

## Grobet File Company of America

## Grobet File Company of America Precision Files

Grobet has a strong history of over 140 years in design, production, and distribution of precision tools for professional technicians and craftsmen.

We take pride in the performance of our state-of-the-art facilities in the United States and Switzerland. Our extensive network of global suppliers has been selected based on their conformance to our high quality standards.

Our full line of Swiss pattern files delivers superior performance. They are simply the best files you can buy. The finest heattempered chrome alloy steel provides the "right" feel, action, and balance demanded by attentive craftsmen. The most advanced CNC equipment and the best available robotic technology ensures that Grobet files are manufactured to the highest standards of dimensional accuracy, cutting performance, and service life. All Grobet products adhere to strict Quality Control procedures at each level of manufacturing. Every finished tool is individually tested to ensure superior quality.


## Types of Grobet Precision Files

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

Diamond Files - Manufacurerd by electro-plating diamond grains on blanks. They are used for finishing or sharpening hardened steel over 60 HRc or tungsten carbide. A variety of types, shapes and sizes.

Ergo Grip Files - Versatile files for working on larger surfaces with higher pressure, but with the same precision of needle files. Use for mold making or working with precious metals. The square built-in handle is easy to hold and gives improved control without needing an additional handle.

Escapement Files - Also called Square Handled Needle Files with a length of cut varying from $3 / 4^{\prime \prime}$ to 2-1/2" and long, square handles.

Inox Files - Compared to standard precision files, the Inox coating creates a greater surface hardness, longer service life and a surface corrosion free layer. They have a Rockwell Hardness of 70-72 and can file hardened tempered steel up to 60 HRc.

Needle Files - Made to exacting tolerances, these high-quality files are ideal for making ultra-fine modifications to metal parts. The knurled round handle gives the file a non-slip grip for precision filing.

Rasps - Various file types with raised individual cutting teeth suitable for use on wood, fiberglass, plastics and other soft metals.
Rifflers - Originally used and hand forged by die sinkers, die makers, silversmiths, etc., in shapes and cross-sections appropriate to their work. Good for hard-to-reach surfaces and for detail finishing on molds, castings and engravings. Teeth are cut in small areas on each end and can have a variety of shapes. A long middle portion serves as the handle.

Scrapers - Scrapers are ideal for cleaning, smoothing and deburring metals and plastics. Use to prepare surfaces for soldering, remove excess solders, open bezels, etc. Grobet scrapers are high performance tools with extremely sharp edges. They can be resharpened on a bench stone. All are securely mounted in hardwood handles.
Swiss Pattern Precision Files - Compared to American Pattern files (engineers' files) Swiss Pattern files have marked tapering and smaller tips, sharp edges, strict dimensional and flatness tolerances and a higher and uniform hardness.

Table of Contents
Chain Saw Files ..... 40
Cleaners ..... 41
Diamond Econo Needle Files ..... 36
Diamond Ergo Grip Files ..... 38
Diamond Escapement Files ..... 37
Diamond Flexi-Files ..... 39
Diamond Needle Files ..... 34-36
Diamond Rifflers ..... 39
Ergo Grip Files ..... 24
Ergo Grip Rasps ..... 33
Escapement Files ..... 22-23
Handles ..... 41
Inox Needle Files ..... 18
Inox Swiss Pattern Precision Files ..... 12
Instructions for File Use ..... 4
Mascot Files ..... 21
Needle Files ..... 13-21
Rasps ..... 32-33
Rifflers, Die Sinkers ..... 25-29
Rifflers, Silversmiths ..... 30-31
Rifflers, Tool Makers ..... 30
Scrapers ..... 40
Swiss Pattern Precision Files ..... 7-11
Teborg Needle Files ..... 19-20
Wax Files ..... 32
Index ..... 42

Cut 00
Cut 0
Cut1
Cut 2


Cut 3


Cut 4

Cut 6

## Scale of Cuts

| Teeth per CM | $\mathbf{1 2}$ | $\mathbf{1 6}$ | $\mathbf{2 0}$ | $\mathbf{2 5}$ | $\mathbf{3 1}$ | $\mathbf{3 8}$ | $\mathbf{4 6}$ | $\mathbf{5 6}$ | $\mathbf{6 8}$ | $\mathbf{8 4}$ | $\mathbf{1 1 6}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Teeth per inch | $\mathbf{3 0}$ | $\mathbf{4 1}$ | $\mathbf{5 1}$ | $\mathbf{6 4}$ | $\mathbf{7 9}$ | $\mathbf{9 7}$ | $\mathbf{1 1 7}$ | $\mathbf{1 4 2}$ | $\mathbf{1 7 3}$ | $\mathbf{2 1 3}$ | $\mathbf{2 9 5}$ |
| Escapement Files | - | - | - | 0 | - | 2 | - | 4 | 5 | 6 | 8 |
| Ergo Grip | - | 00 | - | 1 | - | - | - | - | - | - | - |
| Needle | - | - | 00 | 0 | 1 | 2 | 3 | 4 | - | 6 | - |
| Swiss Pattern 4" to 8 " / 100mm-200mm | - | 00 | 0 | 1 | 2 | 3 | 4 | - | 6 | - | - |
| Swiss Pattern 10" to $12 " / 250 \mathrm{~mm}-300 \mathrm{~mm}$ | 00 | 0 | 1 | 2 | 3 | 4 | - | 6 | - | - | - |
| Rifflers, Die Sinkers | - | - | - | 0 | - | 2 | - | 4 | - | - | - |
| Rifflers, Silversmiths | - | 0 | - | 2 | - | - | - | - | - | - | - |
| Rifflers, Tool Makers | 0 | - | 2 | - | - | - | - | - | - | - | - |

## How To Use Precision Files

Hand filing is one of man's oldest ways of working metal and requires a high degree of manual skill. The skill of a craftsman is recognized by his ability to use a file correctly and efficiently. The touch of a file in the proper place can make all the difference when performing precision work. The skill or "feel" that a craftsman acquires is the result of long and patient practice.

## Choosing the Right File for the Job

This is done based on the type of metal to be filed, the amount of material to be removed, and the size and contour of the piece to be worked.

## Basic Principles for Filing

- The workpiece must be supported properly and at the correct working height.
- The file must be held correctly with the cutting stroke properly guided.
- Proper pressure must be applied during the cutting stroke.
- A common cause of defective filing is the tendency to rock the file with a seesaw motion in trying to remove too much material too quickly, resulting in a convex rather than flat, level surface; a lighter, more even pressure on the file usually corrects this.


## How to Hold the Workpiece

- A workpiece is generally held in a bench vise. For average precision filing, the top of the workpiece is usually level with the worker's elbow when the arm is bent.
- To keep the workpiece from being marred, the jaws of the vise should be covered with pieces of soft metal, wood, plastic, or leather.
- When rapid removal of material or rough, heavy filing is to be done, the workpiece is usually set at a lower level and a courser cut file is used.
- When the workpiece is small and delicate and the filing is done by the motion of the hand or the hand and arm alone, the workpiece is held at a level that permits closer scrutiny and enables a fine cut file or riffler to be guided more accurately.


## Basic Filing Operations

There are four basic types of filing operations: straight filing, draw filing, lathe filing, and precision filing.

- In straight filing, the file is pushed straight across the workpiece.
- In draw filing, the file is held at each end and, under even pressure, it is guided back and forth over the workpiece. The file is held perpendicular to the direction of motion.
- In straight- and draw-filing, the operator should stand comfortably with feet well apart, to obtain a free swing from the shoulders, avoiding any separate wrist or elbow movement.
- Lathe filing will not be discussed, as it is an application for American pattern or long-angle lathe files and do not require precision files.
- Precision filing operation is discussed below in "Finishing Techniques."


## Finishing Techniques

Finishing and smoothing of metal in various narrow grooves and depressions of tools, dies, molds, jigs, and fixtures calls for precision filing at its best. With the large range of shapes, sizes, and cuts available in Grobet precision files and rifflers, logic and experience will suggest the contour and profile most suited for the job.

- In precision filing, "feel" (attained by constant practice) will vary with the metal being worked. Too little pressure on the cutting stroke, especially when working with tool and chrome alloy steels, will quickly dull the teeth of the file.
- Too much pressure will result in excess metal being removed and causing the teeth of the file to become pinned.
- Small rifflers are held in much the same manner as a pen or pencil. When using larger sizes, the riffler is held in the hand with the index finger on the safe side to exert the proper cutting pressure. When necessary on very fine and delicate work, the other hand is used to control the direction and in some cases, the stroke of the riffler.


## Proper Care

Just as proper use prolongs the life of a precision file, so too does proper care. Don't just toss them into a drawer or in a pile on the back of a bench. If you do, you will damage their fine, keen-cutting teeth.

- Always keep files clean.
- A wire brush can be used to remove oil or grease from a file.
- Proper cleaning of files with a file card and wire brush helps keep the finish of the workpiece smooth, free of scratches, and prevents chips from building up in the teeth of the file.
- Mount your files on a rack or with their tangs placed in a row of holes drilled into a block of wood.
- Store your files in a dry atmosphere to avoid the possibility of rust. A rusty file causes the teeth to crumble away into a fine dust.


## Specific Filing Techniques

- For working on thin material, keep as many teeth as possible in contact with the workpiece.
- For draw filing, the file is alternately pulled and pushed over the workpiece.
- For normal filing, the hands are placed on the file for maximum pressure and average stock removal.
- Heavy stock removal requires a very firm grasp.
- For precision filing, the tip is held by the thumb and index finger of the other hand for maximum control.
- To preserve the sharpness of the teeth and to increase life, the file should be raised on the return stroke.

No file should be used without a handle. Handles must be mounted properly on the tangs. After the right size handle is selected, slip it over the tang and gently force the file into the handle as far as possible. Then either tap the handle on the bench or while holding the handle, tap it with a mallet until the file is firmly secured. Never hammer or pound the point of a file to seat the tang in a handle.

## Guide To Selecting Grobet Precision Files

As shown in the File Finder chart, each application 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, the 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.

## File Finder

| Basic Application | Type of File Recom | ended |
| :---: | :---: | :---: |
| Corners - holes - edges | Three-Square |  |
| Corners - holes | Square | $\xrightarrow{\text { (1) }}$ |
| 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 | $\square$ |
| Flat surfaces | Hand |  |
| Flat surfaces - corners - keyways - dovetail ways - gear teeth - deburring | Barrette | Kmmmmmmm |
| 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 | ${ }_{2}^{2 \times 5}$ |
| Slots | Screwhead | \% mexemen |
| Slots | Warding | $\square$ |
| Slots - wedge-shaped openings | Knife |  |

## FILE TERMINOLOGY

BACK In a half round, barrette, cant or a file of similar cross section this is the convex side.
BARRETTE FILE Tapered in width and thickness. Cuts on wide flat face and safe on sides and back.
BLANK A steel forging from which a file is made. The basic shape of a file before teeth are cut or etched.
CHECKERING FILE Rectangular in cross section and parallel in width and thickness. Teeth cut at $90^{\circ}$ angle with edge. Safe on edges.
CHISEL CUT A method of cutting teeth into the surface of an annealed file blank by striking it with a series of repeated blows as the blank is moved beneath a chisel at a uniform speed. In the cutting operation, the chisel is placed obliquely to the length and is inclined to the surface of the file. This is done either by hand or machine. Generally used to produce files of No. 2 cut and coarser.
CROCHET FILE Rectangular in cross section with rounded edges. Cut on both faces and edges. Tapered in length and slightly tapered in thickness.
CROSSING FILE Oval cross section with same radius as half-round files on one side and other side curved to a larger radius. Cut on both sides. Tapered in width and thickness.
CUT The number of teeth per inch, the degree of coarseness of a file's teeth, from No. 00 to No. 8 in Swiss precision files. Also used to describe the type of file such as single cut or double cut, etc.
DIE MAKERS' RIFFLERS Various cross sectional shapes. Teeth cut on a small area of each end leaving a long middle portion as a handle. The cut ends are of various designs. Length is overall. Originally designed and hand forged by die makers for their specific purposes now a generic term for this particular group of rifflers.
DIE SINKERS' RIFFLERS See Die Makers' Rifflers. This group of rifflers has smaller cross sectional shapes.
DOUBLE CUT The arrangement of file teeth formed by two series of cuts. The first is the overcut which is followed by the upcut at an angle to the overcut.
EDGE The narrow cross section or side of a file.
EQUALLING FILE Thin rectangular cross section, parallel in width and thickness and cut on both faces and edges.
ESCAPEMENT FILE Also called Square Handled Files. A group of files of various cross sectioned shapes with a length of cut varying from 3/4 to 2$1 / 2^{\prime \prime}$ and long square handles. Widely used by jewelers, watch makers, die makers, and fine mechanics.
ETCHED CUT A method of cutting teeth into the surface of a file blank by drawing an etching tool, under sustained pressure, obliquely across an annealed file blank in a series of cuts. This may be done either by hand or machine. This method of cutting is used where it is necessary to retain the true cross section of a file. Generally used to manufacture files finer than a No. 2 cut.
FACE The working surface of a file upon which teeth are cut.
FILING BLOCK A block of wood, soft metal or other material used to protect the material being filed from damage from the jaws of a vise or other holding device. It may contain a series of grooves to hold work securely.
FLAT FILE Also called a Warding File. A form of escapement or square handled needle file. Parallel in thickness. Cut on four sides, tapered in width.
HAND FILE A general purpose file used primarily for working on flat surfaces. Parallel in width and tapered in thickness.
HANDLE A wood or plastic piece that is placed over that tang of a file to protect the hand of the user.
HALF ROUND FILE A cross section that is flat on one side and has a radius (not half circle) on the other side. Cut on both sides. Width and thickness taper. HALF ROUND SLIM FILE Also called Ring Files. Same as half round except thinner in width.
HEEL The end of the file at a location where the body ends and the taper leading into the tang begins. Also called the shoulder.
KNIFE FILE Knife shaped, cross section that is tapered in width and thickness. Edge has same thickness from point to shoulder.

LENGTH OF CUT The length of a file measured between the shoulder or heel and the point.
NEEDLE FILE, SQUARE HANDLED Also called an Escapement File. A group of files of various cross sectional shapes with a length of cut varying between 3/4 and 2-1/2" and long square handle.
NEEDLE FILE, ROUND HANDLED 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.
OVAL FILE An oval cross section tapering in width and thickness.
OVERCUT The first of a series of cuts in a double cut file. Its function is to act as a chip breaker. The second or upcut is made over this cut.
PARALLEL ROUND FILE A round cross section parallel in width.
PILLAR FILE A rectangular cross section with thickness greater relative to width, than in other types. Cut on face or flat sides only. Parallel in width, tapered in thickness. Also demi-narrow, narrow and extra narrow widths.
PIN OR PINNING The tendency of small particles of materials to file or clog the gullets between the teeth of a file. When the teeth become clogged the file causes scratches on the work. When this occurs, the file is pinned.
PIPPIN FILE A section that combines the cross section of a round file with that of an equalling file. Tapered in thickness and width.
POINT The front end of a file as contrasted with the tang end.
POINTED BACK BARRETTE FILE A triangular cross section with one side wider than the other two sides but on wide or face side only tapered in width and length.
RASP CUT A cut used on wood rifflers that is made by a punch raising a series of individual cutting teeth.
RIFFLERS From the German riefeln, to channel, chaufer, flute or groove. Originally used and hand forged by die sinkers, die makers, silversmiths and other skilled artisans in shapes and cross sections appropriate to their work. Teeth are cut on small areas on each end that can be shaped like everything from trowels to button hooks. A long middle portion serves as a handle.
RING FILE Also called a Half Round Slim File.
ROUND FILE Round in cross section tapered in width.
ROUNDING OFF FILE An escapement or square handle needle file half round in cross section. Cut on flat side. Parallel in width.
SAFE The side or edge of a file that has no teeth cut in it so as not to mar a work surface that does not require filing.
SCREW HEAD FILE A narrow diamond shaped section with short bevels to form sharp edges. Cut on beveled edges, safe on flat sides. Parallel in width and thickness.
SECTION The cross section or end view of a file if it were cut squarely at the place of greatest width and thickness from the tang.
SILVERSMITH'S RIFFLERS A group of various cross sectioned shapes originally designed for use by silversmiths. Teeth are cut on small areas of each and leaving a long middle portion as a handle. The cut ends are of varied designs.
SINGLE CUT The tooth formed on a file by a single series of cuts.
SLITTING FILE A flat diamond shaped cross section. Cut on all sides. Parallel in width and thickness.
SQUARE FILE Square in cross section. Cut on all sides. Tapered.
TANG The part of the file that tapers from the shoulder that is intended to be fitted with a handle.
THREE SQUARE FILES Equilaterally triangular in cross section. Cut on all sides with sharp corners. Tapered.
TOOL MAKERS' RIFFLERS Various cross sectional shapes with teeth cut on a small area at each end leaving a long middle portion as a handle. The cut ends are of various designs to meet the needs of tool makers.
UPCUT The second series of teeth cut in double cut files made over the first series of cuts called the overcut. This cut is made of an angle to the overcut.
WARDING FILE A rectangular cross section with teeth cut on all sides up to $4^{\prime \prime}$ in length and on 3 sides with one safe edge on files 6 " and longer. Tapered width, parallel in thickness.

## GROBET SWISS PATTERN PRECISION FILES

Swiss Pattern files are designed for detail work, delicate finishing, and precise metal removal. Compared to American Pattern files (Engineers' files) Swiss Pattern Precision files have strict manufacturing tolerances, are uniform in taper, points, sharp edges, dimensions and flatness. Grobet files are made of the finest heat-tempered, chrome alloy steel. They are available in a variety of styles, shapes, sizes and cuts. The files are measured in length from the point where the teeth begin to the end of the file. The handle section (tang) is not included in the file length.


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

| Length |  |  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 1 | Cut 2 | Cut 3 |



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

| Length |  |  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | $(\mathrm{mm})$ | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 1 | Cut 2 |  |
| $4^{\prime \prime}$ | 100 | $15 / 32^{\prime \prime}$ | 12.0 | $3 / 32$ | 2.5 | 31.018 | - | - | - | Cut 3 |

## CHECKERING

Parallel in width and gently tapered in thickness. Overcut is parallel to file edges and upcut is $90^{\circ}$ to $0 v e r c u t$. Useful for putting serrations on knife edges and to obtain a checkered design. Double cut top and bottom - Both edges are safe.


Hand Checkering

| Length | Width |  | Thickness |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) (mm) | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 1 | Cut 2 | Cut 3 | Cut 4 | Cut 6 |
| 6" 150 | 45/64" | 18.0 | 5/32" | 4.0 | 31.035 | 31.036 | 31.037 | 31.038 | - | - | - |
| Lines per | nch/cm |  |  |  | 20/8 | 30/12 | 40/16 | 50/20 | - | - | - |



## Pillar Checkering



## GROBET SWISS PATTERN PRECISION FILES



## 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 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | Thidth | (in) | (mm) | Cut 00 | Cut 0 | Cut 1 | Cut 2 | Cut 3 |



## 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 <br> (in) |  | $(\mathrm{mm})$ | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 1 | Cut 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |



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


HALF-ROUND
A cross section that is flat on one side an has a radius (not half circle) on the other side. Width and thickness tapered 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) |  |  |  |  |  |  |  |
| 4" | 100 | 15/32" | 12.0 | 9/64" | 3.5 | 31.102 | 31.103 | - | 31.104 | - | 31.107 | - |
| $6{ }^{\prime \prime}$ | 150 | 5/8" | 16.0 | 11/64" | 4.5 | 31.111 | 31.112 | 31.113 | 31.114 | 31.115 | 31.116 | 31.117 |
| 8" | 200 | 53/64" | 21.0 | 15/64" | 6.0 | 31.118 | 31.119 | 31.120 | 31.121 | - | - | - |
| $10^{\prime \prime}$ | 250 | $1{ }^{\prime \prime}$ | 25.0 | 9/32" | 7.0 | 31.123 | 31.124 | - | - | - | - | - |

## HALF-ROUND RING

Width and thickness tapered to a point. Narrower than regular half-round and, therefore, useful for filing inside of rings.
Double cut on both sides.

|  |  | Width |  | Thickness |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 1 | Cut 2 | Cut 3 | Cut 4 | Cut 6 |
| $6{ }^{\prime \prime}$ | 150 | 15/32" | 12.0 | 9/64" | 3.5 | 31.127 | 31.128 | 31.129 | 31.130 | 31.131 | 31.132 | - |

## GROBET SWISS PATTERN PRECISION FILES



HAND
A general purpose file used primarily for working on flat surfaces. Parallel in width and tapered in thickness.
Double cut top and bottom - One edge single cut - One edge is safe.


## 栆管

KNIFE
Tapered in width and thickness. The knife edge has the same thickness from point to shoulder. The included angle of the sharp edge is approximately $10^{\circ}$. 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 3 | Cut 4 | Cut 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) |  |  |  |  |  |  |  |
| $4{ }^{\prime \prime}$ | 100 | 15/32" | 12.0 | 1/8" | 3.0 | - | - | - | 31.177 | - | - | - |
| $6{ }^{\prime \prime}$ | 150 | 45/64" | 18.0 | 5/32 | 4.0 | - | 31.180 | - | 31.182 | - | - | - |
| $8{ }^{\prime \prime}$ | 200 | 7/8" | 22.0 | 1/5" | 5.0 | - | 31.185 | - | 31.187 | - | - | - |

## 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.


## 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 | 3/32" | 2.5 | 31.237 | 31.238 | - | 31.240 | - | 31.241 | - |
| $6{ }^{\prime \prime} 150$ | 33/64" | 13.0 | 5/32" | 4.0 | 31.243 | 31.244 | 31.245 | 31.246 | - | 31.248 | 31.249 |
| 8" 200 | 19/32" | 15.0 | 13/64" | 5.0 | 31.251 | 31.252 | 31.253 | 31.254 | - | 31.256 | - |
| 10" 250 | 45/64" | 18.0 | 15/64" | 6.0 | 31.257 | 31.258 | . | - | - | - | - |
| 12" 300 | 3/4" | 19.0 | 1/4" | 6.3 | 31.260 | 31.261 | - | - | - | - | - |

## Demi-Narrow Pillar

| Length | Width |  | Thickness |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) (mm) | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 1 | Cut 2 | Cut 3 | Cut 4 | Cut 6 |
| 6" 150 | 25/64" | 10.0 | 11/64" | 4.5 | - | 31.192 | 31.193 | 31.194 |  |  | - |



Narrow 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 | 11/64" | 4.5 | 3/32" | 2.2 | - | 31.220 | - | 31.222 | - | 31.223 | - |
| $6{ }^{\prime \prime}$ | 150 | 5/16" | 8.0 | 9/64" | 3.5 | 31.224 | 31.225 | 31.226 | 31.227 | - | 31.228 | 31.229 |
| 8" | 200 | 25/64" | 10.0 | 11/64" | 4.5 | 31.230 | 31.231 | 31.232 | 31.233 | - | - | - |
| 10" | 250 | 15/32" | 12.0 | 13/64" | 5.0 | - | 31.235 | - | - | - | - | - |

## Extra Narrow 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 | 9/64" | 3.5 | 1/16" | 1.7 | 31.201 | 31.202 | - | 31.204 | - | 31.205 | - |
| $6{ }^{\prime \prime}$ | 150 | 15/64" | 6.0 | 1/8" | 3.0 | 31.206 | 31.207 | 31.208 | 31.209 | - | 31.210 | 31.211 |
| 8" | 200 | 5/16" | 8.0 | 9/64" | 3.5 | 31.212 | 31.213 | 31.214 | 31.215 | - | 31.216 | - |
| 10" | 250 | 21/64" | 8.3 | 5/32" | 3.7 | 31.217 | - | - | - | - | - | - |

## GROBET SWISS PATTERN PRECISION FILES



## 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.

|  | ngth | Width |  | Thickness |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 1 | Cut 2 | Cut 3 | Cut 4 | Cut 6 |
| 6" | 150 | 3/8" | 9.7 | 11/64" | 4.5 | - | - | - | 31.268 | - | 31.269 | - |

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

| Length |  |  |  | Cut 00 | Cut 0 | Cut 1 | Cut 2 | Cut 3 | Cut 4 | Cut 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) |  |  |  |  |  |  |  |
| $4{ }^{\prime \prime}$ | 100 | 5/32" | 4.0 | - | 31.280 | - | 31.282 | - | 31.283 | - |
| $6{ }^{\prime \prime}$ | 150 | 15/64" | 6.0 | - | 31.288 | 31.289 | 31.290 | - | 31.292 | - |
| 8" | 200 | 5/16" | 8.0 | - | 31.295 | 31.296 | 31.297 | - | 31.298 | - |

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

| Length |  | Diameter |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 1 | Cut 2 | Cut 3 | Cut 4 | Cut 6 |
| 4" | 100 | 1/16" | 1.6 | - | 31.304 | - | 31.305 | - | - | - |
| $4 "$ | 100 | 7/64" | 2.8 | - | 31.307 | - | - | - | - | - |
| $6{ }^{\prime \prime}$ | 150 | 3/32" | 2.3 | - | 31.311 | - | 31.312 | - | - | - |
| $6{ }^{\prime \prime}$ | 150 | 1/8" | 3.0 | - | 31.315 | - | 31.316 | - | - | - |
| $6{ }^{\prime \prime}$ | 150 | 11/64" | 4.4 | - | 31.322 | - | 31.323 | - | - | - |



## SCREWHEAD with TANG

A narrow diamond shaped section with short bevels to form sharp edges. Used for filing slots in small screws.
Single cut on both edges - Both sides are safe.


## GROBET SWISS PATTERN PRECISION FILES



## SQUARE

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

| Length |  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | $(\mathrm{mm})$ | (in) | $(\mathrm{mm})$ | Cut 00 | Cut 0 | Cut 1 | Cut 2 |  | Cut 3 |

THREE-SQUARE
Gradually tapered, cut and workable to the point. Double cut on all three sides.

| Length |  | Width |  | Cut 00 | Cut 0 | Cut 1 | Cut 2 | Cut 3 | Cut 4 | Cut 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) |  |  |  |  |  |  |  |
| $4{ }^{\prime \prime}$ | 100 | 15/64" | 6.0 | - | 31.367 | - | 31.369 | - | - | - |
| $6{ }^{\prime \prime}$ | 150 | 23/64" | 9.0 | - | 31.372 | 31.373 | 31.374 | - | 31.375 | - |
| 8" | 200 | 33/64" | 13.0 | - | 31.377 | 31.378 | 31.379 |  |  | - |



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

| Length <br> (in) <br> (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 1 | Cut 2 | Cut 3 | Cut 4 | Cut 6 |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $6^{\prime \prime}$ | 150 | $19 / 64^{\prime \prime}$ | 7.5 | - | - | - | 31.382 | - | - |  |

Use plastic file handles: size 4.


VUL-CRYLIC
Double-end vulcanite file with open, coarse teeth. One end is coarser than the other. For filing plastics, waxes and soft materials. Double cut on both sides of coarse end. One side single cut and one side double cut on other end.

| Length |  |  |  |  |  |  |  | Width |  | Thickness |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | $(\mathrm{mm})$ | (in) | $(\mathrm{mm})$ | (in) | $(\mathrm{mm})$ |  |  |  |  |  |  |

## 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 1 | Cut 2 | Cut 3 | Cut 4 | Cut 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) |  |  |  |  |  |  |  |
| $3{ }^{\prime \prime}$ | 75 | 23/64" | 9.0 | 1/32" | 0.5 | - | - | - | 31.388 | - | - | - |
| $4{ }^{\prime \prime}$ | 100 | 31/64" | 12.5 | 3/64" | 1.0 | 31.389 | 31.390 | - | 31.391 | - | 31.392 | - |
| $6{ }^{\prime \prime}$ | 150 | 5/8" | 16.0 | 5/64" | 2.0 | 31.393 | 31.394 | - | 31.395 | - | 31.396 | - |

## GROBET INOX SWISS PATTERN PRECISION FILES

## The File with the Yellow Tang

With Rockwell hardness 72HRc - the hardest surface known - these files have a longer life than standard files. Highly resistant to corrosion. Little or no clogging - a simple knock removes the chips. High performance files for platinum, stainless steel, exotic plastics, and other hard to file materials.


BARRETTE

|  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 2 |
| $6{ }^{\prime \prime}$ | 150 | 5/8" | 16.0 | 5/32" | 4.0 | - | 30.201V | 30.202V |

## D



HALF ROUND

| Overall Length <br> (in) $\quad$ (mm) |  | Width |  | Thickness |  | Cut 00 | Cut 0 | Cut 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | (in) | (mm) | (in) | (mm) |  |  |  |
| $6{ }^{\prime \prime}$ | 150 | 5/8" | 16.0 | 11/64" | 4.5 | - | 30.231 V | 30.232V |
| 8" | 200 | 53/64" | 21.0 | 15/64" | 6.0 | - | - | 30.235V |
|  |  |  |  |  |  |  |  |  |
| HALF ROUND SLIM |  |  |  |  |  |  |  |  |
| Overall Length (in) $\quad(\mathrm{mm})$ |  | Width |  | Thickness |  | Cut 00 | Cut 0 | Cut 2 |
| $6{ }^{\prime \prime}$ | 150 | 15/32" | 12.0 | 9/64" | 3.5 | - | 30.241V | 30.242V |


|  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| HAND |  |  |  |  |  |  |  |  |
| Overall Length <br> (in) (mm) |  | Width |  | Thickness |  | Cut 00 | Cut 0 | Cut 2 |
| 6 | 150 | 45/64" | 18.0 | 5/32" | 4.0 | 30.210 V | 30.211 V | 30.212 V |
| $8{ }^{\prime \prime}$ | 200 | 55/64" | 22.0 | 13/64" | 5.0 | 30.213V | 30.214 V | 30.215 V |



ROUND

| Overall Length |  | Diameter |  |  |  | Cut 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 |  |
| 8" | 200 | 5/16" | 8.0 | - | 30.254 V | 30.255V |

THREE-SQUARE

| Overall Length <br> (in) |  |  |  |  |  |  |  | $(\mathrm{mm})$ | (in) | $(\mathrm{mm})$ | Cut 00 | Cut 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $8 "$ | 200 | $33 / 64^{\prime \prime}$ | 13.0 | - | 30.264V |  |  |  |  |  |  |  |

## GROBET NEEDLE FILES with Rounded Knurled Handles

Precision files for exacting work. Made with high quality steel. Strict tolerances for size, uniform cut, and hardness. Round knurled handles aid gripping. Used by mold makers, goldsmiths, gunsmiths, and musical instrument manufacturers for precise finishing on small surfaces.
-Length 4" (100 mm) has cut portion of 1-3/4" (44 mm)
-Length 5-1/2" ( 140 mm ) has cut portion of 2-1/2" ( 64 mm )


- Length 6-1/4" (160 mm) has cut portion of 3" (76 mm)
- Length 7-3/4" (200 mm) has cut portion of 4-1/8" (105 mm)


BARRETTE


BARRETTE, GROUND BACK
Widely used in making and repairing extrusion dies.

| Overall Length |  | Width |  | Thickness |  | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) |  |  |  |  |  |
| 5-1/2" | 140 | 3/16" | 5.0 | 5/64" | 2.1 | - | 31.693 | - | - | - |
| 6-1/4" | 160 | 7/32" | 5.3 | 5/64" | 2.1 | - | 31.694 | - | - | - |

CROCHET

| Overall Length <br> (in) |  |  |  |  |  |  |  | $(\mathrm{mm})$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

CROSSING

| Overall L | ength | Wid |  | Thic |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| 5-1/2" | 140 | 11/64" | 4.5 | 5/64" | 2.1 | - | 31.487 | 31.488 | 31.489 |  |
| 6-1/4" | 160 | 13/64" | 5.0 | 3/32" | 2.3 | - | 31.490 | 31.491 | 31.492 | 31.493 |
| 7-3/4" | 200 | 1/4" | 6.2 | 3/32" | 2.4 | - | 31.494 | 31.495 | 31.496 | - |

EQUALLING

| Overall | ength | Wid |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| 4" | 100 | 9/64" | 3.5 | 1/32" | 0.9 | - | 31.498 | 31.499 | 31.500 | - |
| 5-1/2" | 140 | 13/64" | 5.1 | 3/64" | 1.3 | - | 31.501 | 31.502 | 31.503 | - |
| 6-1/4" | 160 | 7/32" | 5.5 | 1/16" | 1.4 | 31.505 | 31.506 | 31.508 | 31.510 | 31.511 |
| 7-1/4" | 200 | 1/4" | 6.4 | 1/16" | 1.6 | - | 31.512 | 31.513 | 31.514 | - |

## GROBET NEEDLE FILES with Rounded Knurled Handles



HALF-ROUND

| Overall L | ength | Wid |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| 4" | 100 | 9/64" | 3.6 | 3/64" | 1.1 | - | 31.516 | 31.517 | 31.518 | - |
| 5-1/2" | 140 | 13/64" | 5.0 | 1/16" | 1.7 | - | 31.519 | 31.520 | 31.522 |  |
| 6-1/4" | 160 | 7/32" | 5.6 | 5/64" | 1.8 | 31.524 | 31.525 | 31.527 | 31.529 | 31.530 |
| 7-3/4" | 200 | 1/4" | 6.5 | 5/64" | 2.0 | 31.53101 | 31.531 | 31.533 | 31.535 | - |



JOINT ROUND EDGE

| Overall Length (in) $\quad$ ( mm ) |  | Width |  | Thickness |  | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | (in) | (mm) | (in) | (mm) |  |  |  |  |  |
| 5-1/2" | 140 | 7/32" | 5.6 | 3/64" | 1.3 | - | 31.540 | 31.541 | 31.542 | - |
| 6-1/4" | 160 | 15/64" | 6.0 | 1/16" | 1.4 | - | 31.543 | 31.544 | 31.545 | - |



KNIFE

| Overall Length (in) $\quad(\mathrm{mm})$ |  | Width |  | Thickness |  | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | (in) | (mm) | (in) | (mm) |  |  |  |  |  |
| 4" | 100 | 5/32" | 4.0 | 3/64" | 1.1 | - | 31.551 | 31.552 | 31.553 | - |
| 5-1/2" | 140 | 7/32" | 5.5 | 1/16" | 1.5 | - | 31.554 | 31.555 | 31.556 | - |
| 6-1/4" | 160 | 15/64" | 5.8 | 1/16" | 1.7 | - | 31.558 | 31.559 | 31.561 | 31.562 |
| 7-3/4" | 200 | 1/4" | 6.5 | 3/32" | 2.2 | - | 31.563 | 31.564 | - | - |
|  |  |  |  |  |  |  |  |  |  |  |

MARKING

| Overall Length |  | Width |  | Thickness |  | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) |  |  |  |  |  |
| 5-1/2" | 140 | 13/64" | 5.0 | 1/16" | 1.7 | - | 31.570 | 31.571 | 31.572 |  |
| 6-1/4" | 160 | 7/32" | 5.6 | 5/64" | 1.8 | - | 31.573 | 31.574 | 31.575 | - |

OVAL

| Overall Length | Width |  | Thickness |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) (mm) | (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| 6-1/4" 160 | 5/32" | 4.1 | 7/64" | 2.6 | - | - | 31.579 | 31.580 |  |

ROUND

| Overall Length |  | Diameter |  | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) |  |  |  |  |  |
| 4" | 100 | 3/32" | 2.2 | - | 31.582 | 31.583 | 31.584 | - |
| 5-1/2" | 140 | 1/8" | 3.0 | - | 31.585 | 31.586 | 31.588 | - |
| 6-1/4" | 160 | 9/64" | 3.25 | 31.590 | 31.591 | 31.593 | 31.595 | 31.596 |
| 7-3/4" | 200 | 5/32" | 3.75 | 31.59701 | 31.597 | 31.598 | 31.599 | - |

GROBET NEEDLE FILES with Rounded Knurled Handles

$\square$
SQUARE

| Overall | ength |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| 4" | 100 | 1/16" | 1.7 | - | 31.612 | 31.613 | 31.614 | - |
| 5-1/2" | 140 | 3/32" | 2.4 | - | 31.615 | 31.616 | 31.617 |  |
| 6-1/4" | 160 | 3/32" | 2.5 | 31.619 | 31.620 | 31.622 | 31.624 | 31.625 |
| 7-3/4" | 200 | 1/8" | 3.0 | - | 31.626 | 31.627 | 31.628 | - |

THREE SQUARE

| Overall Length |  | Width |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| $4{ }^{4}$ | 100 | 7/64" | 2.8 | - | 31.630 | 31.631 | 31.632 | - |
| 5-1/2" | 140 | 9/64" | 3.5 | - | 31.633 | 31.634 | 31.636 | - |
| 6-1/4" | 160 | 9/64" | 3.7 | 31.637 | 31.638 | 31.640 | 31.642 | 31.643 |
| 7-3/4" | 200 | 11/64" | 4.4 | 31.644 | 31.645 | 31.647 | 31.649 | 31.650 |

WARDING

| Overall Length |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | $(\mathrm{mm})$ | (in) | $(\mathrm{mm})$ | $(\mathrm{in})$ | $(\mathrm{mm})$ | Cut 00 | Cut 0 | Cut 2 |


$\longrightarrow$

## SETS of 12 ASSORTED GROBET NEEDLE FILES with Rounded Knurled Handles

All 12 piece sets contain popular shapes from above, in the cut indicated.

| Overall <br> (in) | ength <br> (mm) | Cut 00 | Cut 0 | Cut 2 | Cut 4 | Cut 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4" | 100 | - | 31.672 | 31.673 | - | - |
| 5-1/2" | 140 | - | 31.675 | 31.676 | 31.677 | - |
| 6-1/4" | 160 | - | 31.679 | 31.680 | 31.681 | 31.682 |
| 7-3/4" | 200 | - | - | 31.684 | - | - |

## GROBET NEEDLE FILES with Plastic Handles

Precision files made of the highest quality steel and plastic handles. Machined and finished for precision, shape, accuracy and balance. Perfect for exacting work and especially under magnification.

- Length 4" (100 mm) has cut portion of 1-3/4" (44 mm)
- Length $5-1 / 2^{\prime \prime}(140 \mathrm{~mm})$ has cut portion of 2-1/2" (64 mm)
- Length 6-1/4" (160 mm) has cut portion of 3" (76 mm)
- Length 7-3/4" $(200 \mathrm{~mm})$ has cut portion of $4-1 / 8^{\prime \prime}(105 \mathrm{~mm})$


BARRETTE

| Overall Length | Width |  | Thickness |  | Cut 0 | Cut 2 | Cut 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) (mm) | (in) | (mm) | (in) | (mm) |  |  |  |
| 4" 100 | 5/32" | 3.7 | 1/16" | 1.4 | 30.450 |  | - |
| 5-1/2" 140 | 3/16" | 5.0 | 5/64" | 2.1 | 30.453 | 30.454 | 30.456 |
| 6-1/4" 160 | 7/32" | 5.3 | 5/64" | 2.1 | 30.459 | 30.461 | 30.463 |
| $\frac{B}{B}$ | $\square \times$ |  |  |  |  |  |  |
|  |  |  |  |  | $\cdots$ |  |  |
| CROSSING |  |  |  |  |  |  |  |
| Overall Length | Wid |  | Thic |  |  |  |  |
| (in) (mm) | (in) | (mm) | (in) | (mm) | Cut 0 | Cut 2 | Cut 4 |
| 5-1/2" 140 | 11/64" | 4.5 | 5/64" | 2.1 | 30.487 | 30.488 | 30.489 |
| 6-1/4" 160 | 13/64" | 5.0 | 3/32" | 2.3 | 30.490 | 30.491 | 30.492 |



EQUALLING

| Overall Length |  | Width |  | Thickness |  | Cut 0 | Cut 2 | Cut 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) |  |  |  |
| 4" | 100 | 9/64" | 3.5 | 1/32" | 0.9 | 30.498 | 30.499 | - |
| 5-1/2" | 140 | 13/64" | 5.1 | 3/64" | 1.3 | 30.501 | 30.502 | 30.503 |
| 6-1/4" | 160 | 7/32" | 5.5 | 1/16" | 1.4 | 30.506 | 30.508 | 30.510 |

HALF-ROUND

| Overall Length <br> (in) |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $(\mathrm{mm})$ | (in) | $(\mathrm{mm})$ | (in) | $(\mathrm{mm})$ | Cut 0 | Cut 2 |  |
| $4^{\prime \prime}$ | 100 | $9 / 64^{\prime \prime}$ | 3.6 | $3 / 64^{\prime \prime}$ | 1.1 | 30.516 | 30.517 |
| $5-1 / 2^{\prime \prime}$ | 140 | $13 / 64^{\prime \prime}$ | 5.0 | $1 / 16^{\prime \prime}$ | 1.7 | 30.519 | 30.520 |
| $6-1 / 4^{\prime \prime}$ | 160 | $7 / 32^{\prime \prime}$ | 5.6 | $5 / 64^{\prime \prime}$ | 1.8 | 30.525 | 30.527 |



JOINT ROUND EDGE

| Overall Length |  | Width |  | Thickness |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) | Cut 0 | Cut 2 | Cut 4 |
| 5-1/2" | 140 | 7/32' | 5.6 | 3/64" | 1.3 | 30.540 | 30.541 | 30.452 |
| 6-1/4" | 160 | 15/64" | 6.0 | 1/16" | 1.4 | 30.543 | 30.544 | 30.545 |

## GROBET NEEDLE FILES with Plastic Handles



KNIFE

| Overall | ength | Wid |  | Thic |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) | Cut 0 | Cut 2 | Cut 4 |
| $4{ }^{\prime \prime}$ | 100 | 5/32" | 4.0 | 3/64" | 1.1 | 30.551 | 30.552 |  |
| 5-1/2" | 140 | 7/32" | 5.5 | 1/16" | 1.5 | 30.554 | 30.555 | 30.556 |
| 6-1/4" | 160 | 15/64" | 5.8 | 1/16" | 1.7 | 30.558 | 30.559 | 30.561 |



ROUND

| Overall L | ength | Diam |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | Cut 0 | Cut 2 | Cut 4 |
| $4{ }^{\prime \prime}$ | 100 | 3/32" | 2.2 | 30.582 | 30.583 | - |
| 5-1/2" | 140 | 1/8" | 3.0 | 30.585 | 30.586 | 30.588 |
| 6-1/4" | 160 | 9/64" | 3.25 | 30.591 | 30.593 | 30.595 |

SQUARE

| Overall Length Width |  |  |  | Cut 0 | Cut 2 | Cut 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) |  |  |  |
| 4" | 100 | 3/32" | 2.2 | 30.612 | 30.613 | - |
| 5-1/2" | 140 | 1/8" | 2.4 | 30.615 | 30.616 | 30.617 |
| 6-1/4" | 160 | 9/64" | 2.5 | 30.620 | 30.622 | 30.624 |

THREE SQUARE

| Overall | ength | Wid |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | Cut 0 | Cut 2 | Cut 4 |
| 4 | 100 | 7/64" | 2.8 | 30.630 | 30.631 | - |
| 5-1/2" | 140 | 9/64" | 3.5 | 30.633 | 30.634 | 30.636 |
| 6-1/4" | 160 | 9/64" | 3.7 | 30.638 | 30.640 | 30.642 |

WARDING

| Overall L | ength | Wid |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) | Cut 0 | Cut 2 | Cut 4 |
| 5-1/2" | 140 | 13/64" | 5.1 | 3/64" | 1.3 | 30.659 | 30.660 | 30.661 |
| 6-1/4" | 160 | 7/32" | 5.5 | 1/16" | 1.4 | 30.663 | 30.664 | 30.666 |

## GROBET INOX NEEDLE FILES

The File with the Yellow Tang
With Rockwell hardness 72 HRc - the hardest surface known - these files have a longer life than standard files. Highly resistant to corrosion. Little or no clogging - a simple knock removes the chips. High performance files for platinum, stainless steel, exotic plastics, and other hard to file materials. Overall length is $7^{\prime \prime}(180 \mathrm{~mm})$.



ROUND

| Width |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $(\mathrm{in})$ | $(\mathrm{mm})$ | Cut 00 | Cut 0 |
| $9 / 64^{\prime \prime}$ | 3.5 | - | 30.119 V |




## SET of SIX GROBET INOX

NEEDLE FILES

| Cut | Set No. |
| :--- | ---: |
| 0 | $\mathbf{3 0 . 1 2 2 V}$ |
| 2 | $\mathbf{3 0 . 1 2 3 V}$ |

## TEBORG NEEDLE FILES

Well made, yet economical. These needle files are made of chrome alloy steel. Overall length is $5-1 / 2^{\prime \prime}(140 \mathrm{~mm})$ with the cut portion $3^{\prime \prime}$ ( 76.2 mm ). Sold by the dozen.





乍 $\longrightarrow$

KNIFE

| Overall Length |  |  |  |
| :---: | :---: | :---: | :---: |
| $($ in $)$ | $(\mathrm{mm})$ | Medium | Fine |
| $5-1 / 2^{\prime \prime}$ | 140 | 33.890 | 33.891 |

TEBORG NEEDLE FILES

## 

SQUARE

| Overall Length |  | Medium | Fine |
| :---: | :---: | :---: | :---: |
| (in) | (mm) |  |  |
| 5-1/2" | 140 | 33.898 | -- |



ROUND

| Overall Length |  |  |
| :--- | ---: | ---: |
| (in) | $(\mathrm{mm})$ | Medium |

THREE-SQUARE


TEBORG NEEDLE FILE SETS
Assorted shapes in a vinyl pouch.

|  |  |  |
| :--- | :--- | :--- |
| Cut | Set of 6 | Set of 12 |
| Medium | 33.906 | 33.908 |
| Fine | 33.907 | 33.909 |

$\longrightarrow$

## MASCOT NEEDLE FILES

Single-cut files do not clog as easily as double-cut files. Overall length $5-1 / 2^{\prime \prime}(140 \mathrm{~mm})$. Smooth cut only. Sold individually.


|  |  |
| :--- | :--- |
| WARDING |  |
|  | Overall Length  <br> (in) $(\mathrm{mm})$ |
| $5-1 / 2^{\prime \prime} \quad 140$ | Single-Cut |
|  | 33.861 |





为

## THREE-SQUARE

| Overall Length |  |  |
| :--- | ---: | :--- |
| (in) | (mm) | Single-Cut |
| $5-1 / 2^{\prime \prime}$ | 140 | 33.865 |

## MASCOT ${ }^{\circledR}$ NEEDLE FILE SET

Set of six different styles: equalling, flat, half-round, round, square, and three-square styles in a vinyl pouch.
No. 33.867


## 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 $5-1 / 2^{\prime \prime}(140 \mathrm{~mm})$, with length of cut 2-1/8" ( 55 mm ).

|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BARRETTE |  |  |  |  |  |  |
| Width | Thickness |  |  |  |  |  |
| (in) (mm) | (in) (mm) | Cut 0 | Cut 2 | Cut 4 | Cut 6 | Cut 8 |
| 9/64 3.7 | 3/64 1.3 | 31.700 | 31.701 | 31.703 | 31.704 | 31.705 |



BARRETTE, PARALLEL

| Width |  | Thickness |  | Cut 0 | Cut 2 | Cut 4 | Cut 6 | Cut 8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) |  |  |  |  |  |
| 5/32 | 4.0 | 3/64 | 1.3 | - | 31.708 | 31.709 | 31.710 | - |
| $1$ |  |  |  |  |  |  |  |  |
| CROSSING |  |  |  |  |  |  |  |  |
| ${ }_{\text {(in) }}{ }^{\text {Width }}$ |  | ${ }_{\text {(in) }}^{\text {Thic }}$ |  |  |  |  |  |  |
| (in) | (mm) | (in) | (mm) | Cut 0 | Cut 2 | Cut 4 | Cut 6 | Cut 8 |
| 9/64 | 3.7 | 1/16 | 1.6 | - | 31.714 | 31.715 | 31.716 | - |




| 害垹 | $r$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| KNIFE |  |  |  |  |  |  |  |
| Width |  |  |  |  |  |  |  |
| (in) (mm) | (in) | (mm) | Cut 0 | Cut 2 | Cut 4 | Cut 6 | Cut 8 |
| 11/64 4.3 | 3/64 | 1.3 | - | 31.731 | 31.732 | 31.733 | - |



## GROBET ESCAPEMENT FILES

| ROUND |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Diameter } \\ & \text { (in) } \quad(\mathrm{mm}) \end{aligned}$ | Cut 0 | Cut 2 | Cut 4 | Cut 6 | Cut 8 |
| 5/64" 1.8 | 31.742 | 31.743 | 31.745 | 31.746 | 31.747 |

## $\square$

SQUARE

| Width |  | Cut 0 | Cut 2 | Cut 4 | Cut 6 | Cut 8 |
| :--- | :--- | :--- | :---: | ---: | ---: | ---: |
| (in) | (mm) | - | 31.755 | 31.756 | 31.757 | 31.758 |

## Aner

THREE-SQUARE

| Width |  |  |  |  |  |  |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: |
| (in) | (mm) | Cut 0 | Cut 2 | Cut 4 | Cut 6 | Cut 8 |
| $1 / 8^{\prime \prime}$ | 3.0 | - | 31.761 | 31.762 | 31.763 | - |



THREE-SQUARE SLIM

| Width |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :---: | :---: | :---: |
| (in) | (mm) | Cut 0 | Cut 2 | Cut 4 | Cut 6 | Cut 8 |
| $9 / 64^{\prime \prime}$ | 2.5 | - | - | 31.767 | 31.768 | - |

GROBET ESCAPEMENT FILE SETS
Each set contains 12 assorted files in a vinyl pouch.

| Cut | Set No. |
| :--- | ---: |
| 2 | 31.770 |
| 4 | 31.771 |
| 6 | 31.772 |



## ERGO GRIP FILES

These files offer the craftsman something different. Ergo grip files are precision files designed for those "in-between" jobs that are too big for needle files and that require finer control than a larger, heavier file can deliver. They are shaped for easy handling and balanced for efficient cutting. The distinctive design includes a built-in handle. There is no separate handle to buy. These files are strong, durable, and offer versatility. Length of cut is $4^{\prime \prime}(100 \mathrm{~mm})$ and the overall length is $8-1 / 2^{\prime \prime}(215 \mathrm{~mm})$. Sold individually or in sets of five.


## $\square$

SQUARE

| Width |  |  | Cut 00 |
| :--- | ---: | :---: | :---: |
| (in) | $(\mathrm{mm})$ | 33.826 | 33.827 |

## 为 (4)

THREE-SQUARE

| Width |  |  | Cut 00 |
| :--- | ---: | ---: | :---: |
| (in) | (mm) | 33.828 | 33.829 |

## SET of ERGO GRIP FILES

Each set contains five files, one of each shape.


GROBET DIE SINKERS' RIFFLERS (See style number cross reference chart on page 29) A comprehensive selection of precision rifflers. All are double-ended and measure 6 " ( 150 mm ) long.





| Style No. | Cut 0 | Cut 2 | Cut 4 |
| :---: | :---: | :---: | :---: |
| 507 | 31.858 | 31.859 | - |
| 妻 |  |  |  |
| Style No. | Cut 0 | Cut 2 | Cut 4 |
| 508 | 31.862 | 31.863 | - |


| Style No. | Cut 0 | Cut 2 | Cut 4 |
| :---: | :---: | :---: | :---: |
| 509 | 31.865 | 31.866 | - |


| Style No. | Cut 0 | Cut 2 | Cut 4 |
| :---: | :---: | :---: | :---: |
| 511 | 31.869 | 31.870 | - |



GROBET DIE SINKERS' RIFFLERS (See style number cross reference chart on page 29)





| Style No. | Cut 0 | Cut 2 | Cut 4 |
| :---: | :---: | :---: | :---: |
| 532 | 31.943 | 31.944 | - |
| 5 \% ${ }^{\text {F }}$ |  |  |  |
| Style No. | Cut 0 | Cut 2 | Cut 4 |
| 533 | 31.946 | 31.947 | - |


|  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| Style No. | Cut 0 | Cut 2 | Cut 4 |
| 534 | - | 31.951 | 31.952 |


|  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| Style No. | Cut 0 | Cut 2 | Cut 4 |
| 536 | 31.957 | 31.958 | 31.959 |

GROBET DIE SINKERS' RIFFLERS (See style number cross reference chart on page 29)

| Style No. | Cut 0 | Cut 2 | Cut 4 |
| :---: | :---: | :---: | :---: |
| 537 | 31.961 | 31.962 | - |
| - \% |  |  |  |
| Style No. | Cut 0 | Cut 2 | Cut 4 |
| 538 | - | 31.966 | - |
| Style No. | Cut 0 | Cut 2 | Cut 4 |
| 539 | 31.969 | 31.970 | - |
| men |  |  |  |



0

| Style No. | Cut 0 | Cut 2 | Cut 4 |
| :---: | :---: | :---: | :---: |
| 544 | 31.983 | 31.984 | - |
|  |  |  |  |
| Style No. | Cut 0 | Cut 2 | Cut 4 |
| 545 | 31.986 | 31.987 | - |

GROBET DIE SINKERS' RIFFLERS (See style number cross reference chart bellow)


## $552 \quad-\quad-\quad 32.012$

## DIE SINKERS' RIFFLER SETS

Each set contains the most widely used shapes described in pages 25 through 29.
Each set contains the most widely used shapes described in pages 25 through 29 .

| Pieces |
| :--- |
| In Set |

Cut 0

## New Style Number Cross Reference Chart

| Item No. | New Descripition | $\begin{gathered} \text { old } \\ \text { strive No. } \end{gathered}$ | $\begin{gathered} \text { New } \\ \text { Sylye No. } \end{gathered}$ | Item No. | Neev Dessripition | $\begin{gathered} \text { Old } \\ \text { strie No. } \end{gathered}$ | $\begin{gathered} \text { New } \\ \text { Sylye No. } \end{gathered}$ | Ilem No. | New Descripion | $\begin{gathered} \text { old } \\ \text { style No. } \end{gathered}$ | $\begin{aligned} & \text { Sywe } \\ & \text { Stye No. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 31.794 | Riffler-Diemaker \#604 7 Cut 0 | 711 | 604 | 31.850 | Riffler-Diesinker \#505 6 Cut 0 | 911 | 505 | 31.943 | Riffler-Diesinker \#532 6 Cut 0 | 964 | 532 |
| 31.795 | Riffler-Diemaker \#604 7 Cut 2 | 711 | 604 | 31.851 | Riffler-Diesinker \#505 6 Cut 2 | 911 | 505 | 31.944 | Riffler-Diesinker \#532 6 Cut 2 | 964 | 532 |
| 31.796 | Riffler-Diemaker \#605 7 Cut 0 | 712 | 605 | 31.854 | Riffler-Diesinker \#506 6 Cut 0 | 912 | 506 | 31.946 | Riffler-Diesinker \#533 6 Cut 0 | 965 | 533 |
| 31.797 | Riffler-Diemaker \#605 7 Cut 2 | 712 | 605 | 31.855 | Riffler-Diesinker \#506 6 Cut 2 | 912 | 506 | 31.947 | Riffler-Diesinker \#533 6 Cut 2 | 965 | 533 |
| 31.798 | Riffler-Diemaker \#606 7 Cut 0 | 713 | 606 | 31.858 | Riffler-Diesinker \#507 6 Cut 0 | 913 | 507 | 31.951 | Riffler-Diesinker \#534 6 Cut 2 | 970 | 534 |
| 31.799 | Riffler-Diemaker \#606 7 Cut 2 | 713 | 606 | 31.859 | Riffler-Diesinker \#5076 6 Cut 2 | 913 | 507 | 31.952 | Riffler-Diesinker \#534 6 Cut 4 | 970 | 534 |
| 31.800 | Riffler-Diemaker \#607 7 Cut 0 | 731 | 607 | 31.862 | Riffler-Diesinker \#508 6 Cut 0 | 914 | 508 | 31.957 | Riffler-Diesinker \#536 6 Cut 0 | 972 | 536 |
| 31.801 | Riffler-Diemaker \#607 7 Cut 2 | 731 | 607 | 31.863 | Riffler-Diesinker \#508 6 Cut 2 | 914 | 508 | 31.958 | Riffler-Diesinker \#536 6 Cut 2 | 972 | 536 |
| 31.802 | Riffler-Diemaker \#608 7 Cut 0 | 732 | 608 | 31.865 | Riffler-Diesinker \#509 6 Cut 0 | 915 | 509 | 31.959 | Riffler-Diesinker \#536 6 Cut 4 | 972 | 536 |
| 31.803 | Riffler-Diemaker \#608 7 Cut 2 | 732 | 608 | 31.866 | Riffler-Diesinker \#509 6 Cut 2 | 915 | 509 | 31.961 | Riffler-Diesinker \#537 6 Cut 0 | 973 | 537 |
| 31.804 | Riffler-Diemaker \#609 7 Cut 0 | 741 | 609 | 31.869 | Riffler-Diesinker \#5116 Cut 0 | 917 | 511 | 31.962 | Riffler-Diesinker \#537 6 Cut 2 | 973 | 537 |
| 31.805 | Riffler-Diemaker \#609 7 Cut 2 | 741 | 609 | 31.870 | Riffler-Diesinker \#511 6 Cut 2 | 917 | 511 | 31.966 | Riffler-Diesinker \#538 6 Cut 2 | 974 | 538 |
| 31.806 | Riffler-Diemaker \#610 7 Cut 0 | 750 | 610 | 31.873 | Riffler-Diesinker \#512 6 Cut 2 | 918 | 512 | 31.969 | Riffler-Diesinker \#539 6 Cut 0 | 975 | 539 |
| 31.807 | Riffler-Diemaker \#610 7 Cut 2 | 750 | 610 | 31.882 | Riffler-Diesinker \#5156 Cut 0 | 930 | 515 | 31.970 | Riffler-Diesinker \#539 6 Cut 2 | 975 | 539 |
| 31.808 | Riffler-Diemaker \#611 7 Cut 0 | 761 | 611 | 31.889 | Riffler-Diesinker \#5176 Cut 2 | 940 | 517 | 31.972 | Riffler-Diesinker \#541 6 Cut 0 | 981 | 541 |
| 31.809 | Riffler-Diemaker \#611 7 Cut 2 | 761 | 611 | 31.893 | Riffler-Diesinker \#5186 Cut 2 | 941 | 518 | 31.973 | Riffler-Diesinker \#541 6 Cut 2 | 981 | 541 |
| 31.810 | Riffler-Diemaker \#612 7 Cut 0 | 762 | 612 | 31.896 | Riffler-Diesinker \#519 6 Cut 0 | 942 | 519 | 31.974 | Riffler-Diesinker \#541 6 Cut 4 | 981 | 541 |
| 31.811 | Riffler-Diemaker \#612 7 Cut 2 | 762 | 612 | 31.897 | Riffler-Diesinker \#519 6 Cut 2 | 942 | 519 | 31.976 | Riffler-Diesinker \#542 6 Cut 0 | 982 | 542 |
| 31.812 | Riffler-Diemaker \#613 7 Cut 0 | 763 | 613 | 31.903 | Riffler-Diesinker \#522 6 Cut 0 | 951 | 522 | 31.977 | Riffler-Diesinker \#542 6 Cut 2 | 982 | 542 |
| 31.813 | Riffler-Diemaker \#613 7 Cut 2 | 763 | 613 | 31.904 | Riffler-Diesinker \#522 6 Cut 2 | 951 | 522 | 31.979 | Riffler-Diesinker \#543 6 Cut 0 | 983 | 543 |
| 31.816 | Riffler-Diemaker \#615 7 Cut 0 | 771 | 615 | 31.906 | Riffler-Diesinker \#523 6 Cut 0 | 952 | 523 | 31.980 | Riffler-Diesinker \#543 6 Cut 2 | 983 | 543 |
| 31.817 | Riffler-Diemaker \#615 7 Cut 2 | 771 | 615 | 31.907 | Riffler-Diesinker \#523 6 Cut 2 | 952 | 523 | 31.983 | Riffler-Diesinker \#544 6 Cut 0 | 984 | 544 |
| 31.818 | Riffler-Diemaker \#616 7 Cut 0 | 781 | 616 | 31.917 | Riffler-Diesinker \#525 6 Cut 0 | 955 | 525 | 31.984 | Riffler-Diesinker \#544 6 Cut 2 | 984 | 544 |
| 31.819 | Riffler-Diemaker \#616 7 Cut 2 | 781 | 616 | 31.918 | Riffler-Diesinker \#525 6 Cut 2 | 955 | 525 | 31.986 | Riffler-Diesinker \#545 6 Cut 0 | 985 | 545 |
| 31.826 | Riffler-Diemaker \#620 7 Cut 0 | 795 | 620 | 31.921 | Riffler-Diesinker \#526 6 Cut 0 | 956 | 526 | 31.987 | Riffler-Diesinker \#545 6 Cut 2 | 985 | 545 |
| 31.827 | Riffler-Diemaker \#620 7 Cut 2 | 795 | 620 | 31.922 | Riffler-Diesinker \#526 6 Cut 2 | 956 | 526 | 31.990 | Riffler-Diesinker \#546 6 Cut 0 | 986 | 546 |
| 31.830 | Riffler-Diemaker \#603 7 Cut 0 | 710 | 603 | 31.925 | Riffler-Diesinker \#527 6 Cut 0 | 957 | 527 | 31.991 | Riffler-Diesinker \#546 6 Cut 2 | 986 | 546 |
| 31.834 | Riffler-Diemaker \#603 7 Cut 2 | 710 | 603 | 31.926 | Riffler-Diesinker \#527 6 Cut 2 | 957 | 527 | 32.012 | Riffler-Diesinker \#552 6 Cut 4 | 996 | 552 |
| 31.838 | Riffler-Diesinker \#502 6 Cut 0 | 901 | 502 | 31.932 | Riffler-Diesinker \#529 6 Cut 0 | 961 | 529 | 32.075 | Riffler-Toolmaker \#652 12 Cut 0 | 410 | 652 |
| 31.839 | Riffler-Diesinker \#502 6 Cut 2 | 901 | 502 | 31.933 | Riffler-Diesinker \#529 6 Cut 2 | 961 | 529 | 32.077 | Riffler-Toolmaker \#659 12 Cut 0 | 411 | 659 |
| 31.846 | Riffler-Diesinker \#503 6 Cut 0 | 905 | 503 | 31.939 | Riffler-Diesinker \#531 6 Cut 0 | 963 | 531 |  |  |  |  |
| 31.847 | Riffler-Diesinker \#503 6 Cut 2 | 905 | 503 | 31.940 | Riffler-Diesinker \#531 6 Cut 2 | 963 | 531 |  |  |  |  |

GROBET TOOL MAKERS' RIFFLERS (See style number cross reference chart on page 29)
These rifflers 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 are doubled ended. Length is 12 " ( 300 mm ).


GROBET SILVERSMITHS' RIFFLERS (See style number cross reference chart on page 29)
For removing metal and smoothing in tight places. All are double-ended and 7" ( 180 mm ) long.


GROBET SILVERSMITHS' RIFFLERS (See style number cross reference chart on page 29)






## WAX RASP FILES

Designed for shaping waxes. Excellent for other materials; such as wood and plastic. Wide-tooth style does not clog as easily as conventional files. Overall length 5-1/2" (140 mm).

| EQUALLING |  |  |
| :---: | :---: | :---: |
|  |  |  |
|  | Overall Length <br> (in) (mm) | Rasp |
|  | 5-1/2" 140 | 33.915 |
|  |  |  |
|  |  |  |
| Overall Length |  |  |
|  | 5-1/2" 140 | 33.916 |




## 

SQUARE

| Overall Length |  |  |
| :--- | ---: | ---: |
| (in) | $(\mathrm{mm})$ | Rasp |
| $5-1 / 2^{\prime \prime}$ | 140 | 33.919 |



WAX RASP FILE SET
All six shapes listed above in a handy vinyl pouch.
No. 33.922


GROBET RASP FILES with TANG


## SWISS HALF ROUND SLIM THIN RASP

| Overall Length |  | Cut 6 | Cut 7 |
| :--- | ---: | ---: | ---: |
| (in) | $(\mathrm{mm})$ | $\mathbf{3 0 . 9 6 5}$ |  |

## ERGO GRIP RASPS

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

| $\xrightarrow{4}$ |  |  |
| :---: | :---: | :---: |
| HAND |  |  |
|  | Overall Length <br> (in) (mm) | Rasp |
|  | $10^{\prime \prime} 215$ | 33.834 |
| 若 |  |  |
| HALF-ROUND |  |  |
|  | Overall Length <br> (in) (mm) | Rasp |
| - | $10^{\prime \prime} 215$ | 33.835 |


| \% |  |  |
| :---: | :---: | :---: |
| ROUND |  |  |
|  | Overall Length <br> (in) $\quad(\mathrm{mm})$ | Rasp |
|  | 10" 215 | 33.836 |
|  |  |  |
| Square |  |  |
|  | $\begin{aligned} & \text { Overall Length } \\ & \text { (in) } \quad \text { (mm) } \end{aligned}$ | Rasp |
|  | 101215 | 33.837 |

## 

## Three-Square

| $\begin{array}{c}\text { Overall Length } \\ \text { (in) }\end{array}$ |  |  | $(\mathrm{mm})$ |
| :--- | :--- | :---: | :---: |$)$

## DIAMOND NEEDLE FILES

These Diamond Needle Files offer excellent material removal as a result of the unique process that bonds the $2-1 / 2^{\prime \prime}(64 \mathrm{~mm})$ long diamond surface. Engineered to deliver performance on ultra-hard materials unequaled by any other file. Carbide, hardened steel, exotic metals, ceramics, and glass are no match for these precision files. Available in fine grit, medium grit, and coarse grit. Overall length is 5-1/2" (140 $\mathrm{mm})$. Sold individually or in sets, as listed on Page 35.



CROSSING


ROUND

| Overall Length |  |  | Medium Grit (120/140) | Coarse Grit (80/100) |
| :--- | ---: | :---: | :---: | :---: |
| $(\mathrm{in})$ | $(\mathrm{mm})$ | 33.963 | 33.973 |  |

## DIAMOND NEEDLE FILES

| Overall Length |  |  |  |
| :---: | :---: | :---: | :---: |
| (in) (mm) | Fine Grit (170/220) | Medium Grit (120/40) | Coarse Grit (80/100) |
| 5-1/2" 140 | 33.964 | 33.974 | 34.008 |

THREE-SQUARE


DIAMOND NEEDLE FILE SETS
Contains one each of equalling, halfround, round, square. and three-square.

|  | Set $\mathrm{No}_{0}$. |
| :--- | ---: |
| Grit | $\mathbf{3 3 . 9 6 0}$ |
| Fine | $\mathbf{3 3 . 9 7 0}$ |
| Medium |  |

$\qquad$
$\xrightarrow{\square}$

## ECONO DIAMOND NEEDLE FILES

Unique process that bonds the 2-1/2" long diamond surface - at an affordable price. Provides excellent material removal for ultra-hard materials metals, ceramics, and glass. Available in medium grit (120/140). Overall length is $5-1 / 2^{\prime \prime}(140 \mathrm{~mm})$. Sold individually or in a set as listed below.


BARRETTE

| Overall Length(in) |  |  |  |
| :---: | :---: | :---: | :---: |
|  | 5-1/2" | 140 | 34.011 |
| $\xrightarrow{\text { ame }}$ |  |  |  |
| EQUALLING |  |  |  |
| Overall Length |  |  |  |
|  | 5-1/2" | 140 | 34.012 |



HALF-ROUND


## three-sauare

| Overall Length |  | Medium Grit (120/140) |
| :---: | :---: | :---: |
| (in) | (mm) |  |
| 5-1/2" | 140 | 34.016 |

ECONO DIAMOND NEEDLE FILE SET
Contains 5 assorted files from the list above in a handy vinyl pouch.
No. 34.020


## DIAMOND ESCAPEMENT FILES

These square handle files have a diamond surface of 1-9/16" to 2-9/16" ( 40 to 65 mm ) according to shape. Available in 126 grit. Used in fine watchmaking, in finishing fine castings and other delicate work. Sold individually or in a set as listed below.


HALF-ROUND
$\left.\begin{array}{lll} & \begin{array}{c}\text { Overall Length } \\ \text { (in) }\end{array} \quad 126 \text { Grit }\end{array}\right]$


ROUND

| Overall Length <br> (in) |  | (cm) |
| :--- | ---: | ---: |$\quad 126$ Grit

DIAMOND ESCAPEMENT FILE SET
Contains one of each 6 files listed above.
No. 33.957 $\qquad$

## ERGO GRIP 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 $8-1 / 2$ " ( 220 mm ), and diamond surface is $4^{\prime \prime}(100 \mathrm{~mm}) .126$ grit. Sold individually or in a kit as listed bellow.


THREE-SQUARE




## 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: $6-3 / 4^{\prime \prime}(170 \mathrm{~mm})$ length $\times 9 / 16^{\prime \prime}(14.3 \mathrm{~mm})$ wide $\times 1 / 16^{\prime \prime}(1.6 \mathrm{~mm})$ thick, Plated length $3-1 / 2^{\prime \prime}$


| Overall L | ength |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) | (in) | (mm) | Fine Grit | Medium Grit | Coarse Grit |
| 6-3/4" | 170 | 9/16" | 14.3 | 1/16" | 1.6 | 33.99701 | 33.99702 | 33.99703 |

## DIAMOND RIFFLERS

Double-ended with diamond coating on both ends. Easy access to hard-to-reach places. Overall length is 6 " $(15 \mathrm{~cm}) .126$ grit. Sold individually or in a set as listed below.


## CHAIN SAW FILES

Use for sharpening all sizes of chain saw teeth. This file maintains the proper tooth shape throughout extensive use. It gives a fast, smooth cutting action and creates an excellent finish. Double cut.

| Overall Length |  | Diameter |  | Part No. | Overall Length |  | Diameter |  | Part No. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (in) | (mm) | (in) | (mm) |  | (in) | (mm) | (in) | (mm) |  |
| $6{ }^{\prime \prime}$ | 150 | 1/8" | 3.2 | 32.277 | 8" | 200 | 3/16" | 4.8 | 32.271 |
| $6 "$ | 150 | 5/32" | 4.0 | 32.278 | 8" | 200 | 13/64" | 5.2 | 32.270 |
| 8" | 200 | 5/32" | 4.0 | 32.272 | $8{ }^{\prime \prime}$ | 200 | 7/32" | 5.5 | 32.273 |
| 8" | 200 | 11/64" | 4.5 | 32.276 | 8" | 200 | 1/4" | 6.4 | 32.274 |

## DEPTH GAUGE FILE

For lowering depth gauges on chain saws after sharpening with round chain saw file. Single cut.

| Overall Length <br> (in) <br> (mm) |  | (in) | (mm) | (in) | (mm) | Part No. |
| :--- | :--- | :--- | :--- | :--- | ---: | :--- |
| $6^{\prime \prime}$ | 150 | $9 / 16^{\prime \prime}$ | 14.0 | $3 / 32^{\prime \prime}$ | 2.3 | $\mathbf{3 2 . 2 6 9}$ |

## SCRAPERS

Scrapers are ideal for cleaning, smoothing and deburring metals and plastics. Use to prepare surfaces for soldering, remove excess solders, open bezels, etc. Sharp from handle to tip and can be resharpened on a bench stone. All are securely mounted in hardwood handles. Made in the USA.


## hoLLOW CURVED SCRAPER

2-1/2" blade
No. 52.140

hollow straight scraper
2-1/2" hollow straight blade.
No. 52.101


## three-square machinist's scraper

$1-1 / 4^{\prime \prime}$ Iong sharpened point. Overall length is $6-1 / 2^{\prime \prime}$ with $4^{\prime \prime}$ long blade. No. 52.180


## three-sauare machinist's scrapers

| No. | Blade Length | Thickness |
| :--- | :---: | ---: |
| $\mathbf{5 2 . 1 7 0}$ | $2^{\prime \prime}$ | $3 / 16^{\prime \prime}$ |
| $\mathbf{5 2 . 1 7 1}$ | $3^{\prime \prime}$ | $3 / 16^{\prime \prime}$ |
| $\mathbf{5 2 . 1 7 2}$ | $3-1 / 4^{\prime \prime}$ | $1 / 4^{\prime \prime}$ |
| $\mathbf{5 2 . 1 7 3}$ | $4^{\prime \prime}$ | $5 / 16^{\prime \prime}$ |

## FILE HANDLE SIZE RECOMMENDED FOR SWISS PATTERN PRECISION FILES

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



## BLUE PLASTIC FILE HANDLES/METAL GRIPPING INSERT

Unbreakable plastic, with textured surface for a non-slip grip. Hole at top permits convenient hangup storage. Tang-gripping insert is tempered metal, with two threaded sections of different diameters. Handle can be reused; simply unscrew the file in use and insert a new one.

| No. | Handle Size | No. | Handle Size |
| :--- | :---: | :--- | :---: |
| $\mathbf{3 7 . 7 8 1}$ | 1 | $\mathbf{3 7 . 7 8 5}$ | 5 |
| $\mathbf{3 7 . 7 8 2}$ | 2 | $\mathbf{3 7 . 7 8 6}$ | 6 |
| $\mathbf{3 7 . 7 8 3}$ | 3 | $\mathbf{3 7 . 7 8 7}$ | 7 |
| $\mathbf{3 7 . 7 8 4}$ | 4 | $\mathbf{3 7 . 7 8 8}$ | 8 |



## SKROO-ZON WOOD FILE HANDLE

Steel die inside wood handle cuts its own thread on file tang.
No. 37.820 For 6 " ( 150 mm ) files only.


WOOD FILE HANDLES
With natural finish. Wound wire ferrule provides extra strength to prevent splitting. Select handle to fit files 2" to 20 " ( 51 to 510 mm ).

No. 37.791 2"-4" (50-100 mm)
No. 37.792 4"-6" (100-150 mm)
No. 37.793 6"-10" (150-250 mm)
No. 37.794 10"-14" (250-350 mm)
No. 37.795 14"-16" (350-400 mm) No. 37.796 16"-20" (400-500 mm)


## 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


## LUTZ WOOD FILE HANDLES

Sturdy, force-fit type of handle.
No. 37.801 3"-6" (75-150 mm)
No. 37.802 6"-8" (150-200 mm)
No. 37.803 8"-12" (200-300 mm)
No. 37.804 14"-16" (350-400 mm)


## NEEDLE FILE HANDLE

Precision chuck in smooth wooden handle holds 5-1/2" (140 mm) and 6-1/4" (160 mm) needle files securely.
No. 37.830


## 1 FILE CLEANER with BRUSH

Handy bristles mounted on wood handle with steel wire brush on reverse side. Overall length 10 " $(250 \mathrm{~mm})$.
No. 33.979

## 2 FILE CLEANER

Steel wire bristles mounted on wood handle, for removing particles clogging teeth of file. Overall length 10" ( 250 mm ). No. 33.981

## NEEDLE FILE STAND

Attractive metal stand conveniently holds and displays up to 12 needle files in 4" (100 mm), 5-1/2" (140 mm), or 6-1/4" $(160 \mathrm{~mm})$ 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


| Item No. | Page |
| :---: | :---: |
| 30.101V-30.102V | 18 |
| $30.103 \mathrm{~V}-30.105 \mathrm{~V}$ | 18 |
| 30.106V-30.108V | 18 |
| 30.109V-30.111V | 18 |
| 30.112V - 30.114V | 18 |
| 30.115V-30.117V | 18 |
| $30.118 \mathrm{~V}-30.120 \mathrm{~V}$ | 18 |
| 30.121V-30.123V | . 18 |
| 30.201V - 30.202 V | . 12 |
| 30.210V - 30.215 V | . 12 |
| $30.221 \mathrm{~V}-30.222 \mathrm{~V}$ | . 12 |
| $30.231 \mathrm{~V}-30.235 \mathrm{~V}$ | 12 |
| $30.241 \mathrm{~V}-30.242 \mathrm{~V}$ | 12 |
| $30.251 \mathrm{~V}-30.255 \mathrm{~V}$ | . 12 |
| $30.261 \mathrm{~V}-30.265 \mathrm{~V}$ | 12 |
| 30.271 V - 30.272 V | . 12 |
| 30.450-30.463 | 16 |
| 30.487-30.492 | 16 |
| 30.498-30.510 | 16 |
| 30.516-30.529 | 16 |
| 30.540-30.545 | 16 |
| 30.551-30.561 | 17 |
| 30.582-30.595 | 17 |
| 30.612-30.624 | 17 |
| 30.630-30.642 | 17 |
| 30.656-30.666 | . 17 |
| 30.965-30.966 | . 33 |
| 31.018 | . . 7 |
| 31.021-31.033 | . 7 |
| 31.035-31.038 | . 7 |
| 31.040-31.045 | . 7 |
| 31.047-31.054 | . |
| 31.058-31.060 | . 8 |
| 31.065-31.074 | . 8 |
| 31.080 | . 8 |
| 31.102-31.124 | . 8 |
| 31.127-31.132 | . 8 |
| 31.140-31.157 | 11 |
| 31.177-31.187 | . 9 |
| 31.201-31.217 | 9 |
| 31.220-31.235 | 9 |
| 31.237-31.261 | . 9 |
| 31.267-31.272 | . 10 |
| 31.280-31.298 | . 10 |
| 31.304-31.323 | . 10 |
| 31.332-31.335 | . 10 |
| 31.342-31.343 | . 10 |
| 31.348-31.356 | 11 |
| 31.367-31.379 | 11 |
| 31.382 | 11 |
| 31.384-31.385 | 11 |
| 31.388-31.396 |  |
| 31.450-31.471 |  |
| 31.478-31.488 |  |
| 31.487-31.496 |  |

Item No. Page
31.966 ..... 28
31.969, 31.970 .....  28
31.972-31.974 .....  28
31.976, 31.977 .....  28
31.979, 31.980 .....  28
31.983, 31.984 .....  28
31.986, 31.987 .....  28
31.990-31.992 ..... 29
32.012 ..... 29
32.020-32.029 .....  29
32.075-32.077 ..... 30
32.269 ..... 40
32.270-32.278 ..... 40
33.820-33.829 .....  24
33.831-33.832 ..... 24
33.834-33.838 .....  33
33.840 .....  33
33.852 ..... 38
33.860-33.865 ..... 21
33.867 .....  21
33.873-33.877 ..... 38
33.880-33.891 ..... 19
33.898-33.903 .....  20
33.906-33.909 .....  20
33.915-33.920 .....  32
33.922 ..... 32
33.951-33.957 ..... 37
33.958, 33.959 .....  34
33.960 ..... 35
33.961, 33.962 .....  34
33.964-33.968 .....  35
33.970 ..... 35
33.971-33.973 .....  34
33.974-33.978 .....  35
33.980 .....  34
33.984 ..... 34
33.979 ..... 41
33.981 ..... 41
33.991-33.996 ..... 39
33.99701-33.99703 ..... 39
34.004-34.007 ..... 34
34.008, 34.009 ..... 35
34.011-34.016 .....  36
34.020 ..... 36
37.781-37.788 ..... 41
37.791-37.796 ..... 41
37.801-37.804 ..... 41
37.820 ..... 41
37.822 ..... 41
37.830 ..... 41
52.101 ..... 40
52.140 ..... 40
52.170-52.173 ..... 40
52.180 ..... 40

## 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.

## Returns

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. We maintain a 30 day return policy.

## General

The products in this catalog were selected for use by technicians and craftsmen working in professional repair and maintenance shops, laboratories, and manufacturing facilities. Possession of this catalog does not constitute a right to purchase.


Thank you for your interest in our catalog.
You will find that the quality of our products, combined with fair pricing, represent outstanding value.


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