETS

Recommended for both professional and home use, these tools have an exceptional filing capacity. Comes in a heavy duty black canvas pouch

- Quality in hardness and regularity
  - Efficient bite to the edges
  - Long life
- All files come pre-assembled with Ergo handles.

### Set Includes:

6" Double Extra Slim Taper, 10" Mill Bastard Cut, 8" Half Round Wood Rasp Bastard Cut, 10" Half Round Bastard Cut, 8" Flat Bastard Cut, 10" Flat Bastard Cut, 10" Round Bastard Cut, 12" Mill Bastard Cut, 6" Slim Taper.

No. **32.4809**

# Grobet Swiss Precision Files

*The world's standard for quality and performance!*

**Grobet Swiss Precision Files** are manufactured to precise production standards, using a combination of machine cutting and hand craftsmanship to produce the most accurate, best cutting and longest-lasting files in the world. They are made of the finest heat-tempered, chrome alloy steel and have the "right" feel, action and balance desired by all true craftsmen. **Grobet Swiss Precision Files** deliver superior performance on all metals. Simply the best you can buy. Grobet Swiss Precision Files are measured in length from the point where the teeth begin to the end of the file. *The handle section (tang) is not considered in the file length.*

## Guide to Selecting Swiss Precision Files

As shown in the File Finder chart, each configuration calls for a different type of file. There is more to file selection than shape alone. The cut selected is equally important. Determination of cut depends on the type and form of material to be worked, amount of material to be removed and the finish desired. For example, rapid removal of stock often indicates a No. 00 cut, while working on narrow surfaces would suggest a No. 2 cut and final finishing operations might take a fine cut such as No. 4. In the final analysis, file selection cannot be reduced to a formula or table but will be based to a great degree on experience and common sense. Whatever type, shape, size or cut may be required, one thing is certain: there is a Grobet Swiss precision file that meets the specifications. And the accuracy and finish delivered by these files will clearly show why craftsmen have made Grobet Swiss the leader in precision files for so many years.

## File Finder

Basic Application	Type of File Recommended
Corners-holes-edges	Three-Square
Corners-holes	Square
Corners-slots	Equalling
Corners-slots	Slitting
Curved surfaces-corners-holes	Half-Round
Curved surfaces-junctures of curved and flat surfaces-corners-holes	Crossing
Edges, joints	Joint
Flat surfaces	Hand
Flat surfaces-corners-keyways dovetail ways-gear teeth-deburring	Barrette
Flat surfaces-slots	Pillar
Roughening surfaces for hand grips	Checkering
Rounded corners-slots-flat surfaces-junctures between curved and flat surfaces	Crochet
Rounded corners-holes-"V" slots	Pippin
Rounded inside corners-holes	Round
Slots	Screwhead
Slots	Warding
Slots-wedge-shaped openings	Knife

## Scale of Cuts

The scale of cuts for Swiss precision files as well as the basic shapes were developed by Grobet, dating back to the founding of Grobet Freres in 1812. Additions and refinements have been made to meet the changing requirements of modern technologies. Here is the scale of cuts for Grobet Swiss precision files.

Teeth per inch (upcut)	30	41	51	64	79	97	117	142	173	213	295
Files 10" and over in length	00	0	1	2	3	4	-	6	-	-	-
Files 4" to 8" in length	-	00	0	1	2	3	4	-	6	-	-
Files 3" in length	-	-	00	0	1	2	3	4	-	6	8
Escapement Files	-	-	0	-	2	3	4	-	6	-	-
Needle Files 4" to 7-3/4"	-	-	0	-	2	3	4	-	6	-	-
Regular Riffles	-	-	0	-	2	3	4	-	6	-	-

## Types of Files

There are four types of files detailed in the following pages:

**Swiss Precision Files** - The original Grobet-Swiss files made in hundreds of shapes and sizes.

**Swiss Needle Files** - A group of files of various cross-sections with a knurled, round handle. Knurling gives the file a positive, non-Slip grip for precision filing.

**Escapement Files** - Also called Square Handled Needle Files. A group of files of various cross-sectioned shapes with a length of cut varying from 3/4" to 2-1/2", and long, square handles.

**Riffles** - Originally used and hand forged by die sinkers, die makers, silversmiths, etc., in shapes and cross-sections appropriate to their work. Teeth are cut on small areas on each end and can have a variety of shapes. A long middle portion serves as the handle.



### BARRETTE

Tapered in width and thickness, coming to a point. Only flat side is cut, providing safe edge and top. **Double cut.**

Length		Width		Thickness		Cut 00	Cut 0	Cut 1	Cut 2	Cut 4
(in)	(mm)	(in)	(mm)	(in)	(mm)					
3"	75	23/64"	9.1	3/32"	2.4	—	<b>31.021</b>	—	—	—
4"	100	1/2"	12.7	1/8"	3.2	<b>31.022</b>	<b>31.023</b>	<b>31.024</b>	<b>31.025</b>	<b>31.026</b>
6"	150	23/32"	18.3	5/32"	4.0	<b>31.027</b>	<b>31.028</b>	<b>31.029</b>	<b>31.030</b>	<b>31.031</b>
8"	200	7/8"	22.2	13/64"	5.2	—	<b>31.032</b>	—	<b>31.033</b>	—



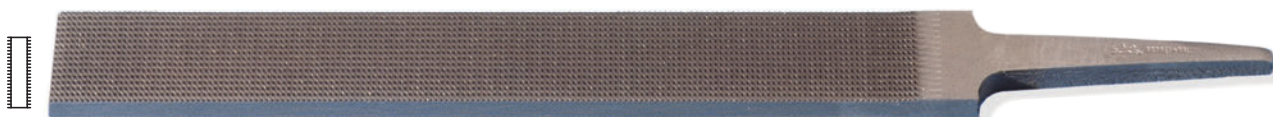
### BARRETTE-HOT DIE

Same as regular Barrette files except with ground backs, widely used in making and repairing extrusion dies. **Double cut.**

Length		Width		Thickness		Cut 00
(in)	(mm)	(in)	(mm)	(in)	(mm)	
3"	75	3/8"	9.5	3/32"	2.4	<b>31.017</b>
4"	100	1/2"	12.7	1/8"	3.2	<b>31.018</b>

### CHECKERING

Parallel in width and gently tapered in thickness. Overcut is parallel to file edges and upcut is 90° to overcut. Useful for putting serrations on knife edges and to obtain a checkered design similar to a gun hand grip. **Double cut top and bottom – Both edges are safe.**



#### HAND CHECKERING

Length		Width		Thickness		Cut 00	Cut 0	Cut 1	Cut 2
(in)	(mm)	(in)	(mm)	(in)	(mm)				
6"	150	3/4"	19.1	3/16"	5.2	<b>31.035</b>	<b>31.036</b>	<b>31.037</b>	<b>31.038</b>
Lines per inch/cm						20/8	30/12	40/16	50/20



#### PILLAR CHECKERING

Length		Width		Thickness		Cut 00	Cut 0	Cut 1	Cut 2	Cut 4
(in)	(mm)	(in)	(mm)	(in)	(mm)					
6"	150	1/2"	12.7	11/64"	4.4	<b>31.040</b>	<b>31.041</b>	<b>31.042</b>	<b>31.043</b>	<b>31.045</b>
Lines per inch/cm						20/8	30/12	40/16	50/20	75/30

*Note: See pages 33-35 for our complete file handle line, including charts on plastic file handles.*



**CROCHET**

Tapered in width and gradually tapered in thickness. Used in filing junctions between a flat and curved surface. Useful in developing slots with rounded edges. **Double cut top and bottom – Both edges are single cut.**

Length		Width		Thickness		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)	(in)	(mm)			
4"	100	5/16"	7.9	3/32"	2.4	—	<b>31.047</b>	<b>31.048</b>
6"	150	13/32"	10.3	9/64"	3.6	<b>31.049</b>	<b>31.050</b>	<b>31.051</b>
8"	200	15/32"	11.9	11/64"	4.4	<b>31.052</b>	<b>31.053</b>	<b>31.054</b>



**CROSSING**

Half-round on two sides, with one side having a larger radius than the other. Tapered in width and thickness. Cut and usable to the point. Used primarily for filing interior curved surfaces. The double radius makes possible the filing at the junction of two curved surfaces or a straight and a curved surface. **Double cut on both sides.**

Length		Width		Thickness		Cut 0	Cut 2	Cut 4
(in)	(mm)	(in)	(mm)	(in)	(mm)			
4"	100	15/32"	11.9	9/64"	3.6	<b>31.056</b>	<b>31.057</b>	<b>31.058</b>
6"	150	19/32"	15.1	3/16"	4.5	<b>31.059</b>	<b>31.060</b>	<b>31.061</b>
8"	200	13/16"	20.6	15/64"	6.0	<b>31.062</b>	<b>31.063</b>	—



**EQUALLING**

Parallel in width and thickness. Used primarily for filing slots and corners. **Double cut top and bottom – Both edges are single cut.**

Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4
(in)	(mm)	(in)	(mm)	(in)	(mm)				
4"	100	13/32"	10.3	5/64"	2.0	—	<b>31.065</b>	<b>31.066</b>	<b>31.067</b>
6"	150	1/2"	12.7	7/64"	2.8	<b>31.068</b>	<b>31.069</b>	<b>31.070</b>	<b>31.071</b>
8"	200	21/32"	16.7	1/8"	3.2	<b>31.072</b>	<b>31.073</b>	<b>31.074</b>	—

**Equalling-Special Thickness**

Length		Width		Approx. Thickness		Stubs Iron	Cut 0	Cut 2	Cut 4
(in)	(mm)	(in)	(mm)	(in)	(mm)	Wire Gauge No.			
4"	100	13/32"	10.3	.047"	1.25	18	<b>31.076</b>	<b>31.077</b>	—
4"	100	13/32"	10.3	.035"	0.91	20	—	<b>31.080</b>	<b>31.081</b>
4"	100	13/32"	10.3	.031"	0.81	21	<b>31.082</b>	<b>31.083</b>	—
4"	100	13/32"	10.3	.028"	0.71	22	—	<b>31.084</b>	<b>31.085</b>
4"	100	13/32"	10.3	.022"	0.56	24	—	<b>31.086</b>	<b>31.087</b>
4"	100	13/32"	10.3	.018"	0.46	26	—	<b>31.088</b>	—
4"	100	13/32"	10.3	.014"	0.38	28	—	<b>31.090</b>	<b>31.091</b>
6"	150	1/2"	12.7	.083"	2.05	14	<b>31.092</b>	<b>31.093</b>	—
6"	150	1/2"	12.7	.065"	1.65	16	<b>31.094</b>	<b>31.095</b>	—
6"	150	1/2"	12.7	.047"	1.25	18	<b>31.096</b>	<b>31.097</b>	—



**HALF-ROUND**

Tapered in width and thickness, coming to a point. **Double cut on both sides.**

Length		Width		Thickness		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)							
3"	75	5/16"	7.9	3/32"	2.5	—	—	—	<b>31.100</b>	—	—	—
4"	100	15/32"	11.9	9/64"	3.6	<b>31.102</b>	<b>31.103</b>	—	<b>31.104</b>	<b>31.106</b>	<b>31.107</b>	—
5"	125	33/64"	13.1	5/32"	4.0	—	—	—	<b>31.108</b>	—	—	—
6"	150	19/32"	15.1	3/16"	4.8	<b>31.111</b>	<b>31.112</b>	<b>31.113</b>	<b>31.114</b>	<b>31.115</b>	<b>31.116</b>	<b>31.117</b>
8"	200	13/16"	20.6	15/64"	6.0	<b>31.118</b>	<b>31.119</b>	<b>31.120</b>	<b>31.121</b>	—	<b>31.122</b>	—
10"	250	1"	25.4	19/64"	7.5	<b>31.123</b>	<b>31.124</b>	—	<b>31.125</b>	—	—	—

Note: See pages 33-35 for our complete file handle line, including charts on plastic file handles.



### HALF-ROUND RING

Tapered in width and thickness, coming to a point. Narrower than regular half-round and, therefore, useful for filing inside of rings.

**Double cut on both sides.**

Length		Width		Thickness		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4
(in)	(mm)	(in)	(mm)	(in)	(mm)						
6"	150	15/32"	11.9	9/64"	3.6	<b>31.127</b>	<b>31.128</b>	<b>31.129</b>	<b>31.130</b>	<b>31.131</b>	<b>31.132</b>



### ECONOMY HALF-ROUND RING

Made with a built in handle.

Length		Width		Thickness		Cut 0
(in)	(mm)	(in)	(mm)	(in)	(mm)	
6"	150	7/16"	11.1	1/8"	3.2	<b>33.814</b>



### HAND

Parallel in width and tapered in thickness. **Double cut top and bottom – One edge single cut – One edge is safe.**

Length		Width		Thickness		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)							
4"	100	17/32"	13.5	1/8"	3.2	—	<b>31.140</b>	—	<b>31.141</b>	—	<b>31.142</b>	—
6"	150	3/4"	19.1	5/32"	4.0	<b>31.143</b>	<b>31.144</b>	<b>31.145</b>	<b>31.146</b>	<b>31.147</b>	<b>31.148</b>	<b>31.149</b>
8"	200	29/32"	22.0	3/16"	4.8	<b>31.150</b>	<b>31.151</b>	<b>31.152</b>	<b>31.153</b>	—	<b>31.154</b>	—
10"	250	1"	25.4	1/4"	6.4	<b>31.155</b>	<b>31.156</b>	—	<b>31.157</b>	—	—	—
12"	300	1-3/16"	30.0	5/16"	7.9	<b>31.158</b>	<b>31.159</b>	—	—	—	—	—



### JOINT ROUND EDGE

Parallel in width and thickness, with rounded edges, these files are cut on the edges only. Length is 4" (100 mm). **Cut is number 2 – Single Cut.**

No.	<b>31.161</b>	<b>31.162</b>	<b>31.163</b>	<b>31.164</b>	<b>31.165</b>	<b>31.166</b>	<b>31.167</b>	<b>31.168</b>	<b>31.169</b>
Approx. thickness-inch	.059"	.047"	.039"	.035"	.031"	.028"	.024"	.020"	.016"
Approx. thickness-mm	1.5	1.2	1.0	.9	.8	.7	.6	.5	.4
Stubs iron wire gauge	17	18	19	20	21	22	23	25	27

*(This file is too thin to use with plastic handles.)*



### KNIFE

Tapered in width and thickness, with the knife edge having the same thickness from point to shoulder. The included angle of the sharp edge is approximately 10°. Generally used to file in a slot or wedge shaped opening. Curved knife edge allows for easily filing in restricted areas.

**Double cut on both sides – Top edge is safe – Knife edge is single cut.**

Length		Width		Thickness		Cut 00	Cut 0	Cut 1	Cut 2	Cut 4
(in)	(mm)	(in)	(mm)	(in)	(mm)					
4"	100	15/32"	11.9	1/8"	3.2	<b>31.174</b>	<b>31.175</b>	<b>31.176</b>	<b>31.177</b>	<b>31.178</b>
6"	150	23/32"	18.3	5/32"	4.0	<b>31.179</b>	<b>31.180</b>	<b>31.181</b>	<b>31.182</b>	<b>31.183</b>
8"	200	7/8"	22.2	13/64"	5.2	<b>31.184</b>	<b>31.185</b>	<b>31.186</b>	<b>31.187</b>	—

*Note: See pages 33-35 for our complete file handle line, including charts on plastic file handles.*

## PILLAR FILES

These files are parallel in width and tapered in thickness to make possible perfectly flat filing. **Double cut top and bottom – Both edges are safe.**



### EXTRA NARROW PILLAR

Length		Width		Thickness		Cut 00	Cut 0	Cut 1	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)						
3"	75	1/8"	3.2	5/64"	2.0	—	—	—	<b>31.200</b>	—	—
4"	100	5/32"	4.0	5/64"	2.0	<b>31.201</b>	<b>31.202</b>	—	<b>31.204</b>	<b>31.205</b>	—
6"	150	13/64"	5.2	1/8"	3.2	<b>31.206</b>	<b>31.207</b>	<b>31.208</b>	<b>31.209</b>	<b>31.210</b>	<b>31.211</b>
8"	200	9/32"	7.1	9/64"	3.6	<b>31.212</b>	<b>31.213</b>	<b>31.214</b>	<b>31.215</b>	<b>31.216</b>	—
10"	250	11/32"	8.7	11/64"	4.4	<b>31.217</b>	—	—	—	—	—



### NARROW PILLAR

Length		Width		Thickness		Cut 00	Cut 0	Cut 1	Cut 2	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)						
4"	100	3/16"	4.8	3/32"	2.5	<b>31.219</b>	<b>31.220</b>	<b>31.221</b>	<b>31.222</b>	<b>31.223</b>	—
6"	150	1/4"	6.4	9/64"	3.6	<b>31.224</b>	<b>31.225</b>	<b>31.226</b>	<b>31.227</b>	<b>31.228</b>	<b>31.229</b>
8"	200	11/32"	8.7	11/64"	4.4	<b>31.230</b>	<b>31.231</b>	<b>31.232</b>	<b>31.233</b>	—	—
10"	250	25/64"	9.9	3/16"	4.8	<b>31.234</b>	<b>31.235</b>	—	—	—	—



### DEMI-NARROW PILLAR

Length		Width		Thickness		Cut 0	Cut 1	Cut 2
(in)	(mm)	(in)	(mm)	(in)	(mm)			
6"	150	3/8"	9.5	5/32"	4.0	<b>31.192</b>	<b>31.193</b>	<b>31.194</b>



### REGULAR PILLAR

Length		Width		Thickness		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)	(in)	(mm)							
4"	100	3/8"	9.5	1/8"	3.2	<b>31.237</b>	<b>31.238</b>	<b>31.239</b>	<b>31.240</b>	—	<b>31.241</b>	—
6"	150	1/2"	12.7	11/64"	4.4	<b>31.243</b>	<b>31.244</b>	<b>31.245</b>	<b>31.246</b>	<b>31.247</b>	<b>31.248</b>	<b>31.249</b>
8"	200	19/32"	15.1	13/64"	5.2	<b>31.251</b>	<b>31.252</b>	<b>31.253</b>	<b>31.254</b>	<b>31.255</b>	<b>31.256</b>	—
10"	250	23/32"	18.3	15/64"	6.0	<b>31.257</b>	<b>31.258</b>	—	<b>31.259</b>	—	—	—
12"	300	25/32"	19.8	9/32"	7.1	<b>31.260</b>	<b>31.261</b>	—	—	—	—	—



## PIPPIN

Tapered in width and thickness. Combines the cross-sections of the round file, with the crossing file, along with the edge of a knife file. For finishing the junction of two different curved surfaces and for opening slots when a "V" shape is required.

**Double cut on both sides – Top and bottom edge are single cut.**

Length		Width		Thickness		Cut 0	Cut 2	Cut 4
(in)	(mm)	(in)	(mm)	(in)	(mm)			
6"	150	25/64"	9.9	9/64"	3.6	<b>31.267</b>	<b>31.268</b>	<b>31.269</b>
8"	200	15/32"	11.9	11/64"	4.4	<b>31.271</b>	<b>31.272</b>	—

*Note: See pages 33-35 for our complete file handle line, including charts on plastic file handles.*



### ROUND

Gradually tapered and cut and workable to the point. Used where it is necessary to enlarge a hole or round off a radius. **Double cut.**

Length		Diameter		Cut 00	Cut 0	Cut 1	Cut 2	Cut 3	Cut 4	Cut 6
(in)	(mm)	(in)	(mm)							
3"	75	3/32"	2.4	—	*31.275	31.276	31.277	—	—	—
4"	100	5/32"	4.0	*31.279	*31.280	31.281	31.282	—	31.283	—
5"	125	13/64"	5.2	—	—	—	31.286	—	—	—
6"	150	1/4"	6.4	*31.287	*31.288	31.289	31.290	31.291	31.292	31.293
8"	200	5/16"	7.9	*31.294	*31.295	31.296	31.297	—	31.298	—
10"	250	13/32"	10.3	*31.299	*31.300	—	31.302	—	—	—

\*Indicates blunt end



### ROUND PARALLEL

Cut over the entire surface (does not taper to point). **Double cut.**

Length		Diameter		Cut 00	Cut 0	Cut 2
(in)	(mm)	(in)	(mm)			
4"	100	1/16"	1.6	—	31.304	31.305
4"	100	1/8"	3.2	—	31.307	—
6"	150	3/32"	2.4	—	31.311	31.312
6"	150	1/8"	3.2	—	31.315	31.316
6"	150	5/32"	4.0	31.318	31.319	31.320
6"	150	3/16"	4.8	31.321	31.322	31.323
6"	150	1/4"	6.4	—	—	31.326



### SCREWHEAD with TANG

Used for filing slots in small screws. Available in thicknesses ranging from No. 1 (thickest) to No. 8 (thinnest). **Single cut on both edges – Both sides are safe.**

Length		Width		Thickness					
(in)	(mm)	(in)	(mm)	1 (.032") (.80 mm)	2 (.028") (.70 mm)	3 (.024") (.60 mm)	4 (.022") (.55 mm)	6 (.018") (.45 mm)	8 (.014") (.35 mm)
3"	75	25/64"	9.9	—	31.332	31.333	31.334	31.335	31.336
4"	100	15/32"	11.9	31.337	31.338	—	31.339	—	—



### UNIVERSAL PIVOT FILE/BURNISHER

These regular burnishers are polished and have slightly rounded corners. 7 1/8" (18 cm) length.

No. 31.01710 Right

No. 31.01720 Left



### SLITTING

Parallel in width with identical contour on top and bottom. Thinner than knife files and used for filing slots. **Double cut top and bottom – Both edges are single cut.**

Length		Width		Thickness		Cut 0	Cut 2
(in)	(mm)	(in)	(mm)	(in)	(mm)		
6"	150	19/32"	15.1	1/8"	3.2	31.342	31.343

*Note: See pages 33-35 for our complete file handle line, including charts on plastic file handles.*



**SQUARE**

A general purpose file, cut and usable to the point. Gradually tapered. **Double cut on all four sides.**

Length		Diameter		Cut 00	Cut 0	Cut 1	Cut 2	Cut 4
(in)	(mm)	(in)	(mm)					
4"	100	5/32"	4.0	<b>*31.345</b>	<b>*31.346</b>	—	<b>31.348</b>	—
6"	150	15/64"	6.0	<b>*31.349</b>	<b>*31.350</b>	<b>31.351</b>	<b>31.352</b>	<b>31.353</b>
8"	200	5/16"	7.9	<b>*31.354</b>	<b>*31.355</b>	—	<b>31.356</b>	—
10"	250	13/32"	10.3	<b>*31.357</b>	—	—	—	—

\*Indicates blunt end



**THREE-SQUARE**

Gradually tapered, cut and workable to the point. **Double cut on all three sides.**

Length		Diameter		Cut 00	Cut 0	Cut 1	Cut 2	Cut 4
(in)	(mm)	(in)	(mm)					
4"	100	9/32"	7.1	<b>31.366</b>	<b>31.367</b>	<b>31.368</b>	<b>31.369</b>	<b>31.370</b>
6"	150	3/8"	9.5	<b>31.371</b>	<b>31.372</b>	<b>31.373</b>	<b>31.374</b>	<b>31.375</b>
8"	200	1/2"	12.7	<b>31.376</b>	<b>31.377</b>	<b>31.378</b>	<b>31.379</b>	—



**THREE-SQUARE SLIM**

Same as three-square, except thinner, for working in smaller areas. **Double cut on all three sides.**

Length		Width		Cut 0	Cut 2
(in)	(mm)	(in)	(mm)		
6"	150	5/16"	7.9	<b>31.381</b>	<b>31.382</b>

Use plastic file handles: size 4.



**VUL-CRYLIC**

Double-end vulcanite file with open, coarse teeth for filing plastics, waxes and soft materials. One end is coarser than the other. **Double cut on both sides.**

Length		Width		No.
(in)	(mm)	(in)	(mm)	
7"	175	1/2"	12.7	<b>31.385</b>
8"	200	35/64"	14	<b>31.384</b>



**WARDING**

Parallel in thickness and tapered in width. Useful for removal of burs. **Double cut top and bottom – Both edges are single cut.**

Length		Width		Thickness		Cut 00	Cut 0	Cut 2	Cut 4
(in)	(mm)	(in)	(mm)	(in)	(mm)				
3"	75	23/64"	9.1	1/32"	0.8	—	<b>31.387</b>	<b>31.388</b>	—
4"	100	1/2"	12.7	3/64"	1.2	<b>31.389</b>	<b>31.390</b>	<b>31.391</b>	<b>31.392</b>
6"	150	5/8"	15.9	5/64"	2.0	<b>31.393</b>	<b>31.394</b>	<b>31.395</b>	<b>31.396</b>
8"	200	7/8"	22.2	7/64"	2.8	<b>31.397</b>	<b>31.398</b>	<b>31.399</b>	—

**Warding-Special Thickness**

No.	Length		Width		Approx. Thickness		Stubs Iron Wire Gauge	Cut No.
	(in)	(mm)	(in)	(mm)	(in)	(mm)		
<b>31.401</b>	3"	75	23/64"	9.1	.025"	0.61	23	0
<b>31.402</b>	4"	100	1/2"	12.7	.031"	0.81	21	0
<b>31.403</b>	6"	150	5/8"	15.9	.065"	1.65	16	0
<b>31.405</b>	6"	150	5/8"	15.9	.047"	1.25	18	2
<b>31.406</b>	6"	150	5/8"	15.9	.042"	1.02	19	0
<b>31.407</b>	6"	150	5/8"	15.9	.042"	1.02	19	2

(This file is too thin to use with plastic handles.)

Note: See pages 33-35 for our complete file handle line, including charts on plastic file handles.



## DIE SINKERS' FILES

Overall length: 5-1/4" (133 mm). Length of cut: 3-1/2" (89 mm).

### AURIFORM

Cut 0	Cut 2
31.420	31.421



### CROCHET

Cut 0	Cut 2
31.422	31.423



### FLAT

Cut 0	Cut 2
31.424	31.425



### HALF-ROUND

Cut 0	Cut 2
31.426	31.427



### KNIFE

Cut 0	Cut 2
31.428	31.429



### LOZENGE

Cut 0	Cut 2
31.430	31.431



### OVAL

Cut 0	Cut 2
31.432	31.433



### PIPPIN

Cut 0	Cut 2
31.434	31.435



### ROUND

Cut 0	Cut 2
31.436	31.437



### SQUARE

Cut 0	Cut 2
31.438	31.439



### THREE-SQUARE

Cut 0	Cut 2
31.440	31.441



### WARDING

Cut 0	Cut 2
31.442	31.443



### ASSORTED SET OF 12

Cut 0	Cut 2
31.445	31.446

**GROBET SWISS NEEDLE FILES**

Precision files, for exacting work, especially under magnification. Made of the highest quality steel, machined and finished for precision shape, accuracy and balance. With round, knurled handles or plastic handles as noted.

- Length 4" (10 cm) has cut portion of 1-3/4" (44 mm)
- Length 5-1/2" (14 cm) has cut portion of 2-1/2" (64 mm)

- Length 6-1/4" (16 cm) has cut portion of 3" (76 mm)
- Length 7-3/4" (20 cm) has cut portion of 4-1/8" (105 mm)



Knurled Handle



Plastic Handle



**BARRETTE**



Overall Length		KNURLED HANDLES					PLASTIC HANDLES		
(in)	(cm)	Cut 00	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 2	Cut 4
4"	10	—	31.450	31.451	31.452	—	30.450	30.451	—
5-1/2"	14	—	31.453	31.454	31.456	—	30.453	30.454	30.456
6-1/4"	16	31.458	31.459	31.461	31.463	31.464	30.459	30.461	30.463
7-3/4"	20	31.465	31.466	31.468	31.470	31.471			



**BARRETTE, GROUND BACK**

Widely used in making and repairing extrusion dies.



Overall Length		KNURLED HANDLES	
(in)	(cm)	Cut 0	Cut 0
5-1/2"	14	31.693	31.693
6-1/4"	16	31.694	31.694



**CROCHET**



Overall Length		KNURLED HANDLES		
(in)	(cm)	Cut 0	Cut 2	Cut 4
4"	10	31.474	31.475	—
5-1/2"	14	31.477	31.478	31.479
6-1/4"	16	31.480	31.481	31.482



**CROSSING**



Overall Length		KNURLED HANDLES				PLASTIC HANDLES		
(in)	(cm)	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 2	Cut 4
4"	10	31.484	31.485	—	—	30.484	30.485	—
5-1/2"	14	31.487	31.488	31.489	—	30.487	30.488	30.489
6-1/4"	16	31.490	31.491	31.492	31.493	30.490	30.491	30.492
7-3/4"	20	31.494	31.495	31.496	—			



**EQUALLING**



Overall Length			KNURLED HANDLES				PLASTIC HANDLES		
(in)	(cm)	Cut 00	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 2	Cut 4
4"	10	—	31.498	31.499	31.500	—	30.498	30.499	—
5-1/2"	14	—	31.501	31.502	31.503	—	30.501	30.502	30.503
6-1/4"	16	31.505	31.506	31.508	31.510	31.511	30.506	30.508	30.510
7-1/4"	20	—	31.512	31.513	31.514	—			


**HALF-ROUND**

Overall Length		KNURLED HANDLES						PLASTIC HANDLES		
(in)	(cm)	Cut 00	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 2	Cut 4	
4"	10	—	31.516	31.517	—	—	30.516	30.517	—	
5-1/2"	14	—	31.519	31.520	31.522	—	30.519	30.520	30.522	
6-1/4"	16	31.524	31.525	31.527	31.529	31.530	30.525	30.527	30.529	
7-3/4"	20	31.53101	31.531	31.533	31.535	—	—	—	—	


**JOINT ROUND EDGE**

Overall Length		KNURLED HANDLES				PLASTIC HANDLES		
(in)	(cm)	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 2	Cut 4
4"	10	31.537	31.538	31.539	—	30.537	30.538	—
5-1/2"	14	31.540	31.541	31.542	—	30.540	30.541	30.452
6-1/4"	16	31.543	31.544	31.545	31.546	30.543	30.544	30.545


**PILLAR ROUND EDGE**

Overall Length		KNURLED HANDLES					
(in)	(cm)	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 4
6-1/4"	16	31.547	—	—	—	31.548	31.549


**KNIFE**

Overall Length		KNURLED HANDLES				PLASTIC HANDLES		
(in)	(cm)	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 2	Cut 4
4"	10	31.551	31.552	—	—	30.551	30.552	—
5-1/2"	14	31.554	31.555	31.556	—	30.554	30.555	30.556
6-1/4"	16	31.558	31.559	31.561	31.562	30.558	30.559	30.561
7-3/4"	20	31.563	31.564	31.565	—	—	—	—


**MARKING**

Overall Length		KNURLED HANDLES				PLASTIC HANDLES		
(in)	(cm)	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 2	Cut 4
4"	10	31.567	31.568	31.569	—	30.567	30.568	—
5-1/2"	14	31.570	31.571	31.572	—	30.570	30.571	30.572
6-1/4"	16	31.573	31.574	31.575	31.576	30.573	30.574	30.575


**OVAL**

Overall Length		KNURLED HANDLES					
(in)	(cm)	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 4
6-1/4"	16	31.578	—	—	—	31.579	31.580


**ROUND**

Overall Length		KNURLED HANDLES				PLASTIC HANDLES			
(in)	(cm)	Cut 00	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 2	Cut 4
4"	10	—	31.582	31.583	31.584	—	30.582	30.583	—
5-1/2"	14	—	31.585	31.586	31.588	—	30.585	30.586	30.588
6-1/4"	16	31.590	31.591	31.593	31.595	31.596	30.591	30.593	30.595
7-3/4"	20	31.59701	31.597	31.598	31.599	—	—	—	—



**SLITTING**

Overall Length		KNURLED HANDLES					PLASTIC HANDLES		
(in)	(cm)	Cut 0	Cut 2	Cut 4	Price	Cut 6	Cut 0	Cut 2	Cut 4
4"	10	31.601	31.602	—	—	—	—	30.602	—
5-1/2"	14	31.604	31.605	31.606	—	—	30.604	30.605	30.606
6-1/4"	16	31.607	31.608	31.609	31.610	—	—	—	—



**SQUARE**

Overall Length		KNURLED HANDLES					PLASTIC HANDLES		
(in)	(cm)	Cut 00	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 2	Cut 4
4"	10	—	31.612	31.613	—	—	30.612	30.613	—
5-1/2"	14	—	31.615	31.616	31.617	—	30.615	30.616	30.617
6-1/4"	16	31.619	31.620	31.622	31.624	31.625	—	30.622	30.624
7-3/4"	20	—	31.626	31.627	31.628	—	—	—	—



**THREE SQUARE**

Overall Length		KNURLED HANDLES					PLASTIC HANDLES		
(in)	(cm)	Cut 00	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 2	Cut 4
4"	10	31.629	31.630	31.631	31.632	—	30.630	30.631	—
5-1/2"	14	—	31.633	31.634	31.636	—	30.633	30.634	30.636
6-1/4"	16	31.637	31.638	31.640	31.642	31.643	30.638	30.640	30.642
7-3/4"	20	31.644	31.645	31.647	31.649	31.650	—	—	—

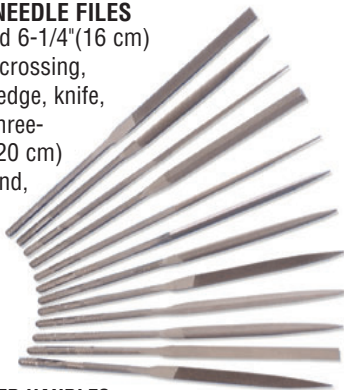


**WARDING**

Overall Length		KNURLED HANDLES					PLASTIC HANDLES		
(in)	(cm)	Cut 0	Cut 2	Cut 4	Cut 6	Cut 0	Cut 2	Cut 4	
4"	10	31.656	31.657	31.658	—	30.656	30.657	—	
5-1/2"	14	31.659	31.660	31.661	—	—	—	30.661	
6-1/4"	16	31.663	31.664	31.666	31.667	30.663	30.664	30.666	
7-3/4"	20	31.668	31.669	31.670	—	—	—	—	

**SETS of 12 ASSORTED GROBET NEEDLE FILES**

The 4" (10 cm), 5-1/2" (14 cm) and 6-1/4" (16 cm) sets consist of one each barrette, crossing, equalling, half-round, joint round edge, knife, marking, round, slitting, square, three-square, and warding. The 7-3/4" (20 cm) sets consists of two each half-round, round and three-square and one each barrette, crossing, equalling, knife, square and warding.



Overall Length		KNURLED HANDLES			
(in)	(cm)	Cut 0	Cut 2	Cut 4	Cut 6
4"	10	31.672	31.673	—	—
5-1/2"	14	31.675	31.676	31.677	—
6-1/4"	16	31.679	31.680	31.681	31.682
7-3/4"	20	31.683	31.684	—	—

Overall Length		PLASTIC HANDLES		
(in)	(cm)	Cut 0	Cut 2	Cut 4
4"	10	30.672	30.673	—
5-1/2"	14	30.675	30.676	30.677
6-1/4"	16	30.679	30.680	30.681

**6-PIECE SWISS NEEDLE FILE SET WITH HANDLES**

- Swiss made
- 5-1/2" (14 cm)
- Has cut portion of 2-1/2" (64 mm)
- Convenient vinyl storage pouch
- Rubber coated plastic handles
- Competitive price

Precision files, for exacting work, especially under magnification. Made of the highest quality steel, machined and finished for precision shape, accuracy and balance.



**Set Includes:**

One each Half Round, Round, Three-square, Square, Equalling and Warding files.

No. 31.674H















## VALTITAN NEEDLE & HAND FILES

### "The File with the Yellow Tang"



For platinum, stainless steel, exotic plastics, and other hard to file materials. The hardest surface known – Rockwell hardness 72HRc. Better performance on hard-to-file surfaces. Little or no clogging; a simple knock is enough to remove the chips. Highly resistant to corrosion. Longer life than standard files.



### VALTITAN NEEDLE FILES



Overall length is 7" (18 cm), has cut portion of 3-1/4" (80 mm).



			
<b>BARRETTE</b>	Cut 00 30.100V	Cut 0 30.101V	Cut 2 30.102V
			
<b>EQUALLING</b>	Cut 00 30.103V	Cut 0 30.104V	Cut 2 30.105V
			
<b>HALF-ROUND</b>	Cut 00 30.106V	Cut 0 30.107V	Cut 2 30.108V
			
<b>ROUND</b>	Cut 00 30.118V	Cut 0 30.119V	Cut 2 30.120V
			
<b>SQUARE</b>	Cut 00 30.115V	Cut 0 30.116V	Cut 2 30.117V
			
<b>THREE-SQUARE</b>	Cut 00 30.112V	Cut 0 30.113V	Cut 2 30.114V
			
<b>WARDING</b>	Cut 00 30.109V	Cut 0 30.110V	Cut 2 30.111V
<b>SET of SIX "YELLOW TANG" FILES (ALL BUT WARDING)</b>			
	Cut 00 30.121V	Cut 0 30.122V	Cut 2 30.123V

VALTITAN PRECISION FILES



				
<b>BARRETTE</b>	Length		Cut 0	Cut 2
	(in)	(mm)	<b>30.201V</b>	<b>30.202V</b>
	6"	150		

				
<b>HALF ROUND</b>	Length		Cut 0	Cut 2
	(in)	(mm)	<b>30.231V</b>	<b>30.232V</b>
	6"	150		<b>30.235V</b>
	8"	200		



				
<b>HALF ROUND SLIM</b>	Length		Cut 0	Cut 2
	(in)	(mm)	<b>30.241V</b>	<b>30.242V</b>
	6"	150		

				
<b>HAND</b>	Length		Cut 00	Cut 0
	(in)	(mm)	<b>30.210V</b>	<b>30.211V</b>
	6"	150	<b>30.213V</b>	<b>30.214V</b>
	8"	200		<b>30.215V</b>



				
<b>PILLAR</b>	Length		Cut 0	Cut 2
	(in)	(mm)	<b>30.221V</b>	<b>30.222V</b>
	6"	150		

				
<b>ROUND</b>	Length		Cut 0	Cut 2
	(in)	(mm)	<b>*30.251V</b>	<b>30.252V</b>
	6"	150	<b>*30.254V</b>	<b>30.255V</b>
	8"	200		

\*Indicates blunt cut



				
<b>SQUARE</b>	Length		Cut 0	Cut 2
	(in)	(mm)	<b>*30.271V</b>	<b>30.272V</b>
	6"	150		

\*Indicates blunt cut



				
<b>THREE-SQUARE</b>	Length		Cut 0	Cut 2
	(in)	(mm)	<b>30.261V</b>	<b>30.262V</b>
	6"	150	<b>30.264V</b>	<b>30.265V</b>
	8"	200		

## GROBET ESCAPEMENT FILES



Also known as square handled needle files, these precision files are available in most of the needle file shapes. Overall length is 5-1/2" (14 cm), length of cut is 1-9/16" to 2-9/16" (40 to 65 mm) depending upon shape.



BARRETTE	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	31.700	31.701	31.703	31.704	31.705



BARRETTE, PARALLEL	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	31.708	31.709	31.710	—



CROSSING	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	31.714	31.715	31.716	—



EQUALLING	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	31.720	31.721	31.722	—

HALF-ROUND	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	31.724	31.725	31.727	31.728	31.729

KNIFE	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	31.731	31.732	31.733	—

PILLAR	Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
	—	31.737	31.738	31.739	—



**ROUND**

Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
31.742	31.743	31.745	31.746	31.747



**ROUNDING OFF**

Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
—	31.750	31.751	31.752	—



**SQUARE**

Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
31.754	31.755	31.756	31.757	31.758



**THREE-SQUARE**

Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
31.760	31.761	31.762	31.763	31.764



**THREE-SQUARE  
SLIM AND SHORT**

Cut 0	Cut 2	Cut 4	Cut 6	Cut 8
—	31.766	31.767	31.768	—

**SETS of 12 ASSORTED GROBET ESCAPEMENT FILES**

Contains 12 assorted files .  
Pillar shape not included in sets.

Cut	No.
2	31.770
4	31.771
6	31.772



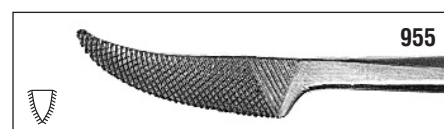
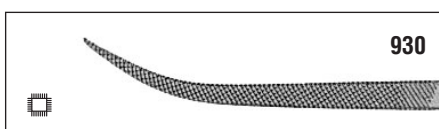
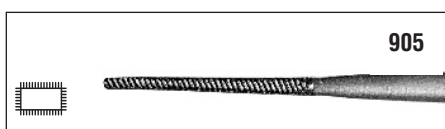
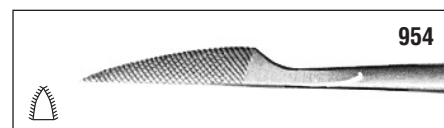
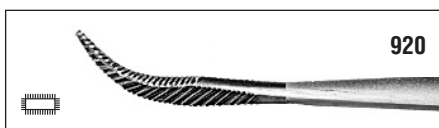
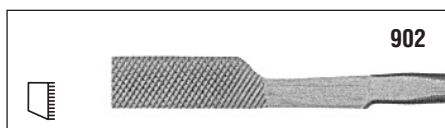
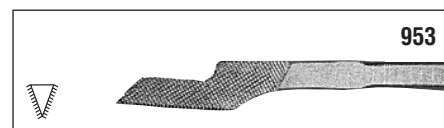
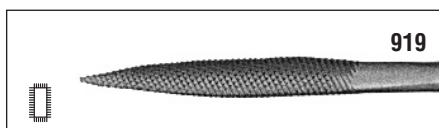
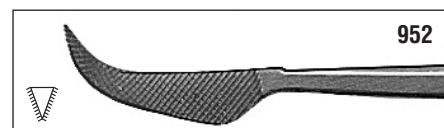
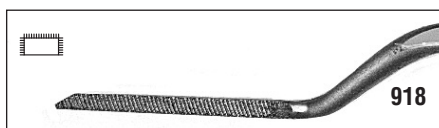
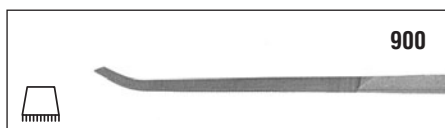
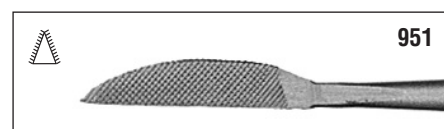
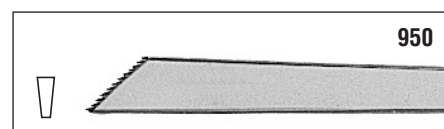
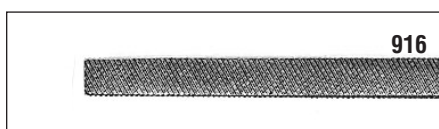
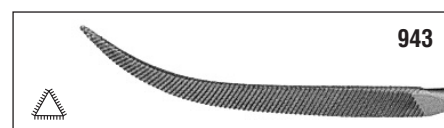
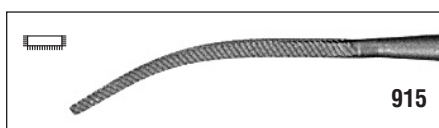
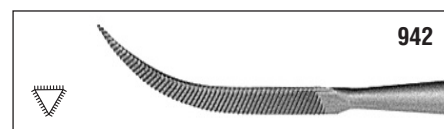
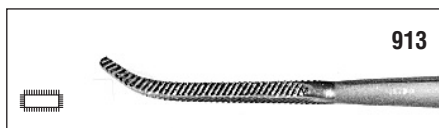
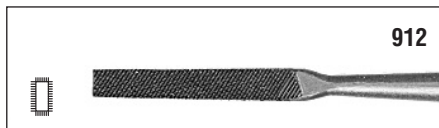




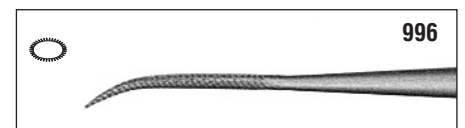
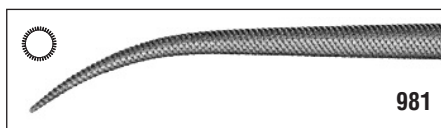
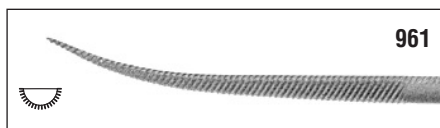
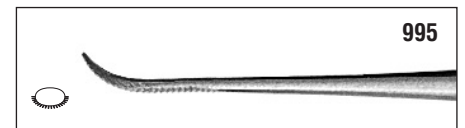
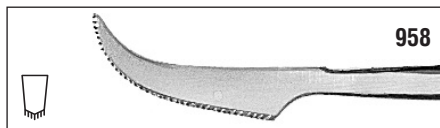
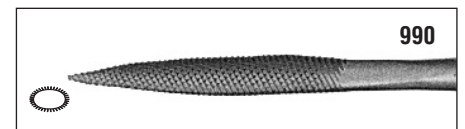
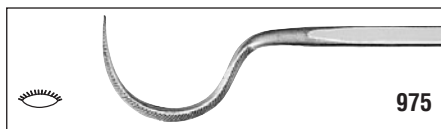
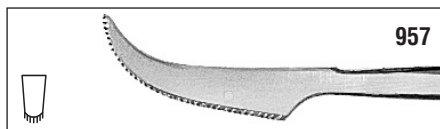
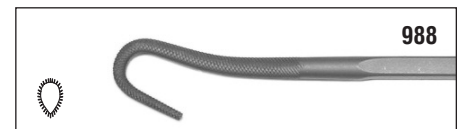
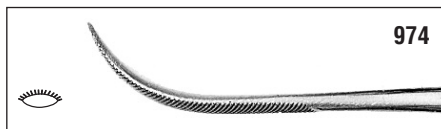
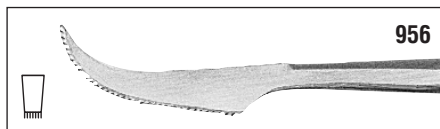
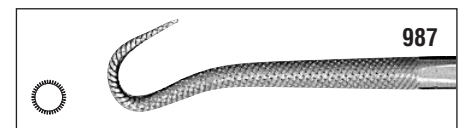
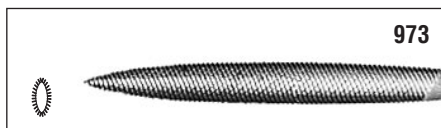
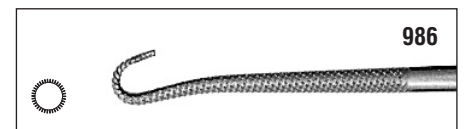
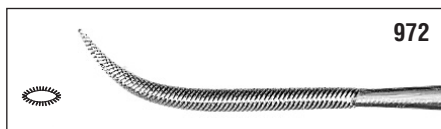
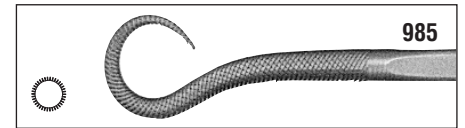
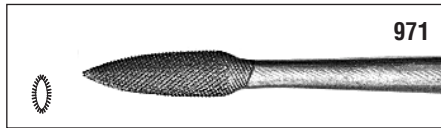
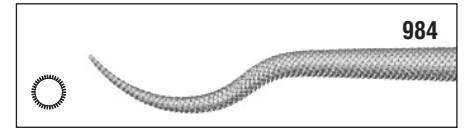
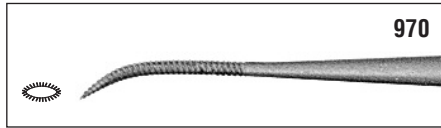
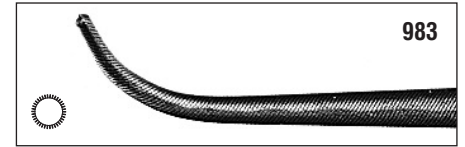
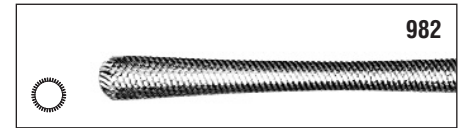
## GROBET DIE SINKERS' RIFFLERS

A comprehensive selection of precision rafter files. All are double-ended and 6" (152 mm) long.

Style No.	Cut 0	Cut 2	Cut 4
900	31.835	31.836	31.837
901	31.838	31.839	31.840
902	31.842	31.843	—
905	31.846	31.847	31.848
911	31.850	31.851	31.852
912	31.854	31.855	31.856
913	31.858	31.859	31.860
914	31.862	31.863	31.864
915	31.865	31.866	31.867
916	32.017	32.018	—
917	31.869	31.870	—
918	31.872	31.873	—
919	31.876	31.877	31.878
920	31.879	31.880	—
930	31.882	31.883	—
931	31.885	31.886	—
940	31.888	31.889	31.890
941	31.892	31.893	31.894
942	31.896	31.897	31.898
943	32.033	32.034	—
950	31.900	—	—
951	31.903	31.904	31.905
952	31.906	31.907	31.908
953	31.910	31.911	—
954	31.914	31.915	31.916
955	31.917	31.918	31.919



Style No.	Cut 0	Cut 2	Cut 4
956	31.921	31.922	—
957	31.925	31.926	31.927
958	31.929	31.930	31.931
961	31.932	31.933	—
962	31.936	31.937	—
963	31.939	31.940	31.941
964	31.943	31.944	—
965	31.946	31.947	31.948
970	31.950	31.951	31.952
971	31.954	31.955	—
972	31.957	31.958	31.959
973	31.961	31.962	—
974	31.965	31.966	31.967
975	31.969	31.970	—
980	32.019	32.027	32.02702
981	31.972	31.973	31.974
982	31.976	31.977	31.978
983	31.979	31.980	31.981
984	31.983	31.984	31.985
985	31.986	31.987	31.988
986	31.990	31.991	31.992
987	31.994	31.995	31.996
988	31.997	31.998	31.999
990	—	32.002	—
995	32.007	—	—
996	32.010	32.011	32.012



**SETS OF DIE SINKERS' RIFFLERS**

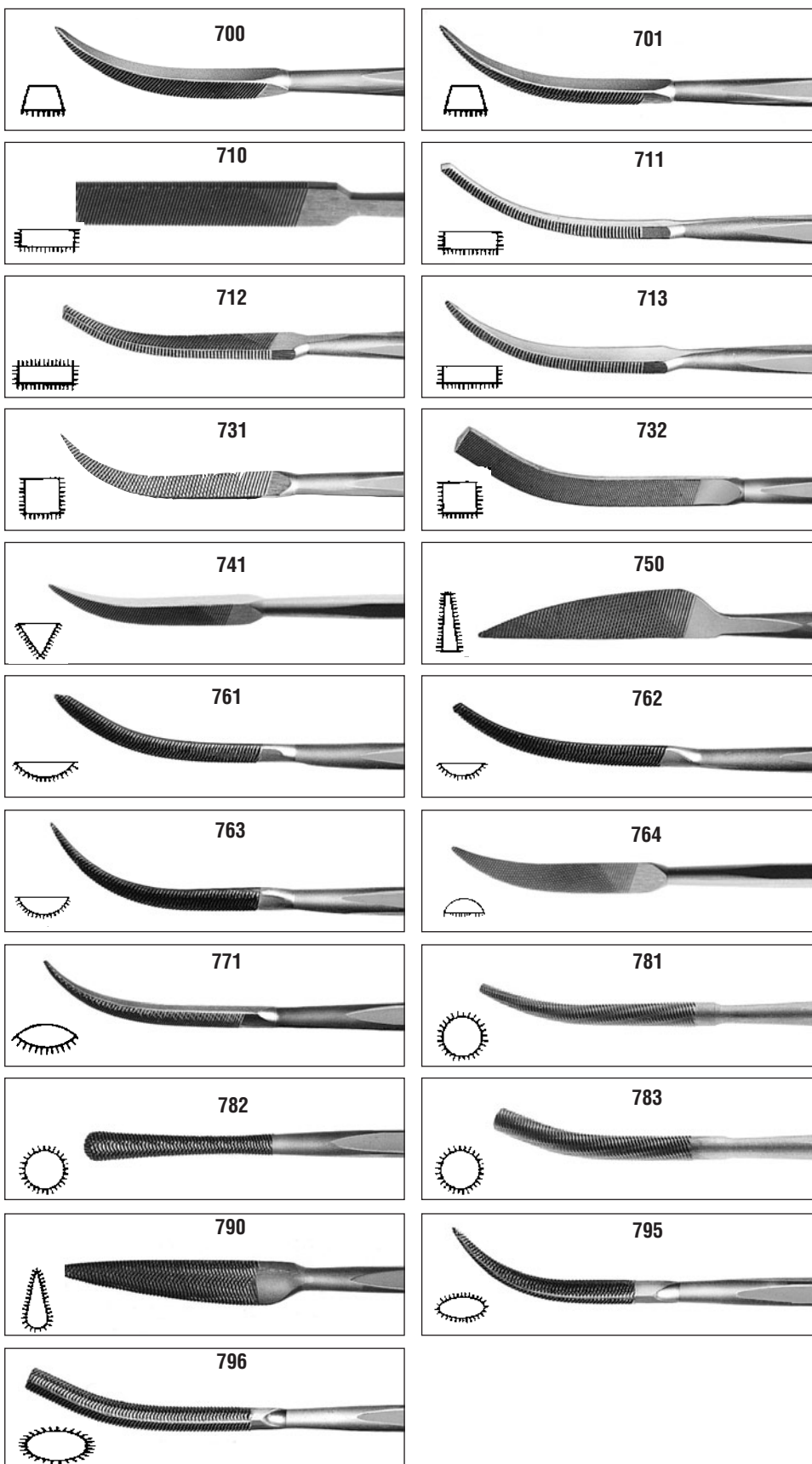
Contain the most widely used shapes from above.

Pieces In Set	Cut 0	Cut 2	Cut 4
12	32.020	32.021	32.022
18	—	32.025	32.026
24	—	32.029	—

## GROBET SILVERSMITHS' RIFFLERS

For removing metal and smoothing in tight places. All are double-ended and 7" (17.8 cm) overall.

Style Nos.	Cut 0	Cut 2
700	31.790	31.791
701	31.792	—
710	31.830	31.834
711	31.794	31.795
712	31.796	31.797
713	31.798	31.799
731	31.800	31.801
732	31.802	31.803
741	31.804	31.805
750	31.806	31.807
761	31.808	31.809
762	31.810	31.811
763	31.812	31.813
764	31.814	31.815
771	31.816	31.817
781	31.818	31.819
782	31.820	31.821
783	31.822	—
790	31.824	31.825
795	31.826	31.827
796	—	31.829



### SETS of 12 ASSORTED SILVERSMITHS' RIFFLERS

Contain 12 popular riffler shapes from above, in the cut indicated.

No. 31.831 Cut 0

No. 31.832 Cut 2

## GROBET TOOL MAKERS' RIFFLERS

This group of 12" (305 mm) tool makers' rifflers rounds out the most complete line of Swiss precision rifflers available to industry anywhere. They are made of chrome-alloy steel for long, efficient life and corrosion resistance. They are contoured to make difficult-to-reach areas readily accessible and are well balanced to facilitate delicate finishing work. All supplied in cut 0. Sold individually.

32.075



32.077



32.079



32.081



32.083



32.085



32.087



32.093



### ASSORTED SET of 10 RIFFLERS 32.097



1

### 1 MASCOT® NEEDLE FILES

Swiss-made, single-cut files do not clog as easily as double-cut. Overall length 5-1/2" (14 cm). Smooth cut only. Sold individually.

No.	Shape
33.860	Equalling
33.861	Flat
33.862	Half-Round
33.863	Round
33.864	Square
33.865	Three-Square

### SET of MASCOT® NEEDLE FILES

Set of six contains equalling, flat, half-round, round, square, and three-square styles in a plastic pouch.

No. 33.867

### 1 SWISS NEEDLE FILES

Well-made, yet economical, Swiss needle files are made of chrome alloy steel. Overall length is 5-1/2" (14 cm), with the cut portion 3" (7.6 cm). Sold by the dozen.

Shape	Medium	Fine
Barrette	<b>33.880</b>	<b>33.881</b>
Crossing	<b>33.882</b>	<b>33.883</b>
Equalling	<b>33.884</b>	<b>33.885</b>
Half-Round	<b>33.886</b>	<b>33.887</b>
Knife	<b>33.890</b>	<b>33.891</b>
Square	<b>33.898</b>	—
Round	<b>33.894</b>	<b>33.895</b>
Three-Square	<b>33.900</b>	<b>33.901</b>
Warding	<b>33.902</b>	<b>33.903</b>

#### SETS of SWISS NEEDLE FILES

Assorted shapes in a plastic pouch.

Cut	Set of 6	Set of 12
Medium	<b>33.906</b>	<b>33.908</b>
Fine	<b>33.907</b>	<b>33.909</b>


**1**

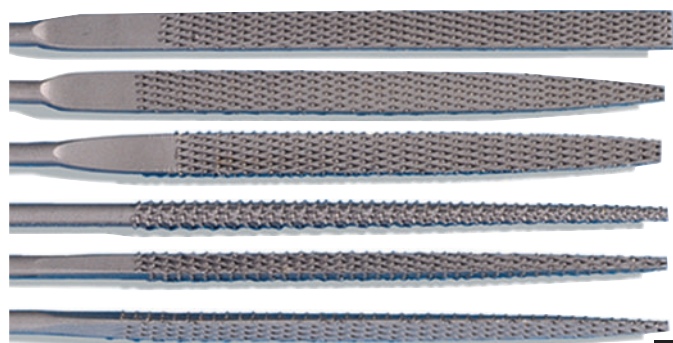
### 2 SWISS WAX FILES

Excellent for shaping waxes and other materials, such as wood and plastic. Wide-tooth style does not clog as easily as conventional file. Overall length 5-1/2" (14 cm).

No.	Shape	No.	Shape
<b>33.915</b>	Equalling	<b>33.918</b>	Round
<b>33.916</b>	Flat	<b>33.919</b>	Square
<b>33.917</b>	Half-Round	<b>33.920</b>	Three-Square

#### SET of SWISS WAX FILES

All six shapes listed above in a plastic pouch.  
No. **33.922**


**2**

### 3 MASCOT® 6 PC UTILITY FILE SET

This handy utility set consists of six American Pattern file shapes: square, half-round, three-square, round, flat, and warding. File cut lengths are approximately 4" (10 cm) with an overall length of 7" (17 cm). Each file has a smooth wooden handle and the set comes in a hanging pouch.  
No. **32.510**


**3**

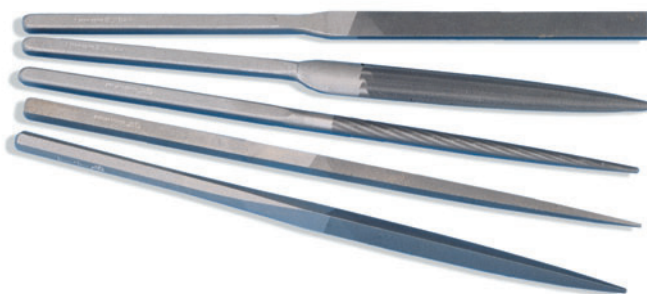
### 4 HABILIS™ FILES

Habilis files offer the craftsman something different; precision files designed for those "in-between" jobs, too big for needle files and requiring finer control than a larger, heavier file can deliver. The distinctive design includes a built-in handle, so there's no separate handle to buy and they're shaped for easy handling and balanced for efficient cutting. These strong, durable files are ideal for a variety of uses. Length of cut is 4" (10 cm) and the overall length is 8-1/2" (22 cm). Sold individually or in sets as listed.

Shape	Width		Thickness		Cut 00	Cut 1
	(in)	(mm)	(in)	(mm)		
Hand	3/8"	9.5	1/8"	3.2	<b>33.820</b>	<b>33.821</b>
Half-Round	15/32"	11.9	9/64"	3.6	<b>33.822</b>	<b>33.823</b>
Round	1/4"	6.4	—	—	<b>33.824</b>	<b>33.825</b>
Square	1/4"	6.4	—	—	<b>33.826</b>	<b>33.827</b>
Three-Square	3/8"	9.5	—	—	<b>33.828</b>	<b>33.829</b>

#### SET of HABILIS™ FILES

Five files, one of each shape, in sturdy vinyl pouch.  
No. **33.831** Cut 00  
No. **33.832** Cut 1


**4**



1

**1 HABILIS™ RASPS**

For cutting wood, fiberglass, plastics or soft metals. The comfortable-to-use, conveniently-sized Habilis style is now available in five shapes. The built-in handle and balanced feel will help you work faster, with better control. Offered individually in the most popular shapes or as a set of all five.

- No. **33.834** Hand
- No. **33.835** Half-Round
- No. **33.836** Round
- No. **33.837** Square
- No. **33.838** Three-Square

**SET of FIVE HABILIS™ RASPS**

No. **33.840**



2

**2 HABILIS™ RIFFLERS**

Ideal for filling unusually-shaped or hard-to-reach areas. The built-in handles can be used as is, or the specially designed plastic handle (No. 33.848) can be used when a heavier grip is required. Supplied in six individual shapes, five curved and one straight, or as a set of all six plus the plastic handle.

- No. **33.842** Hand
- No. **33.843** Half-Round
- No. **33.844** Round
- No. **33.845** Square
- No. **33.846** Three-Square
- No. **33.847** Knife

**SET of SIX with HANDLE**

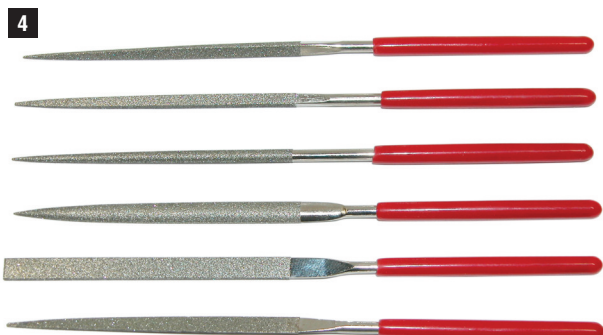
No. **33.850**



3

**3 HANDLE for HABILIS RIFFLERS**

No. **33.848**



4

**4 ECONO DIAMOND NEEDLE FILES**

Engineered to deliver performance unequalled by any other file. For use on ultra-hard materials, metals, ceramics, and glass. Excellent material removal.

Unique process which bonds the 2-1/2" long diamond surface at an affordable price.

Available in medium grit (120/140) Overall length is 5-1/2" (14 cm). Sold individually or in sets as listed.

- No. **34.011** Barrette
- No. **34.012** Equalling
- No. **34.013** Half-Round
- No. **34.014** Round
- No. **34.015** Square
- No. **34.016** Three-Square

**SET of Five in VINYL POUCH**

Contains 5 assorted files from the list above.

No. **34.020**



5

**5 DIAMOND NEEDLE FILES**

Engineered to deliver performance unequalled by any other file, for use on ultra-hard materials. Carbide, hardened steel, exotic metals, ceramics, and glass are no match for these precision files. Excellent material removal is the result of a unique process which bonds the 2-1/2" (64 mm) long diamond surface. Available in fine grit, medium grit and coarse grit. Sets of Overall length is 5-1/2" (14 cm). Sold individually or in sets as listed.

	Fine Grit (170/220)	Medium Grit (120/140)	Coarse Grit(80/100)
Barrette	<b>33.958</b>	<b>33.980</b>	<b>34.004</b>
Crossing	<b>33.959</b>	<b>33.984</b>	—
Equalling	<b>33.961</b>	<b>33.971</b>	<b>34.005</b>
Half-Round	<b>33.962</b>	<b>33.972</b>	<b>34.006</b>
Round	<b>33.963</b>	<b>33.973</b>	<b>34.007</b>
Square	<b>33.964</b>	<b>33.974</b>	<b>34.008</b>
Three-Square	<b>33.965</b>	<b>33.975</b>	<b>34.009</b>
Crochet	<b>33.966</b>	<b>33.976</b>	—
Warding	<b>33.967</b>	<b>33.977</b>	—
Knife	<b>33.968</b>	<b>33.978</b>	—

**SET of FIVE in VINYL POUCH**

Contains one each of equalling, half-round, round, square and three-square.

- No. **33.960** Fine grit
- No. **33.970** Medium grit

**SET of TEN in VINYL POUCH**

Contains 10 assorted files listed above.

No. **33.950** Fine grit

### 1 DIAMOND ESCAPEMENT FILES

These square handle files have an overall length of 5-1/2" (14 cm). Their diamond surface is 1-9/16" to 2-9/16" (40 to 65 mm), according to shape. Used in fine watchmaking, in finishing fine castings, and other delicate work. 126 grit. Sold individually.

No. **33.951** Half-Round      No. **33.953** Three-Square      No. **33.955** Square  
 No. **33.952** Crossing      No. **33.954** Equalling      No. **33.956** Round

#### SET of SIX in VINYL POUCH

No. **33.957** - Contains one of each 6 files listed above.

**1**


### 2 HABILIS™ DIAMOND FILES

Excellent for filing large areas of different materials as well as hard plastics, fiberglass, graphite, and epoxy. Can also be used for marble shaping applications. In spite of the heavy-duty applications, these diamond files have a very high resistance to wear. Overall length is 8-1/2" (22 cm), and diamond surface is 4" (10 cm). 126 grit. Sold individually.

No. **33.873** Three-Square      No. **33.875** Round      No. **33.877** Hand  
 No. **33.874** Square      No. **33.876** Half-Round

#### SET of FIVE in VINYL POUCH

No. **33.852** - Contains one of each 5 files listed above.

**2**


### 3 DIAMOND RIFFLERS

For easy access to hard-to-reach places. Double-ended with diamond coating on both ends. Overall length is 6" (15 cm). 126 grit. Sold individually.

No. **33.991** Style 15      No. **33.993** Style 20      No. **33.995** Style 16  
 No. **33.992** Style 18      No. **33.994** Style 22

#### SET of FIVE in VINYL POUCH

No. **33.996** - Contains one of each 5 files listed above.

**3**


### 4 GROBET USA™ DIAMOND HAND/MACHINE FILES

These tapered files are used in filing inside slots and grooves, where access with parallel files is impossible. They can be used by hand or in any reciprocating machine, and were specially designed for the aluminum extruders industry as well as the plastic mold industry. The diamond coating is 5/8" (15.9 mm). The shank is 1/8". Grits and overall length as shown.

No.	Grit	Head Width		Taper		Overall Length	
		(in)	(mm)	(in)	(mm)	(in)	(mm)
<b>33.929</b>	325	1/8"	3.2	1/16"	1.6	2-1/4"	57
<b>33.930</b>	200	1/8"	3.2	1/16"	1.6	2-1/4"	57
<b>33.931</b>	600	1/8"	3.2	1/16"	1.6	2-7/8"	73
<b>33.932</b>	325	1/8"	3.2	1/16"	1.6	2-7/8"	73
<b>33.933</b>	200	1/8"	3.2	1/16"	1.6	2-7/8"	73
<b>33.934</b>	600	1/4"	6.2	3/64"	1.2	2-1/4"	57
<b>33.935</b>	325	1/4"	6.2	3/64"	1.2	2-1/4"	57
<b>33.936</b>	600	1/4"	6.2	3/64"	1.2	2-7/8"	73
<b>33.937</b>	325	1/4"	6.2	3/64"	1.2	2-7/8"	73
<b>33.938</b>	200	1/4"	6.2	3/64"	1.2	2-7/8"	73

#### SET of TEN

No. **33.939** - Contains one of each 10 files listed above.

**4**


### 5 GROBET USA® DIAMOND FLEXI-FILES

The unique composite blank makes these files flexible, yet extremely strong and lightweight. The special "Dots" plating system allows for easy removal of the filed material, resulting in a superior finish.

- Reliable Performance
- Easy to Clean
- Long Lasting
- Available in 3 Grits, Fine, Medium and Coarse

Specifications: 6-3/4" length x 9/16" wide x 1/16" thick, Plated length 3-1/2"

No. **33.99701** Fine  
 No. **33.99702** Medium  
 No. **33.99703** Coarse

**5**


**FILES FOR STRING INSTRUMENT**

**SWISS FRET FILE**

- No. 30.950 4.5", Radius 1mm, Fine
- No. 30.951 4.5", Radius 2mm, Medium
- No. 30.952 4.5", Radius 3mm, Large



**SWISS DIAMOND FRET FILE**

- No. 30.955 4.5", Radius 2.5mm, Grit 46
- No. 30.956 4.5", Radius 2.5mm, Grit 76



**SWISS DIAMOND FRET FILE**

- No. 30.957 9", Radius 3mm, Grit 46
- No. 30.958 9", Radius 3mm, Grit 76



**SWISS SINGLE CUT BARRETTE FILE**

- No. 30.960 5", Cut 1



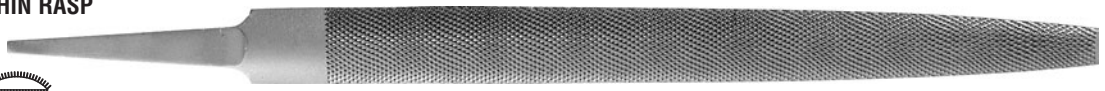
**SWISS THREE SQUARE FRET FILE**

- No. 30.961 18 cm, Cut 3



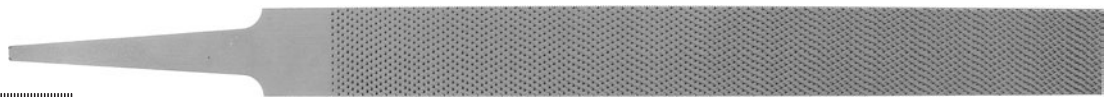
**SWISS HALF ROUND SLIM THIN RASP**

- No. 30.965 10", Cut 5
- No. 30.966 10", Cut 6



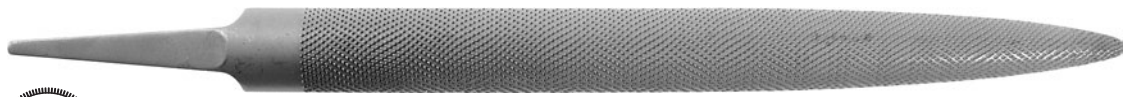
**SWISS HAND RASP**

- No. 30.968 8", Cut 6
- No. 30.969 6", Cut 7
- No. 30.970 10", Cut 7



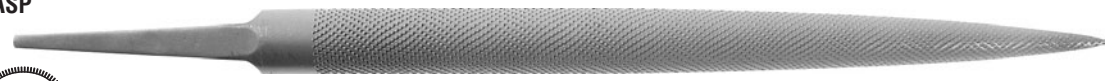
**SWISS HALFROUND RASP**

- No. 30.971 8", Cut 6
- No. 30.972 6", Cut 7
- No. 30.973 10", Cut 7



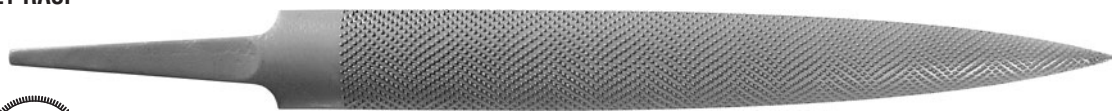
**SWISS HALFROUND SLIM RASP**

- No. 30.975 8", Cut 6
- No. 30.976 6", Cut 7



**SWISS HALFROUND CABINET RASP**

- No. 30.980 8", Cut 6
- No. 30.981 10", Cut 6
- No. 30.982 6", Cut 7
- No. 30.983 10", Cut 7



**SWISS ROUND RASP**

- No. 30.985 6", Cut 7
- No. 30.986 8", Cut 6
- No. 30.987 10", Cut 6





## Ski files THE NEW TUNING TECHNOLOGY

### DIAMOND PLATES

New diamond plates with an ergonomic shape ensuring an improved comfort use. The high quality diamond combined with a brand new design, split on 2 areas, give the user a better work flexibility and provide an optimal contact with the edge. The new Icecut diamond plates guarantee a smooth finish and precise work in all circumstances!

No.	Grit	Length	
		(in)	(mm)
32.187	1000 Extra Fine	4"	100



No.	Grit	Length	
		(in)	(mm)
32.188	600 Fine	4"	100



No.	Grit	Length	
		(in)	(mm)
32.189	400 Medium	4"	100



No.	Grit	Length	
		(in)	(mm)
32.190	200 Coarse	4"	100



### PROFESSIONAL

Due to their high level of precision and performance, these files are considered as a global reference by the world's most renowned professional skimen. They are chosen by the most demanding users for their smooth and consistent bite. Chrome-plated or non-chrome, it's your choice!



Flash Chrome-Plated	Non-Chrome-plated	Grit	(in)	Length	
				(mm)	(CM)
32.135	32.13501	600 Fine	6"	150	20



Flash Chrome-Plated	Non-Chrome-plated	Grit	(in)	Length	
				(mm)	(CM)
32.136	32.13601	400 Medium	8"	200	16



Flash Chrome-Plated	Non-Chrome-plated	Grit	(in)	Length	
				(mm)	(CM)
32.137	32.13701	200 Coarse	8"	200	13

## RACE FILE

Manufactured in a special steel and issue from the last technology of cut, this file presents three major advantages compared with a traditional ski file: it sharpens faster, enjoys broadly/widely increased life time and gives to the edges a powerful sharp side. The best file for the advanced sportsman, the workshop of preparation and for the professional skier.



No.	Grit		Length		TPI
			(in)	(mm)	
32.115	1000 Extra Fine		4"	100	22



No.	Grit		Length		TPI
			(in)	(mm)	
32.116	600 Fine		4"	100	17



No.	Grit		Length		TPI
			(in)	(mm)	
32.117	400 Medium		4"	100	13

## CARVING

### FLASH CHROME-PLATED

### \*NON CHROME-PLATED

Identical to the Professional range, but 5" / 120 mm in size; these files are particularly well suited for tuning SL and GS skis and snowboards.



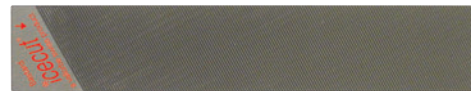
Flash Chrome-Plated	Grit		Length		(CM)
			(in)	(mm)	
32.138	600 Fine		5"	120	20



Flash Chrome-Plated	Grit		Length		(CM)
			(in)	(mm)	
32.139	400 Medium		5"	120	16



Flash Chrome-Plated	Grit		Length		(CM)
			(in)	(mm)	
32.140	200 Coarse		5"	120	13



Non Chrome-plated	Grit		Length		(CM)
			(in)	(mm)	
32.14001	200 Coarse		5"	120	13

**FILE HANDLE SIZE RECOMMENDED**
**SWISS PRECISION FILES**

File Length	4"	6"	8"	10"	12"	14"
<b>Type/Shape</b>						
Barrette	3	4	5	–	–	–
Checkering	–	4	–	–	–	–
Crochet	3	4	5	–	–	–
Crossing	2	4	5	–	–	–
Equalling	2	3	4	–	–	–
Half-Round	3	4	5	6	–	–
Hand	3	4	5	6	7	–
Knife	3	4	5	6	7	7
Pillar	3	4	4	6	6	–
Pippin	3	4	5	–	–	–
Round	1	3	4	5	–	–
Round Parallel: 3/16" (4.8 mm)	–	2	3	–	–	–
Round Parallel: 1/4" (6.4 mm)	–	2	3	–	–	–
Round Parallel: 1/8" (3.2 mm)	1	1	–	–	–	–
Round Parallel: 5/32" (4.0 mm)	1	1	–	–	–	–
Round Parallel: 3/8" (9.5 mm)	–	–	4	–	–	–
Slitting	2	4	–	–	–	–
Square	2	3	4	5	6	–
Three-Square	2	4	4	5	6	–
Warding	2	4	5	6	7	–

**AMERICAN PATTERN FILES**

File Length	4"	5"	6"	7"	8"	10"	12"	14"	16"
<b>Type/Shape</b>									
Aluminum Type A Flat	–	–	4	–	5	5	6	–	–
Aluminum Type A, Half-Round	–	–	4	–	5	6	7	–	–
Cabinet Rasp, Half-Round	–	–	–	–	5	5/6	6	–	–
Cant Saw	–	–	4	–	5	5	–	–	–
Chain Saw Round									
5/32" (4.0 mm), 3/16" (4.8 mm) dia.	–	–	–	–	2	–	–	–	–
Chain Saw Rnd 13/64" (5.2 mm) dia.	–	–	–	–	3	–	–	–	–
Cross Cut	–	–	–	–	5	6	–	–	–
Flat	3	–	4	–	5	6	6	7	8
Half- Round	3	–	4	–	5	6	7	7	7
Hand	–	–	4	–	5	5/6	7	–	–
High Speed Chipbreaker	–	–	–	–	5	6	7	–	–
Knife	3	–	4	–	4/5	5/6	–	–	–
Long Angle Lathe	–	–	–	–	–	5/6	6	7/8	–
Mill	3	–	4	–	5	5/6	6/7	7	8
Pillar	–	–	4	–	5	–	–	–	–
Pipe-Liner	–	–	–	–	–	–	–	7	–
Round	1	–	3	–	4	4	5	6	–
Square	1/2	–	3/4	–	4	4/5	5/6	6/7	–
Taper, Regular	–	–	4	4	5	5/6	–	–	–
Taper, Slim	1	2	3	3/4	4	5	–	–	–
Taper, Extra Slim	1	2	2	2/3	3	–	–	–	–
Taper, Double Extra Slim	–	1	1	–	3	–	–	–	–
Three Square	–	–	4	–	5	6	–	–	–
Warding	3	–	4	–	5	5	–	–	–
Milled Curved Tooth, Flat	–	–	–	–	5	5	6	7	–
Milled Curved Tooth, Flat Utility	–	–	–	–	5	6	–	–	–
Half Round Solid	–	–	–	–	5	6	7	–	–



1



2



3



4



5



6

## FILE HANDLES

### 1 BLUE PLASTIC FILE HANDLES/METAL GRIPPING INSERT

Unbreakable plastic, with textured surface for a non-slip grip. Specially shaped to fit the hand for working comfort even over long periods. Hole at top permits convenient hang-up storage. Tang-gripping insert is tempered metal, with two threaded sections of different diameters. This assures proper alignment and positive hold for files, and also allows handle to be reused. Simply unscrew the file in use and insert a new one. Refer to separate charts on page 38 for Swiss Precision, American Pattern files.

No.	File Handle Size	No.	File Handle Size
37.781	1	37.785	5
37.782	2	37.786	6
37.783	3	37.787	7
37.784	4	37.788	8

### 2 BLUE PLASTIC FILE HANDLES/PLASTIC GRIPPING INSERT

Unbreakable plastic, with textured surface for non-slip grip and specially shaped to fit the hand for working comfort even over long periods. Hole at top permits convenient hang-up storage near work bench. Has plastic gripping insert.

No.	ID (mm)
37.815	4 mm
37.816	6 mm
37.817	8 mm
37.818	10 mm

### 3 PLASTIC FILE HANDLES for GROBET SWISS AMERICAN PATTERN FILES

Unbreakable plastic, bright handles with textured surface for a non-slip grip. Ergonomically designed to fit the hand for comfort.

No.	File Length		File Size	
	(in)	(mm)	(in)	(mm)
37.811S	3-1/2"	90	4"-6"	100-150
37.812S	4-1/4"	110	6"-12"	150-300
37.813S	4-1/4"	110	12"-14"	300-350

### 4 BLACK PLASTIC FILE HANDLES/PLASTIC GRIPPING INSERT

Unbreakable plastic, with textured surface for non-slip grip and specially shaped to fit the hand for working comfort even over long periods. Hole at top permits convenient hang-up storage near work bench. Has five plastic gripping inserts.

No. 37.854

### 5 RED PLASTIC FILE HANDLES/PLASTIC GRIPPING INSERT

Unbreakable plastic, with textured surface for non-slip grip and specially shaped to fit the hand for working comfort even over long periods. Has five plastic gripping inserts.

No. 37.855

### 6 ADJUSTABLE FLEXIBLE FILE HOLDER

Holder can easily be adjusted for curving file outward or inward. Holder can be used with either 12" or 14" files.

No. 37.840



1

**1 WOOD FILE HANDLES**

With natural finish. Wound wire ferrule provides extra strength to prevent splitting. Select handle to fit files 2" to 20" (5.1 to 51 cm).

No. 37.791 2"-4" (5-10 cm)

No. 37.792 4"-6" (10-15 cm)

No. 37.793 6"-10" (15-25 cm)

No. 37.794 10"-14" (25-35 cm)

No. 37.795 14"-16" (35-40 cm)

No. 37.796 16"-20" (40-50 cm)



2



3



4



5

**2 LUTZ WOOD FILE HANDLES**

Sturdy, force-fit type of handle.

No. 37.801 3"-6" (7.5-15 cm)

No. 37.802 6"-8" (15-20 cm)

No. 37.803 8"-12" (20-30 cm)

No. 37.804 14"-16" (35-40 cm)

**3 SKROO-ZON WOOD FILE HANDLES**

Steel die inside wood handle cuts its own thread on file tang.

No. 37.820 For 6" (152 mm) files only.

**4 FILE and BURNISHER HANDLE**

Hardwood handle with metal ferrule. Overall length 3-3/4" (95.3 mm), 1/2" (12.7 mm) diameter.

No. 37.822

**5 NEEDLE FILE HANDLE**

Precision chuck in smooth wooden handle holds 5-1/2" (14 cm) and 6-1/4" (16 cm) needle files securely.

No. 37.830

**6 NEEDLE FILE STAND**

Attractive metal stand conveniently holds and displays up to 12 needle files in 4" (10 cm), 5-1/2" (14 cm), or 6-1/4" (16 cm) lengths. Free-standing on workbench, hanging on a peg, or snapped closed for carrying, this stand keeps your frequently used files visible and handy at all times. (Files not included.)

No. 31.685

**7 FILE CLEANER with BRUSH**

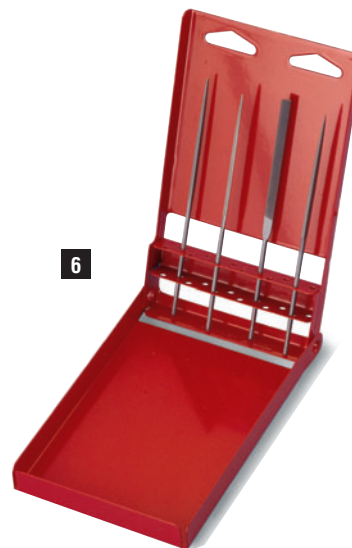
Steel wire bristles mounted on wood handle with handy brush on reverse side. Overall length 10" (25 cm).

No. 33.979

**8 FILE CLEANER**

Steel wire bristles mounted on wood handle, for removing particles clogging teeth of file. Overall length 10" (25 cm).

No. 33.981



6



7



8



**STANDARD CUT**  
Most commonly used for general purpose deburring of steel, cast iron and other ferrous materials.



**DOUBLE CUT**  
Basically a standard cut tool, with cuts made on the left hand spiral. The design produces a finer finish on material and reduces the size of the chips and slivers. It gives greater tool control.



**BEAR CUT**  
Designed to substantially cut manufacturing production costs. This design and cut removes more material per hour. Engineered for heavy-duty applications. More durable due to the depth of the teeth. More resistant to chipping. Wider teeth make longer chips, which break up easier, and the profile of the teeth makes them less prone to filling up with chips.



**ALUMNA CUT**  
For use on aluminum, magnesium, soft steel and non-ferrous materials such as hard plastic, rubber and wood. Provides easy chip flow and faster stock removal with little or no clogging.

**MAXIMUM RECOMMENDED SPEEDS FOR STANDARD CUT CARBIDE ROTARY FILES**

Head Diameter	Table 1*	Table 2*	Head Diameter	Table 1*	Table 2*	Head Diameter	Table 1*	Table 2*
1/16"	50,000	75,000	5/16"	20,000	30,000	5/8"	15,000	23,000
3/32"	40,000	60,000	3/8"	18,000	27,000	3/4"	14,000	21,000
1/8"	35,000	53,000	7/16"	17,000	26,000	7/8"	13,000	20,000
3/16"	25,000	38,000	1/2"	16,000	24,000	1"	12,000	18,000
1/4"	22,000	33,000						

Table 1 - for use in determining maximum recommended speeds for malleable iron, steel welds, cast iron, tool steels, die steels, bronze, brass and aluminum

Table 2 - for use in determining maximum recommended speeds for stainless steel.

**IMPORTANT: 6" SHANKS SHOULD BE RUN 20% TO 25% LESS RPM**

**CYLINDRICAL - Plain end**



SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SA61	1/16"	1/4"	1-1/2"	3/32"	32.80902	32.80903	—	—
SA41	1/16"	1/4"	1-1/2"	1/8"	32.81502	32.81503	—	—
SA62	5/64"	5/16"	1-1/2"	3/32"	32.810	32.811	—	—
SA63	3/32"	3/8"	1-1/2"	3/32"	32.814	32.815	—	—
SA42	3/32"	1/2"	1-1/2"	1/8"	32.832	32.833	—	—
SA43	1/8"	1/2"	1-1/2"	1/8"	32.835	32.836	—	—
SA11	1/8"	1/2"	2"	1/4"	32.540	32.541	—	—
SA12	1/8"	5/8"	2"	1/4"	32.54102	32.54103	—	—
SA13	5/32"	5/8"	2"	1/4"	32.54110	32.54111	—	—
SA14	3/16"	5/8"	2"	1/4"	32.543	32.544	—	—
SA51	1/4"	1/2"	2"	1/8"	32.838	32.839	—	—
SA1	1/4"	5/8"	2"	1/4"	32.546	32.547	32.546SY	32.95002
SA1L6	1/4"	1/2"	6"	1/4"	32.93522	32.93523	—	—
SA1L	1/4"	1"	2"	1/4"	32.54702	32.54703	—	—
SA2	5/16"	3/4"	2-1/2"	1/4"	32.549	32.550	—	—
SA3	3/8"	3/4"	2-1/2"	1/4"	32.552	32.553	32.552SY	32.95011
SA3L6	3/8"	3/4"	6"	1/4"	32.93537	32.93538	—	—
SA3L	3/8"	1"	2-3/4"	1/4"	32.55302	32.55303	—	—
SA3X	3/8"	1-1/2"	3-1/4"	1/4"	32.55310	32.55311	—	—
SA4	7/16"	1"	2-3/4"	1/4"	32.55320	32.55321	32.55320SY	—
SA5	1/2"	1"	2-3/4"	1/4"	32.555	32.556	32.555SY	32.95017
SA5L6	1/2"	1"	6"	1/4"	32.93557	32.93558	—	—
SA6	5/8"	1"	2-3/4"	1/4"	32.558	32.559	32.558SY	32.95020
SA15	3/4"	1/2"	2-1/4"	1/4"	32.55902	32.55903	—	—
SA16	3/4"	3/4"	2-1/2"	1/4"	32.561	32.562	—	—
SA7	3/4"	1"	2-3/4"	1/4"	32.564	32.565	—	32.95023
SA8	7/8"	1"	2-3/4"	1/4"	32.56502	32.56503	—	—
SA9	1"	1"	2-3/4"	1/4"	32.567	32.568	—	—

**CYLINDRICAL - End cut**

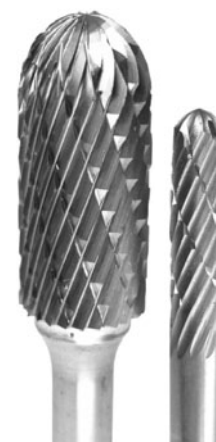
SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SB43	1/8"	9/16"	1-1/2"	1/8"	32.83902	32.83903	—	—
SB11	1/8"	1/2"	2"	1/4"	32.573	32.574	—	—
SB12	1/8"	5/8"	2"	1/4"	32.57402	32.57403	—	—
SB13	5/32"	5/8"	2"	1/4"	32.57410	32.57411	—	—
SB14	3/16"	5/8"	2"	1/4"	32.576	32.577	—	—
SB51	1/4"	3/16"	2"	1/8"	32.83910	32.83911	—	—
SB1	1/4"	5/8"	2"	1/4"	32.579	32.580	—	—
SB1L	1/4"	1"	2"	1/4"	32.58002	32.58003	—	—
SB2	5/16"	3/4"	2-1/2"	1/4"	32.582	32.583	—	—
SB3	3/8"	3/4"	2-1/2"	1/4"	32.585	32.586	—	—
SB3L	3/8"	1"	2-3/4"	1/4"	32.58602	32.58603	—	—
SB3X	3/8"	1-1/2"	3-1/4"	1/4"	32.58611	32.58612	—	—
SB4	7/16"	1"	2-3/4"	1/4"	32.58621	32.58622	—	—
SB5	1/2"	1"	2-3/4"	1/4"	32.588	32.589	—	—
SB6	5/8"	1"	2-3/4"	1/4"	32.591	32.592	—	—
SB15	3/4"	1/2"	2-1/4"	1/4"	32.59202	32.59203	—	—
SB16	3/4"	3/4"	2-1/2"	1/4"	32.594	32.595	—	—
SB7	3/4"	1"	2-3/4"	1/4"	32.597	32.598	—	—
SB8	7/8"	1"	2-3/4"	1/4"	32.59802	32.59803	—	—
SB9	1"	1"	2-3/4"	1/4"	32.600	32.601	—	—


**CYLINDRICAL - Double End cut**

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SBECO	1/8"	—	1-1/2"	1/8"	32.841	—	—	—

**CYLINDRICAL - Radius end**

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SC61	3/32"	3/8"	1-1/2"	3/32"	32.817	32.818	—	—
SC41	3/32"	1/2"	1-1/2"	1/8"	32.844	32.845	—	—
SC42	1/8"	1/2"	1-1/2"	1/8"	32.847	32.848	—	—
SC11	1/8"	1/2"	2"	1/4"	32.606	32.607	—	—
SC12	1/8"	5/8"	2"	1/4"	32.60702	32.60703	—	—
SC13	5/32"	5/8"	2"	1/4"	32.60710	32.60711	—	—
SC14	3/16"	5/8"	2"	1/4"	32.609	32.610	—	—
SC53	3/16"	1/2"	2"	1/8"	—	32.85111	—	—
SC51	1/4"	1/2"	2"	1/8"	32.850	32.851	—	—
SC1	1/4"	5/8"	2"	1/4"	32.612	32.613	—	32.95102
SC1L6	1/4"	1/2"	6"	1/4"	32.93722	32.93723	—	—
SC1L	1/4"	1"	2"	1/4"	32.61302	32.61303	—	—
SC2	5/16"	3/4"	2-1/2"	1/4"	32.615	32.616	—	—
SC3	3/8"	3/4"	2-1/2"	1/4"	32.618	32.619	32.618SY	32.95111
SC3L6	3/8"	3/4"	6"	1/4"	32.93737	32.93738	—	—
SC3L	3/8"	1"	2-3/4"	1/4"	32.61902	32.61903	—	—
SC3X	3/8"	1-1/2"	3-1/4"	1/4"	32.61910	32.61911	—	—
SC4	7/16"	1"	2-3/4"	1/4"	32.61912	32.61913	32.61912SY	—
SC5	1/2"	1"	2-3/4"	1/4"	32.621	32.622	32.621SY	32.95117
SC5L6	1/2"	1"	6"	1/4"	32.93757	32.93758	—	—
SC6	5/8"	1"	2-3/4"	1/4"	32.624	32.625	32.624SY	32.95120
SC15	3/4"	1/2"	2-1/4"	1/4"	32.62502	32.62503	—	—
SC16	3/4"	3/4"	2-1/2"	1/4"	32.62510	32.62511	—	—
SC7	3/4"	1"	2-3/4"	1/4"	32.627	32.628	—	32.95123
SC9	1"	1"	2-3/4"	1/4"	32.62802	32.62803	—	—



**BALL**



SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SD41	3/32"	1/8"	1-1/2"	1/8"	32.853	32.854	—	—
SD61	3/32"	1/8"	1-1/2"	3/32"	32.820	32.821	—	—
SD42	1/8"	1/8"	1-1/2"	1/8"	32.856	32.857	—	—
SD11	1/8"	1/8"	2"	1/4"	32.633	32.634	—	—
SD53	3/16"	3/16"	1-11/16"	1/8"	32.858	32.861	—	—
SD14	3/16"	1/4"	2"	1/4"	32.636	32.637	—	—
SD51	1/4"	1/4"	1-3/4"	1/8"	32.859	32.860	—	—
SD1	1/4"	7/32"	2"	1/4"	32.639	32.640	—	32.95305
SD1L6	1/4"	7/32"	6"	1/4"	32.93812	32.93813	—	—
SD2	5/16"	5/16"	2-1/16"	1/4"	32.642	32.644	—	—
SD3	3/8"	5/16"	2-1/16"	1/4"	32.645	32.646	32.645SY	32.95311
SD3L6	3/8"	5/16"	6"	1/4"	32.93822	32.93823	—	—
SD4	7/16"	3/8"	2-1/8"	1/4"	32.64602	32.64603	32.64602SY	—
SD5	1/2"	7/16"	2-3/16"	1/4"	32.648	32.649	32.648SY	32.95317
SD5L6	1/2"	7/16"	6"	1/4"	32.93832	32.93833	—	—
SD6	5/8"	9/16"	2-5/16"	1/4"	32.651	32.652	32.651SY	32.95320
SD7	3/4"	11/16"	2-7/16"	1/4"	32.654	32.655	—	32.95323
SD9	1"	15/16"	2-11/16"	1/4"	32.65502	32.65503	—	—

**OVAL**



SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SE61	3/32"	1/8"	1-1/2"	3/32"	32.86102	32.86103	—	—
SE41	1/8"	7/32"	1-1/2"	1/8"	32.862	32.863	—	—
SE11	3/16"	5/16"	2"	1/4"	32.65902	32.65903	—	—
SE53	3/16"	9/32"	1-1/2"	1/8"	—	32.86603	—	—
SE51	1/4"	3/8"	1-7/8"	1/8"	32.865	32.866	—	—
SE1	1/4"	3/8"	2"	1/4"	32.660	32.661	—	—
SE1L6	1/4"	3/8"	6"	1/4"	32.93907	32.93908	—	—
SE3	3/8"	19/32"	2-11/32"	1/4"	32.663	32.664	32.663SY	32.95411
SE3L6	3/8"	19/32"	6"	1/4"	32.93912	32.93913	—	—
SE5	1/2"	7/8"	2-5/8"	1/4"	32.666	32.667	32.666SY	32.95417
SE5L6	1/2"	7/8"	6"	1/4"	32.93917	32.93918	—	—
SE6	5/8"	1"	2-3/4"	1/4"	32.669	32.670	32.669SY	32.95420
SE7	3/4"	1"	2-3/4"	1/4"	32.67002	32.67003	—	32.95423

**TREE RADIUS**



SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SF61	3/32"	1/4"	1-1/2"	3/32"	32.88802	32.88803	—	—
SF41	1/8"	1/4"	1-1/2"	1/8"	32.889	32.890	—	—
SF42	1/8"	1/2"	1-1/2"	1/8"	32.892	32.893	—	—
SF51	1/4"	1/2"	2"	1/8"	32.895	32.896	—	—
SF11	1/4"	1/2"	2"	1/4"	32.70102	32.70103	—	—
SF1	1/4"	5/8"	2"	1/4"	32.702	32.703	—	32.95705
SF1L6	1/4"	1/2"	6"	1/4"	32.94207	32.94208	—	—
SF3	3/8"	3/4"	2-1/2"	1/4"	32.705	32.706	32.705SY	32.95711
SF3L6	3/8"	3/4"	6"	1/4"	32.94212	32.94213	—	—
SF4	7/16"	1"	2-3/4"	1/4"	32.70602	32.70603	32.70602SY	—
SF13	1/2"	3/4"	2-1/2"	1/4"	32.70610	32.70611	32.70610SY	—
SF5	1/2"	1"	2-3/4"	1/4"	32.708	32.709	32.708SY	32.95717
SF5L6	1/2"	1"	6"	1/4"	32.94227	32.94228	—	—
SF6	5/8"	1"	2-3/4"	1/4"	32.711	32.712	32.711SY	32.95720
SF7	3/4"	1"	2-3/4"	1/4"	32.71202	32.71203	—	—
SF14	3/4"	1-1/4"	3"	1/4"	32.714	32.715	—	32.95744
SF15	3/4"	1-1/2"	3-1/4"	1/4"	32.71502	32.71503	—	—



**TREE POINTED**

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SG61	3/32"	1/4"	1-1/2"	3/32"	32.87902	32.87903	—	—
SG41	1/8"	1/4"	1-1/2"	1/8"	32.880	32.881	—	—
SG42	1/8"	5/16"	1-1/2"	1/8"	32.88102	32.88103	—	—
SG43	1/8"	3/8"	1-1/2"	1/8"	32.883	32.884	—	—
SG44	1/8"	1/2"	1-1/2"	1/8"	32.88402	32.88403	—	—
SG51	1/4"	1/2"	2"	1/8"	32.886	32.887	—	—
SG1	1/4"	5/8"	2"	1/4"	32.684	32.685	—	—
SG1L6	1/4"	1/2"	6"	1/4"	32.94102	32.94103	—	—
SG2	5/16"	3/4"	2-1/2"	1/4"	32.68502	32.68503	—	—
SG3	3/8"	3/4"	2-1/2"	1/4"	32.687	32.688	32.687SY	—
SG3L6	3/8"	3/4"	6"	1/4"	32.94112	32.94113	—	—
SG13	1/2"	3/4"	2-1/2"	1/4"	32.690	32.691	32.690SY	—
SG5	1/2"	1"	2-3/4"	1/4"	32.693	32.694	32.693SY	—
SG5L6	1/2"	1"	6"	1/4"	32.94122	32.94123	—	—
SG6	5/8"	1"	2-3/4"	1/4"	32.696	32.697	32.696SY	—
SG7	3/4"	1"	2-3/4"	1/4"	32.69702	32.69703	—	—
SG15	3/4"	1-1/2"	3-1/4"	1/4"	32.69710	32.69711	—	—


**FLAME**

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SH41	1/8"	1/4"	1-1/2"	1/8"	32.868	32.869	—	—
SH53	3/16"	3/8"	1-7/8"	1/8"	—	32.86903	—	—
SH1	1/4"	5/8"	2"	1/4"	32.673	32.674	—	—
SH2	5/16"	3/4"	2-1/2"	1/4"	32.675	32.676	—	—
SH2L6	5/16"	3/4"	6"	1/4"	32.94007	32.94008	—	—
SH5	1/2"	1-1/4"	3"	1/4"	32.678	32.679	—	—
SH5L6	1/2"	1-1/4"	6"	1/4"	32.94012	32.94013	—	—
SH6	5/8"	1-7/16"	3-3/16"	1/4"	32.67902	32.67903	—	—
SH7	3/4"	1-5/8"	3-3/8"	1/4"	32.67910	32.67911	—	—


**DEBURRING 60°**

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SJ1	1/4"	3/16"	2"	1/4"	32.777	32.778	—	—
SJ3	3/8"	5/16"	2-1/16"	1/4"	32.780	32.781	—	—
SJ5	1/2"	7/16"	2-3/16"	1/4"	32.783	32.784	—	—
SJ6	5/8"	9/16"	2-5/16"	1/4"	32.78402	32.78403	—	—
SJ7	3/4"	11/16"	2-7/16"	1/4"	32.78410	32.78411	—	—
SJ9	1"	15/16"	2-11/16"	1/4"	32.78420	32.78421	—	—


**DEBURRING 90°**

SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SK1	1/4"	1/8"	2"	1/4"	32.789	32.790	—	—
SK3	3/8"	3/16"	1-15/16"	1/4"	32.792	32.793	—	—
SK5	1/2"	1/4"	2"	1/4"	32.795	32.796	—	—
SK6	5/8"	5/16"	2-1/16"	1/4"	32.798	32.799	—	—
SK7	3/4"	3/8"	2-1/8"	1/4"	32.801	32.802	—	—
SK9	1"	1/2"	2-1/4"	1/4"	32.804	32.805	—	—


**DEBURRING - Double end**

SCTI	Head Dia.	Head Length	Overall Length	Angle	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SJ42	1/8"	3/32"	1-1/2"	60°	1/8"	32.871	32.872	—	—
SK42	1/8"	1/16"	1-1/2"	90°	1/8"	32.874	32.875	—	—



**CONE - Radius nose 14° taper**



SCTI	Head Dia.	Head Length	Overall Length	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SL41	1/8"	3/8"	1-1/2"	1/8", 6°	<b>32.89702</b>	<b>32.89703</b>	—	—
SL42	1/8"	1/2"	1-1/2"	1/8", 7°	<b>32.898</b>	<b>32.899</b>	—	—
SL1	1/4"	5/8"	2"	1/4"	<b>32.720</b>	<b>32.721</b>	—	—
SL1L6	1/4"	5/8"	6"	1/4"	<b>32.94302</b>	<b>32.94303</b>	—	—
SL2	5/16"	7/8"	2-5/8"	1/4"	<b>32.723</b>	<b>32.724</b>	—	—
SL3	3/8"	1-1/16"	2-13/16"	1/4"	<b>32.726</b>	<b>32.727</b>	<b>32.726SY</b>	<b>32.95811</b>
SL3L6	3/8"	1-1/16"	6"	1/4"	<b>32.94312</b>	<b>32.94313</b>	—	—
SL4	1/2"	1-1/8"	2-7/8"	1/4"	<b>32.729</b>	<b>32.730</b>	<b>32.729SY</b>	<b>32.95814</b>
SL4L6	1/2"	1-1/8"	6"	1/4"	<b>32.94317</b>	<b>32.94318</b>	—	—
SL5	5/8"	1-3/16"	2-15/16"	1/4"	<b>32.73002</b>	<b>32.73003</b>	<b>32.73002SY</b>	<b>32.95817</b>
SL6	5/8"	1-5/16"	3-1/16"	1/4"	<b>32.732</b>	<b>32.733</b>	<b>32.732SY</b>	<b>32.95820</b>
SL7	3/4"	1-1/2"	3-1/4"	1/4"	<b>32.73302</b>	<b>32.73303</b>	—	<b>32.95823</b>

**CONE**



SCTI	Head Dia.	Head Length	Overall Length	Angle	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SM61	3/32"	5/16"	1-1/2"	10°	3/32"	<b>32.826</b>	<b>32.827</b>	—	—
SM41	1/8"	3/8"	1-1/2"	14°	1/8"	<b>32.913</b>	<b>32.914</b>	—	—
SM42	1/8"	1/2"	1-1/2"	12°	1/8"	<b>32.916</b>	<b>32.917</b>	—	—
SM43	1/8"	5/8"	1-1/2"	9°	1/8"	<b>32.919</b>	<b>32.920</b>	—	—
SM51	1/4"	1/2"	2"	22°	1/8"	<b>32.910</b>	<b>32.911</b>	—	—
SM1	1/4"	1/2"	2"	22°	1/4"	<b>32.738</b>	<b>32.739</b>	—	—
SM2	1/4"	3/4"	2"	14°	1/4"	<b>32.741</b>	<b>32.742</b>	—	—
SM3	1/4"	1"	2"	12°	1/4"	<b>32.744</b>	<b>32.745</b>	—	—
SM4	3/8"	3/4"	2-1/2"	28°	1/4"	<b>32.747</b>	<b>32.748</b>	<b>32.747SY</b>	—
SM5	1/2"	1"	2-3/4"	28°	1/4"	<b>32.750</b>	<b>32.751</b>	<b>32.750SY</b>	—
SM6	5/8"	1-1/8"	2-7/8"	31°	1/4"	<b>32.753</b>	<b>32.754</b>	<b>32.753SY</b>	—

**INVERTED CONE - End cut**



SCTI	Head Dia.	Head Length	Overall Length	Angle	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SN1	1/4"	1/4"	2"	10°	1/4"	<b>32.768</b>	<b>32.769</b>	—	—
SN4	1/2"	1/2"	2-1/2"	14°	1/4"	<b>32.771</b>	<b>32.772</b>	—	—

**INVERTED CONE - Plain end**



SCTI	Head Dia.	Head Length	Overall Length	Angle	Shank	Standard	Double Cut	Bear Cut	Alumna Cut
SN41	3/32"	1/8"	1-1/2"	10°	1/8"	<b>32.901</b>	<b>32.902</b>	—	—
SN61	3/32"	1/8"	1-1/2"	10°	3/32"	<b>32.823</b>	<b>32.824</b>	—	—
SN42	1/8"	1/8"	1-1/2"	14°	1/8"	<b>32.904</b>	<b>32.905</b>	—	—
SN51	1/4"	1/4"	1-3/4"	10°	1/8"	<b>32.907</b>	<b>32.908</b>	—	—
SN1	1/4"	1/4"	2"	10°	1/4"	<b>32.759</b>	<b>32.760</b>	—	—
SN2	3/8"	3/8"	2-1/8"	13°	1/4"	<b>32.761</b>	<b>32.76102</b>	—	—
SN4	1/2"	1/2"	2-1/2"	14°	1/4"	<b>32.762</b>	<b>32.763</b>	—	—
SN6	5/8"	3/4"	2-1/2"	18°	1/4"	<b>32.76302</b>	<b>32.76303</b>	—	—
SN7	3/4"	5/8"	2-5/8"	30°	1/4"	<b>32.76310</b>	<b>32.76311</b>	—	—

## CARBIDE SETS

### BUR SETS IN HINGED WOODEN CASES



#### 1/4" SHANK SETS

wood case measures 3-3/16" x 3-3/16" x 3-3/8"

Specially designed Bear Cut removes more material per hour and is engineered for heavy duty applications. 8-piece set includes; SA5, SC5, SE5, SF3, SF5, SG5, SL3, SL4  
No. **32.931SY** - Bear Cut set

8-piece sets of most popular shapes and sizes include; SA5, SC1, SC3, SD3, SE5, SF5, SG1, SK5  
No. **32.924** - Standard Cut set  
No. **32.925** - Double Cut set



#### 1/8" SHANK SETS

wood case measures 3-5/8" x 2- 5/8" x 2-1/8"

12-piece sets of most popular shapes and sizes include; SA43, SA51, SC42, SC51, SD42, SD51, SF51, SG43, SL42, SM51, SN42, SN51,

No. **32.926** - Standard Cut set  
No. **32.929** - Double Cut set



#### SPECIAL APPLICATION BUR SETS

supplied in a handy plastic container that measures 2-3/4" dia. X 3-3/4" high

8-piece double cut set of popular shapes and sizes on 1/4" shank. Excellent assortment for a variety of uses, including metal grinding, smoothing out welds, enlarging holes or porting heads. Includes; SA5, SA3, SC3, SC1, SD1, SD3, SF3, SF5.  
No. **32.932** - Double Cut set

5-piece Alumna Cut set, for use in applications such as aluminum, copper, brass and softer alloys. This kit contains 5 popular shapes with a 3/8" head diameter on 1/4" shank: SA3, SC3, SE3, SF3, SL3.  
No. **32.933** - Alumna Cut set



#### 5-PC BUR SET IN DURABLE PLASTIC CASES, 1/4" SHANK

Double Cut set; SB3, SC3, SC5, SF3, SF5,  
No. **32.950** - Double Cut set

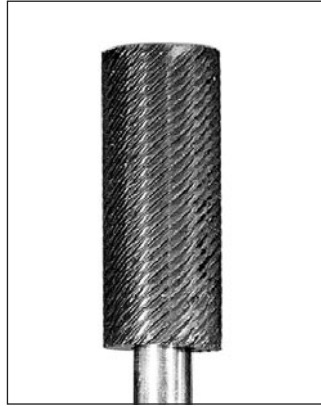
Bear Cut set; SA5, SC5, SE5, SF5, SL4  
No. **32.951SY** - Bear Cut set

**HIGH SPEED STEEL BURS**



**GROUND-FROM-THE-SOLID ROTARY FILES**

Ground from blanks of hardened high speed steel, these files have smooth, unbroken flutes. The design is particularly well-suited for filing mild steels and ductile, stringy materials such as aluminum, brass, lead and magnesium. They can also be used on some grades of plastics. Ground cut rotary files perform best at medium speeds in flexible shaft machines and air tools. The teeth have standard helix angles of approximately 30 with C/L.



**CHISEL (HAND) CUT ROTARY FILES**

The skilled hand crafting required to produce these files sets them apart from the others. Even those files which are machine chiseled must be completed with hand detailing. Teeth of these high speed steel files are staggered in contrast to the smooth flutes of ground-from-the-solid files. This irregular tooth design especially suits the requirements for working on dense, tough materials, such as die steels, steel forgings and other ferrous materials. They are best suited for operation at lower speeds such as in hand flexible shaft machines, drill presses, lathes, etc. Standard chisel cut high speed steel rotary files have 18 teeth per inch.

**SCALE OF CUTS FOR HSS, STANDARD CUT GROUND-FROM-THE-SOLID ROTARY FILES**

Head Diameter										
1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1-1/8"	
Teeth To The Circumference										
10	12	15	18	20	25	25	25	30	30	

**IMPORTANT NOTE ON OPERATING SPEEDS:** Before using any rotary file, be certain to check the maximum recommended speed chart, since speed recommendations vary according to type of file, file diameter and material being removed or finished.

**MAXIMUM RECOMMENDED SPEEDS FOR HIGH SPEED STEEL ROTARY FILES USED ON THE FOLLOWING MATERIALS:**

Diameter	MILD STEEL	CAST IRON	ALUMINUM
	Maximum Speed (RPM)		
1/8"	4,000	6,000	15,000
1/4"	2,500	3,400	10,000
3/8"	2,000	2,250	8,000
1/2"	1,500	1,750	6,000
5/8"	1,350	1,450	5,000
3/4"	1,200	1,250	4,000
1"	800	1,000	2,500

Diameter	BRASS	BRONZE	MAGNESIUM
	Maximum Speed (RPM)		
1/8"	15,000	15,000	8,000
1/4"	10,000	10,000	7,000
3/8"	8,000	8,000	6,500
1/2"	6,000	6,000	6,000
5/8"	5,000	5,000	5,000
3/4"	4,000	4,000	4,000
1"	2,500	2,500	4,000

**NOTE:** Rotary files must be chucked true and to the full capacity of the machine chuck. Also, when using double cut rotary files, reduce speed by approximately 1/3 to 1/2 from that shown for standard cut.

**CYLINDRICAL - Plain end**



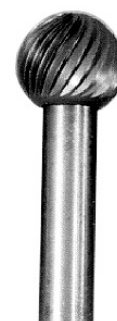
Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	1/2"	2-1/4"	33.026	33.401
3/16"	1/2"	2-1/4"	33.029	—
1/4"	1"	2-1/4"	33.032	33.407
5/16"	1"	2-1/4"	33.035	—
3/8"	1"	2-1/4"	33.038	33.410
1/2"	1"	2-1/4"	33.041	33.413
5/8"	1"	2-1/4"	33.044	33.416
1/4"	1-1/2"	2-3/4"	33.047	33.419
5/16"	1-1/2"	2-3/4"	—	33.422
3/8"	1-1/2"	2-3/4"	33.050	33.425
1/2"	1-1/2"	2-3/4"	33.053	33.428
3/4"	3/4"	2-1/4"	33.056	33.438
1"	1"	2-1/4"	33.059	33.441
Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	5/8"	1-1/2"	33.298	33.640
1/4"	1/2"	1-1/2"	33.301	33.643

**CYLINDRICAL - Radius end**

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	1/2"	2-1/4"	<b>33.065</b>	<b>33.444</b>
1/4"	1"	2-1/4"	<b>33.071</b>	<b>33.447</b>
5/16"	1"	2-1/4"	<b>33.074</b>	—
3/8"	1"	2-1/4"	<b>33.077</b>	<b>33.450</b>
1/2"	1"	2-1/4"	<b>33.083</b>	<b>33.453</b>
5/8"	1"	2-1/4"	<b>33.086</b>	—
3/4"	1-1/4"	2-1/2"	<b>33.089</b>	<b>33.459</b>
1/4"	1-1/2"	2-3/4"	<b>33.092</b>	<b>33.462</b>
3/8"	1-1/2"	2-3/4"	<b>33.095</b>	<b>33.468</b>
1/2"	1-1/2"	2-3/4"	<b>33.098</b>	—
Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	5/8"	1-1/2"	<b>33.304</b>	<b>33.646</b>
1/4"	1/4"	1-1/2"	<b>33.307</b>	—


**BALL**

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	1/8"	2-1/4"	<b>33.106</b>	<b>33.477</b>
3/16"	3/16"	2-1/4"	<b>33.109</b>	<b>33.479</b>
1/4"	1/4"	2-1/4"	<b>33.112</b>	<b>33.482</b>
5/16"	5/16"	2-1/4"	<b>33.115</b>	<b>33.485</b>
3/8"	3/8"	2-1/4"	<b>33.118</b>	<b>33.488</b>
1/2"	1/2"	2-1/4"	<b>33.121</b>	<b>33.491</b>
5/8"	5/8"	2-1/4"	<b>33.124</b>	<b>33.494</b>
3/4"	3/4"	2-1/4"	<b>33.127</b>	<b>33.497</b>
1"	1"	2-3/16"	<b>33.130</b>	<b>33.500</b>
Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/4"	1/4"	1-3/8"	<b>33.313</b>	<b>33.649</b>
3/8"	3/8"	1-1/2"	<b>33.317</b>	<b>33.652</b>


**TREE POINTED**

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/4"	3/4"	2-1/4"	<b>33.184</b>	<b>33.543</b>
3/8"	3/4"	2-1/4"	<b>33.187</b>	<b>33.546</b>
1/2"	3/4"	2-1/4"	<b>33.190</b>	<b>33.549</b>
5/8"	1"	2-1/2"	<b>33.193</b>	<b>33.552</b>
1/2"	1-1/8"	2-1/2"	<b>33.196</b>	<b>33.555</b>
Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/8"	1/2"	1-1/2"	<b>33.334</b>	<b>33.664</b>


**TREE RADIUS**

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/4"	3/4"	2 3/4"	<b>33.202</b>	<b>33.558</b>
1/4"	1 1/2"	2 3/4"	<b>33.205</b>	—
3/8"	3/4"	2 1/4"	<b>33.208</b>	<b>33.564</b>
1/2"	1"	2 1/2"	<b>33.211</b>	—
1/2"	1 1/8"	2 3/8"	—	<b>33.567</b>
1/2"	1 1/8"	2 5/8"	<b>33.214</b>	—
5/8"	1 1/8"	2 5/8"	<b>33.217</b>	—
3/4"	1 1/4"	2 1/2"	<b>33.220</b>	—
3/4"	1 1/4"	3 1/4"	—	<b>33.570</b>
1 1/8"	2"	3 1/4"	<b>33.223</b>	—



**OVAL**



Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
3/8"	5/8"	2-1/4"	33.136	33.503
3/4"	1-1/8"	2-1/2"	33.142	33.509
1"	1-3/8"	2-5/8"	—	33.512
1/4"	1/2"	2-1/4"	33.148	33.516
1/2"	7/8"	2-1/4"	33.151	33.519
1/2"	1"	2-1/4"	—	33.522
5/8"	1"	2-1/2"	—	33.525

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/4"	1/2"	1-1/2"	33.322	33.655

**CONE**



Head Dia. (1/4" Shank)	Head Length	Overall Length	Angle	Ground Cut Standard	Chisel Cut Standard
1/4"	1/2"	2-1/4"	24°	33.229	33.576
1/4"	3/4"	2-1/2"	16°	33.232	33.579
1/4"	1"	2-1/2"	12°	33.235	33.582
1/4"	1-1/8"	2-1/2"	11°	33.238	33.585
5/16"	3/4"	2-1/4"	21°	33.241	—
5/16"	1"	2-1/2"	16°	—	33.591
5/16"	1"	2-1/2"	15.5°	33.244	—
3/8"	5/8"	2-1/4"	30°	—	33.594
1/2"	7/8"	2-3/8"	30°	—	33.600
1/2"	7/8"	2-9/16"	30°	33.253	—

Head Dia. (1/8" Shank)	Head Length	Overall Length	Angle	Ground Cut Standard	Chisel Cut Standard
1/8"	9/16"	1-1/2"	9.5°	33.346	33.673
1/4"	1/4"	1-3/8"	50°	33.355	—
1/4"	1/2"	1-1/2"	24°	—	33.676
3/8"	3/8"	1-1/2"	51°	33.358	—

**INVERTED CONE - Plain end**



Head Dia. (1/4" Shank)	Head Length	Overall Length	Angle	Ground Cut Standard	Chisel Cut Standard
1/2"	3/4"	2 1/4"	18°	—	33.528
3/4"	5/8"	2 1/4"	34°	—	33.531

**CONE - Radius nose**



Head Dia. (1/4" Shank)	Head Length	Overall Length	Angle	Ground Cut Standard	Chisel Cut Standard
5/8"	13/16"	2-1/4"	36°	—	33.603
1"	1-3/8"	2-5/8"	36°	—	33.606
5/16"	5/8"	2-3/4"	19°	33.265	33.609
5/16"	1-1/4"	2-3/4"	8°	33.268	33.612
3/8"	1-3/4"	3"	7.5°	33.271	—
3/8"	1-3/4"	3"	8°	—	33.615
5/8"	15/16"	2-11/16"	31.5°	33.274	—

**FLAME**

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
5/8"	1-7/16"	2-3/4"	33.172	33.534
5/8"	7/8"	2-1/2"	33.178	—
3/4"	1-3/4"	3"	—	33.537

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/4"	1/2"	1-1/2"	33.331	33.661



**WHEEL - End and underside cut**

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
5/8"	1/8"	1-1/4"	33.370	33.688



**WHEEL - Plain end**

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
5/8"	1/8"	1-1/4"	33.364	33.682

Head Dia. (1/8" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
5/8"	1/8"	1-1/4"	—	33.685



**CONVEX-CONCAVE**

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
1/4"	1"	2-1/4"	33.280	33.618
5/16"	1-1/8"	2-1/2"	33.283	—



**CONCAVE**

Head Dia. (1/4" Shank)	Head Length	Overall Length	Ground Cut Standard	Chisel Cut Standard
3/4"	15/32"	2-1/4"	—	33.624



## INSIDE TUBE DEBURRING - CHISEL CUT



### DEBURRING 90°

Head Dia. (1/4" Shank)	Length of Cut	Length Overall	Chisel Cut Standard
1/2"	1/4"	1-13/16"	<b>33.713</b>
5/8"	5/16"	2-1/8"	<b>33.716</b>
3/4"	3/8"	2"	<b>33.719</b>
1"	1/2"	2-1/8"	<b>33.722</b>

## INSIDE & OUTSIDE TUBE DEBURRING GROUND-FROM-THE-SOLID

Grobet's combination inside and outside tube deburring rotary files are adjustable so as to increase or decrease the relative amount of chamfer between inside and outside wall tubing. Standard files make a 45° chamfer on outside wall of tubing and a 30° on the inside. Speed ranges from 50 to 250 RPM, according to size. Tube may be fed to file by hand, but better finish is obtained with rigid guides or support.



Tube Outside Diameter	Tube Inside Diameter	Standard
1/4"	3/16"	<b>33.749</b>
3/8"	5/16"	<b>33.751</b>
1/2"	7/16"	<b>33.753</b>
5/8"	9/16"	<b>33.755</b>
3/4"	5/8"	<b>33.756</b>
7/8"	3/4"	<b>33.757</b>
1"	7/8"	<b>33.758</b>

## CHATTERLESS COUNTERSINKS



Head Diameter	Overall Length	82° Angle	90° Angle
1/4"	1-1/2"	—	<b>33.767</b>
5/16"	1-3/4"	<b>33.771</b>	—
3/8"	1-3/4"	<b>33.776</b>	<b>33.777</b>
1/2"	2"	<b>33.781</b>	—
5/8"	2-1/4"	<b>33.786</b>	<b>33.787</b>

**Note:** Countersinks shown have a 82° or 90° angle C/L.  
Countersinks at angles other than these are also available.



## HIGH SPEED STEEL SHANK SETS

### BUR SETS IN HINGED WOODEN CASES

#### 1/8" SHANK SETS

(wood case measures 3-1/2" x 2-1/2" x 2-1/4")

Assortment of twelve popular shapes and sizes.

No. **33.376** - Standard Cut set

No. **33.691** - Chisel Cut set



#### 1/4" SHANK SETS

(wood case measures 3-1/8" x 3-7/16" x 3-1/8")

Assortment of eight popular shapes and sizes.

No. **33.375** - Standard Cut set

No. **33.690** - Chisel Cut set



## CHATTERLESS COUNTERSINKS SETS

These 6-flute countersinks are made with staggered cutting edges which give a shearing cut that eliminates practically all chatter.

#### EIGHT COUNTERSINKS

(1/4" diameter to 1" diameter) in a wood box measuring 4-7/8" x 3-1/4" x 4".

No. **33.808** 82° angle



Item No. . . . .	Page	Item No. . . . .	Page	Item No. . . . .	Page	Item No. . . . .	Page	Item No. . . . .	Page	
30.100V - 30.102V	19	31.438 - 31.439	15	32.438 - 32.443	6	32.823 - 32.824	40	33.640 - 33.643	42	
30.103V - 30.105V	19	31.440 - 31.441	15	32.445 - 32.449	6	32.826 - 32.827	40	33.646	43	
30.106V - 30.108V	19	31.442 - 31.443	15	32.450 - 32.454	6	32.832 - 32.836	36	33.649 - 33.652	43	
30.109V - 30.111V	19	31.445 - 31.446	15	32.455 - 32.467	6	32.838 - 32.839	36	33.655	44	
30.112V - 30.114V	19	31.450 - 31.471	16	32.468 - 32.479	6	32.83902 - 32.83911	37	33.661	45	
30.115V - 30.117V	19	31.474 - 31.482	16	32.4807	7	32.841	37	33.664	43	
30.118V - 30.120V	19	31.484 - 31.496	16	32.4809	7	32.844 - 32.848	37	33.673 - 33.676	44	
30.121V - 30.123V	19	31.498 - 31.514	16	32.48201 - 32.48401	4	32.850, 32.851	37	33.682	45	
30.201V - 30.202V	20	31.516 - 31.535	17	32.48801, 32.48802	2	32.853 - 32.861	38	33.685	45	
30.210V - 30.215V	20	31.537 - 31.546	17	32.49001 - 32.49201	4	32.86102, 32.86103	38	33.688	45	
30.221V - 30.222V	20	31.547 - 31.549	17	32.497	5	32.862 - 32.866	38	33.690, 33.691	47	
30.231V - 30.235V	20	31.551 - 31.565	17	32.498 - 32.499	2	32.86603	38	33.713 - 33.733	46	
30.241V - 30.242V	20	31.567 - 31.576	17	32.500	2	32.868, 32.869	39	33.749 - 33.758	46	
30.251V - 30.255V	20	31.578 - 31.580	17	32.502	1	32.871 - 32.875	39	33.767 - 33.787	46	
30.261V - 30.265V	20	31.582 - 31.599	17	32.503 - 32.509	5	32.87902, 32.87903	39	33.771 - 33.786	46	
30.271V - 30.272V	20	31.601 - 31.610	18	32.510	27	32.880 - 32.887	39	33.808	47	
30.450 - 30.463	16	31.612 - 31.628	18	32.520 - 32.523	7	32.88102, 32.88103	39	33.814	11	
30.484 - 30.492	16	31.629 - 31.650	18	32.540 - 32.568	36	32.88402, 32.88403	39	33.820 - 33.829	27	
30.498 - 30.510	16	31.656 - 31.670	18	32.54102, 32.54103	36	32.88802 - 32.88803	38	33.831 - 33.832	27	
30.516 - 30.529	17	31.672 - 31.684	18	32.54110, 32.54111	36	32.889 - 32.896	38	33.834 - 33.838	28	
30.537 - 30.545	17	31.674H	18	32.5465Y - 32.558SY	36	32.89702, 32.89703	40	33.840	28	
30.551 - 30.551	17	31.685	35	32.54702, 32.54703	36	32.898 - 32.899	40	33.842 - 33.848	28	
30.567 - 30.575	17	31.693, 31.694	16	32.55302 - 32.55321	36	32.901 - 32.908	40	33.850	28	
30.582 - 30.595	17	31.700 - 31.705	21	32.55902, 32.55903	36	32.910 - 32.911	40	33.852	29	
30.602 - 30.606	18	31.708 - 31.710	21	32.56502, 32.56503	36	32.913 - 32.920	40	33.860 - 33.865	26	
30.612 - 30.624	18	31.714 - 31.716	21	32.573 - 32.601	37	32.924 - 32.929	41	33.867	26	
30.630 - 30.642	18	31.720 - 31.722	21	32.57402 - 32.57411	37	32.931SY	41	33.873 - 33.877	29	
30.656 - 30.666	18	31.724 - 31.729	21	32.58002, 32.58003	37	32.932, 32.933	41	33.880 - 33.903	27	
30.672 - 30.681	18	31.731 - 31.733	21	32.58602 - 32.58622	37	32.93522 - 32.93558	36	33.906 - 33.909	27	
30.950 - 30.952	30	31.737 - 31.739	21	32.59202, 32.59203	37	32.93722 - 32.93758	37	33.915 - 33.920	27	
30.955 - 30.958	30	31.742 - 31.747	22	32.59802, 32.59803	37	32.93812 - 32.93833	38	33.922	27	
30.960 - 30.961	30	31.750 - 31.752	22	32.606 - 32.628	37	32.93907 - 32.93918	38	33.929 - 33.938	29	
30.965 - 30.966	30	31.754 - 31.760	22	32.60702, 32.60703	37	32.94007 - 32.94013	39	33.939	29	
30.968 - 30.973	30	31.761 - 31.764	22	32.60710, 32.60711	37	32.94102 - 32.94123	39	33.950	28	
30.975 - 30.976	30	31.766 - 31.768	22	32.61302, 32.61303	37	32.94207 - 32.94228	38	33.951 - 33.956	29	
30.980 - 30.983	30	31.770 - 31.772	22	32.618SY - 32.624SY	37	32.94302, 32.94318	40	33.957	29	
30.985 - 30.987	30	31.790 - 31.832	25	32.61902 - 32.61913	37	32.950	32.951SY	41	33.958 - 33.969	28
31.017, 31.108	9	31.834 - 31.919	23	32.62502 - 32.62511	37	32.95002 - 32.95023	36	33.970	28	
31.01710	13	31.921 - 32.012	24	32.62802, 32.62803	37	32.95102 - 32.95123	37	33.979	35	
31.01720	13	32.017 - 32.019	23	32.633 - 32.655	38	32.95305 - 32.95323	38	33.981	35	
31.021 - 31.033	9	32.020 - 32.026	24	32.645SY - 32.651SY	38	32.95411 - 32.95423	38	33.971 33.984	28	
31.035 - 31.038	9	32.027	24	32.64602 - 32.64603	38	32.95705 - 32.95744	38	33.991 - 33.995	29	
31.040 - 31.045	9	32.02702	24	32.65902, 32.65903	38	32.95811 - 32.95823	40	33.996	29	
31.047 - 31.054	10	32.029	24	32.660 - 32.670	38	33.026 - 33.059	42	33.99701-33.99703	29	
31.056 - 31.063	10	32.033 - 32.034	23	32.663SY - 32.669SY	38	33.065 - 33.098	43	34.004 - 34.009	28	
31.065 - 31.074	10	32.075 - 32.097	26	32.67002 - 32.67003	38	33.106 - 33.130	43	34.011 - 34.016	28	
31.076 - 31.097	10	32.115-32.117	32	32.67902, 32.67903	39	33.136 - 33.151	44	34.020	28	
31.100 - 31.125	10	32.135 - 32.137	31	32.67910, 32.67911	39	33.172 - 33.178	45	37.781 - 37.788	34	
31.127 - 31.132	11	32.13501 - 32.13701	31	32.673 - 32.679	39	33.184 - 33.196	43	37.791 - 37.796	35	
31.140 - 31.159	11	32.138 - 32.140	32	32.684 - 32.697	39	33.202 - 33.223	43	37.801 - 37.804	35	
31.161 - 31.169	11	32.14001	32	32.68502, 32.68503	39	33.229 - 33.253	44	37.810S - 37.813S	35	
31.174 - 31.187	11	32.187 - 32.190	31	32.687SY - 32.696SY	39	33.265 - 33.274	44	37.815 - 37.818	35	
31.192 - 31.194	12	32.260 - 32.263	1	32.69702, 32.69703	39	33.280 - 33.283	45	37.820	35	
31.200 - 31.217	12	32.265 - 32.268	1	32.69710, 32.6911	39	33.298 - 33.301	42	37.822	35	
31.219 - 31.235	12	32.270 - 32.274	2	32.70102, 32.70103	38	33.304 - 33.307	43	37.830	35	
31.237 - 31.261	12	32.270S - 32.274S	2	32.702 - 32.715	38	33.313 - 33.317	43	37.840	35	
31.267 - 31.272	12	32.27001	2	32.70602 - 32.70611	38	33.322	44	37.854, 37.855	35	
31.275 - 31.302	13	32.27101	2	32.705SY - 32.711SY	38	33.331	45			
31.304 - 31.326	13	32.27201	2	32.71202, 32.71203	38	33.334	43			
31.332 - 31.339	13	32.27301	2	32.71502 - 32.71503	38	33.346 - 33.358	44			
31.342 - 31.343	13	32.27401	2	32.720 - 32.733	40	33.364	45			
31.345 - 31.357	14	32.28001 - 32.28004	7	32.726SY - 32.732SY	40	33.370	45			
31.366 - 31.379	14	32.28201 - 32.28204	7	32.73002 - 32.73303	40	33.375 - 33.376	47			
31.381 - 31.382	14	32.288 - 32.293	2	32.738 - 32.754	40	33.401 - 33.441	42			
31.384 - 31.385	14	32.295 - 32.300	2	32.747SY - 32.753SY	40	33.444 - 33.468	43			
31.387 - 31.407	14	32.302 - 32.307	2	32.759 - 32.763	40	33.477 - 33.500	43			
31.420 - 31.421	15	32.309 - 32.329	3	32.76102 - 32.76311	40	33.503 - 33.525	44			
31.422 - 31.423	15	32.331 - 32.344	3	32.768 - 32.772	40	33.528 - 33.531	44			
31.424 - 31.425	15	32.345 - 32.347	3	32.777 - 32.78421	39	33.534 - 33.537	45			
31.426 - 31.427	15	32.350 - 32.362	3	32.789 - 32.805	39	33.543 - 33.555	43			
31.428 - 31.429	15	32.364 - 32.366	4	32.80902 - 32.80903	36	33.558 - 33.570	43			
31.430 - 31.431	15	32.368 - 32.389	4	32.810 - 32.815	36	33.576 - 33.600	44			
31.432 - 31.433	15	32.395 - 32.412	5	32.81502 - 32.81503	36	33.603 - 33.615	44			
31.434 - 31.435	15	32.414 - 32.432	5	32.817 - 32.818	37	33.618	45			
31.436 - 31.437	15	32.433 - 32.436	6	32.820 - 32.821	38	33.624	45			

## TERMS OF BUSINESS

### Design and Manufacture

The descriptions and pictured representations in this catalog resemble the actual product as closely as possible. However, because of continuing efforts to improve our merchandise, changes are unavoidable and designs & specifications will sometimes vary. If tolerances or dimensions are critical, please mention this on your order.

**Warning:** All products in this catalog are to be used according to directions, industry standards and governmental regulations such as the Occupational Safety and Health Act, Federal Hazardous Substance Act and the Environmental Protection Agency regulations.

Those who are not knowledgeable in the proper usage of hazardous materials as well as electrical, high-speed, grinding, and/or high-temperature equipment should NOT purchase these products as non-compliance with safety regulations can be dangerous to health and property.

**Keep all products out of the reach of children.**

### Prices

Prices are subject to change without notice. Price lists are published periodically and the latest price list will be sent upon request. You may also request quotations before shipment by submitting a list of the items you wish to order.

### Shipments

In the absence of special instructions on "how to ship" we will use our best judgment in forwarding merchandise. We will comply with your instructions insofar as DOT, ICC and other applicable government regulations permit. Hazardous materials are subject to strict government regulations and additional charges may be incurred.

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All products in this catalog should be free of defects in material and workmanship and perform the work for which they were designed. If, upon examination or first use, a product is found to be defective, contact us with the details. Items which have been abused or used for work for which they were not intended will not be replaced or credited. No merchandise may be returned without written authorization to do so.

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