

**Files, Saws and
Multi-Purpose Tools**

 **Nicholson™**

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Safety Precautions

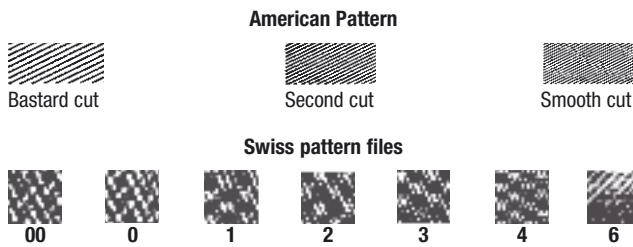


Always wear safety glasses.

Warn workers nearby to stay clear before you make each cut.

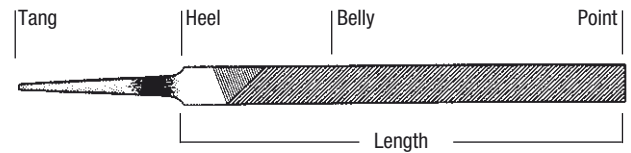
File Terminology

Coarseness



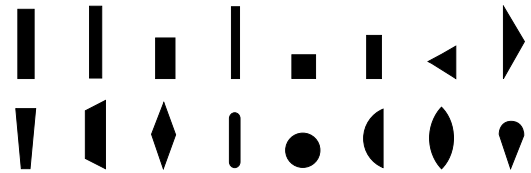
- Work to be accomplished, roughing or finishing, will determine type of teeth and coarseness for each application.
- Most American pattern files are available with 3 grades of cut: bastard-cut, second-cut and smooth-cut.
- Swiss pattern files are available in seven cuts: No. 00, 0, 1, 2, 3, 4, and 6
- The degree of coarseness is greater in longer files, but differences between bastard, second and smooth are proportionate.

Length



- Length is measured exclusive of tang, from point to heel, unless specified otherwise.
- Desired stroke length, type of material and size will determine length required.

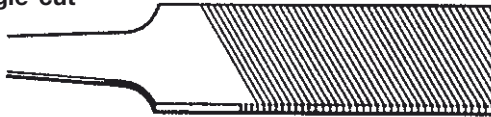
Shape



- Area to be filed will determine specific cross-section (round, square, flat, etc.) to be used.

Kinds of Teeth

Single-cut



- Single set of parallel, diagonal rows of teeth.
- Single-cut files are often used with light pressure to produce a smooth surface finish or to put a keen edge on knives, shears or saws.

Rasp-cut



- Series of individual teeth which are formed by a single-pointed tool.
- Produces a rough cut that is used primarily on wood, hooves, aluminum and lead.

Double-cut



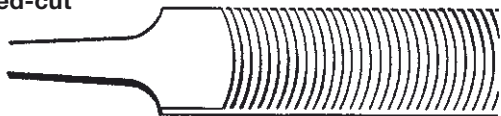
- 2 sets of diagonal rows of teeth.
- Second set of teeth cut in opposite diagonal direction and on top of the first set.
- First set of teeth is known as the overcut, second is known as upcut.
- Upcut is finer than overcut.
- Double-cut file is used with heavier pressure than the single-cut and removes material faster from the workpiece.

Magicut®



- Single cut teeth divided by angular serrations into shorter cutting edges, which free themselves readily from chips and perform roughing and smoothing at the same time.

Curved-cut



- Teeth arranged in curved contours across the file face.
- Curved-cut file is normally used in automotive body shops for smoothing body panels.

Files with Ergonomic Handles



- Rubber coating and rounded shape eliminates pressure points.
- Flared neck, raised ribs, and wide middle section keep your hand from slipping and provides maximum comfort and control.
- Rear taper allows your hand to lock securely around the handle, increasing push force.
- Hang-up hole for easy storage.

Length Inch	mm	Cut	Packed	Code No.	Weight g	Shelf Pack
HAND						
6	150	Bastard	Carded	T0016100601	104	6
6	150	2nd cut	Carded	T0016100602	104	6
6	150	Smooth	Carded	T0016100603	110	6
8	200	Bastard	Carded	T0016100801	140	6
8	200	2nd cut	Carded	T0016100802	140	6
8	200	Smooth	Carded	T0016100803	215	6
10	250	Bastard	Carded	T0016101001	350	6
10	250	2nd cut	Carded	T0016101002	350	6
10	250	Smooth	Carded	T0016101003	350	6
12	300	Bastard	Carded	T0016101201	520	6
12	300	2nd cut	Carded	T0016101202	530	6
12	300	Smooth	Carded	T0016101203	520	6
HAND MAGICUT						
8	200	Magicut	Carded	T0016110800	196	6
10	250	Magicut	Carded	T0016111000	344	6
HALFROUND						
6	150	Bastard	Carded	T0016300601	92	6
6	150	2nd cut	Carded	T0016300602	99	6
6	150	Smooth	Carded	T0016300603	98	6
8	200	Bastard	Carded	T0016300801	176	6
8	200	2nd cut	Carded	T0016300802	174	6
8	200	Smooth	Carded	T0016300803	169	6
10	250	Bastard	Carded	T0016301001	310	6
10	250	2nd cut	Carded	T0016301002	296	6
10	250	Smooth	Carded	T0016301003	318	6
12	300	Bastard	Carded	T0016301201	487	6
12	300	2nd cut	Carded	T0016301202	506	6
12	300	Smooth	Carded	T0016301203	505	6
ROUND						
6	150	Bastard	Carded	T0016500601	68	6
6	150	2nd cut	Carded	T0016500602	68	6
6	150	Smooth	Carded	T0016500603	94	6
8	200	Bastard	Carded	T0016500801	102	6
8	200	2nd cut	Carded	T0016500802	102	6
8	200	Smooth	Carded	T0016500803	101	6
10	250	Bastard	Carded	T0016501001	180	6
10	250	2nd cut	Carded	T0016501002	180	6
10	250	Smooth	Carded	T0016501003	198	6
12	300	Bastard	Carded	T0016501201	338	6
12	300	Smooth	Carded	T0016501203	335	6

Files with Ergonomic Handles

Length		Cut	Packed	Code No.	Weight g	Shelf Pack
Inch	mm					
SQUARE						
6	150	Bastard	Carded	T0016400601	75	6
6	150	2nd cut	Carded	T0016400602	81	6
8	200	Bastard	Carded	T0016400801	112	6
8	200	2nd cut	Carded	T0016400802	120	6
8	200	Smooth	Carded	T0016400803	126	6
10	250	Bastard	Carded	T0016401001	230	6
10	250	2nd cut	Carded	T0016401002	218	6
10	250	Smooth	Carded	T0016401003	199	6
THREESQUARE						
6	150	Bastard	Carded	T0016600601	117	6
6	150	2nd cut	Carded	T0016600602	119	6
6	150	Smooth	Carded	T0016600603	125	6
8	200	Bastard	Carded	T0016600801	190	6
8	200	2nd cut	Carded	T0016600802	217	6
10	250	2nd cut	Carded	T0016601002	350	6
WARDING						
6	150	Bastard	Carded	T0016900601	80	6
6	150	2nd cut	Carded	T0016900602	65	6
MILL BLUNT 1 RE (1 Round Edge)						
6	150	2nd cut	Carded	T0015170602	82	6
8	200	2nd cut	Carded	T0015170802	144	6
10	250	2nd cut	Carded	T0015171002	290	6
12	300	2nd cut	Carded	T0015171202	434	6
MILL BLUNT 2 RE (2 Round Edges)						
8	200	2nd cut	Carded	T0015180802	144	6
SLIM TAPER						
6	150	Single cut	Carded	T0015090600	104	6
REGULAR TAPER						
6	150	Single cut	Carded	T0015000600	123	6
HANDY FILE						
8	200	Single and double cut	Carded	T0017310800	226	6
WOODCRAFT RASP						
8	200	Rasp and file cut	Carded	T0017000800	258	6
WOOD RASP HALFOUND						
8	200	Bastard	Carded	T0017140801	172	6
WOOD RASP ROUND						
8	200	Bastard	Carded	T0017130800	115	6
CABINET RASP REGULAR						
8	200	2nd cut	Carded	T0017090801	168	6
10	250	2nd cut	Carded	T0017091001	248	6
12	300	2nd cut	Carded	T0017091201	470	6
HANDLE ONLY						
with 5 inserts / adapters			Carded	T0010000150	90	6

Aluminium Files – Type “A” Flat



- Special tooth construction eliminates clogging when filing aluminum.
- Flat shape
- Double-cut
- All sizes have same number of teeth per inch.
- Smooth finish obtained by using shearing cut toward left.

	Length		Packed	Code No.	Weight per doz. g	Shelf Pack
	Inch	mm				
	8	200	Boxed	00024N	1361	12

Chain Saw Files – Flat



- Used for cutter-raker type (2 round edges) chain saw.
- Rectangular shape

Type	Length		Packed	Code No.	Weight per doz. g	Shelf Pack
	Inch	mm				
16	6	150	Boxed	02115N	767	12

Chain Saw Files – Round Smooth



- Round shape
- Smooth-cut
- Boxed, 6 files/carton
- Carded files, 3 files on card
- Flow Pack, 3 files/pack

Length		Diameter		Type	Code No.	Packed	Weight per Shelf Pack g	Shelf Pack
Inch	mm	Inch	mm					
6	150	1/8	3,20	610	02144N	Boxed	90	6
6	150	9/64	3,60	615	01606N	Boxed	110	6
6	150	5/32	4,00	620	01611N	Boxed	120	6
6	150	5/32	4,00	620	01611B3	Carded	260	4
8	200	5/32	4,00	825	02228B	Flow Pack	260	4
8	200	3/16	4,80	83	02229B	Carded	440	4
8	200	13/64	5,20	832	01798N	Boxed	210	6
8	200	7/32	5,60	835	02230B	Flow Pack	480	4
8	200	1/4	6,40	84	02147N	Boxed	260	6

Double Ender Files



- Triangular shape
- Sides and edges are single-cut from points to center giving full use of file.
- All files supplied with handles.
- Single-cut

Length		Packed	Code No.	Weight per doz. g	Shelf Pack
Inch	mm				
6	150	Boxed	02884M	312	12
7	175	Boxed	02905M	369	12
8	200	Boxed	02926M	567	12

Farmer's Own Files



- General purpose file suited for agricultural use.
- Rectangular shape
- Single-cut
- Safe edges
- Length measured exclusive of handle.
- Convenient hang up hole

Length		Packed	Code No.	Weight per doz. g	Shelf Pack
Inch	mm				
8	200	Boxed	06649N	2155	12
10	250	Boxed	06668N	4508	12

Flat Files



- Used by machinists, machinery builders, ship and engine builders, repairman and others who require rapid removal of metal.
- Rectangular in cross section and taper slightly towards point in width.
- Double-cut on sides, single-cut on edges.
- American pattern, available in bastard, second and smooth-cut.
- Boxed

Length		Bastard Cut Code No.	Second Cut Code No.	Smooth Cut Code No.	Weight per doz. g	Shelf Pack
Inch	mm					
4	100		03401N	03434N	255	12
6	150	03467N	03500N	03533N	709	12
8	200	03566N	03599N	03632N	1701	12
10	250	03665N	03698N	03731N	3261	6
12	300	03764N	03797N	03830N	5103	6
14	350	03863N	03896N	03929NN	7541	6

Half Round Files



- Used on concave, convex and flat surfaces.
- Rounded on 1 side, flat on opposite.
- Backs of all half-round bastard files are double-cut.
- Backs of all half-round second-cut files longer than 6" are double-cut.
- Backs of all 4 and 6" files are single-cut.
- Backs of all half-round smooth files are single-cut.
- Flat sides of all half-round files are double-cut.
- Boxed

Length		Bastard Cut Code No.	Second Cut Code No.	Smooth Cut Code No.	Weight per doz. g	Shelf Pack
Inch	mm					
4	100	04695N	04729N	04762N	284	12
6	150	04795N	04828N	04861N	709	12
8	200	04896N	04927N	04960N	1503	12
10	250	04995N	05026N	05059N	2750	6
12	300	05094N	05125N	05158N	4763	6
14	350	05194N	05225N	05258N	7371	6

Knife Files



- Used primarily by tool and die makers with work having acute angles.
- Triangular shape
- Double-cut on sides, single-cut on sharp edge.
- Knife files are supplied with safe backs.
- Boxed

Length		Bastard Cut	Second Cut	Smooth Cut	Weight per doz.	Shelf
Inch	mm	Code No.	Code No.	Code No.	g	Pack
4	100	06711N	06742N	06773N	170	12
6	150		06836N	06867N	539	12
8	200		06930N	06961N	1134	12
10	250	06992N	07023N	07054N	2098	12

Long Angle Lathe Files – Bastard



- Rapid, free cutting files designed for lathe filing.
- Rectangular shape
- Single-cut
- Safe edges to protect shoulder or dog.
- Made on flat blanks in bastard-cut.
- Cut faster than regular mill files and leave smoother finish.
- Boxed

Length		Code No.	Weight per doz.	Shelf
Inch	mm		g	Pack
12	300	07688N	5103	6
14	350	07719N	7541	6

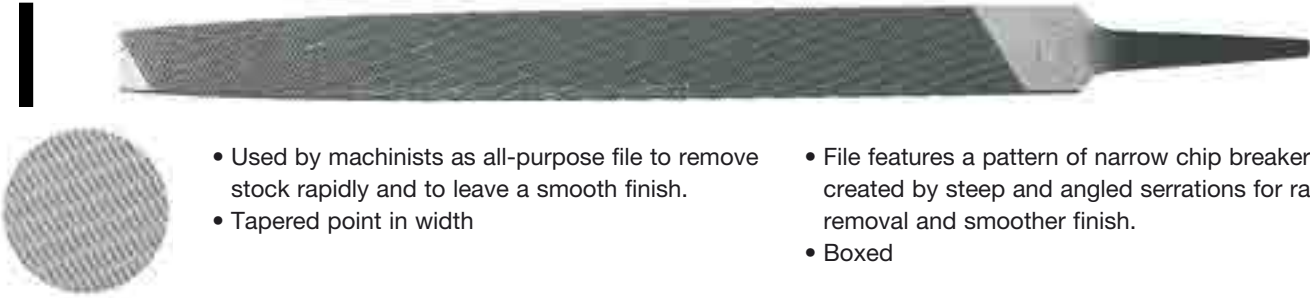
Long Angle Lathe Files – Fine



- Specially designed for finishing rapid stock removal on lathe work.
- Rectangular shape
- Safe edges
- Cut faster than regular mill files and leave smoother finish.
- Boxed

Length		Code No.	Code No.	Weight per doz.	Shelf
Inch	mm	Made in USA	Made in Brazil	g	Pack
10	250	T07842		1730	6
12	300		07851N	2638	6
14	350	07863N		3998	6

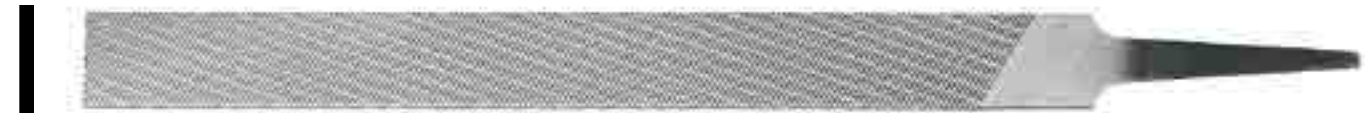
Magicut® Files – Flat



- Used by machinists as all-purpose file to remove stock rapidly and to leave a smooth finish.
- Tapered point in width
- File features a pattern of narrow chip breakers created by steep and angled serrations for rapid removal and smoother finish.
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
8	200	07894N	1701	12
10	250	07917N	3260	6
12	300	07941N	5103	6

Magicut® Files – Hand



- Used by machinists as all-purpose file to remove stock rapidly and to leave a smooth finish.
- Rectangular shape
- Parallel edges full length
- File features a pattern of narrow chip breakers created by steep and angled serrations for rapid removal and smoother finish.
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
8	200	08173N	1740	12
10	250	08189N	3360	6

Hand Files



- Rectangular shape
- Double-cut
- 1 safe edge
- Same coarseness as flat files of corresponding lengths.
- Boxed

Length		Bastard Cut Code No.	Second Cut Code No.	Smooth Cut Code No.	Weight per doz. g	Shelf Pack
Inch	mm					
4	100	05652N	05675N	05698N	397	12
6	150	05738N	05771N	05804N	794	12
8	200	05853N	05886N	05919N	1758	12
10	250	05968N	06001NN	06034N	3402	6
12	300	06084N	06117N	06150N	7768	6
14	350	06198N			7836	6

Mill Blunt Files



- Used for sharpening mill or circular saws.
- Also for draw-filing and finishing metals.
- Rectangular shape
- Single-cut on sides and edges.
- 1 or 2 round edges and parallel edges.
- Boxed

Length		Type Cut	Two Square Edges Code No.	One Round Edge Code No.	Two Round Edges Code No.	Weight per doz. g	Shelf Pack
Inch	mm						
8	200	Bastard	09833N			1320	12
10	250	Bastard	09930N			2640	12
8	200	2nd cut	09834N			1380	12
6	150	2nd cut		10095N		600	12
8	200	2nd cut		10165		1320	12
10	250	2nd cut		10225N		2580	12
12	300	2nd cut		10260N		4320	6
6	150	2nd cut			10306N	540	12
8	200	2nd cut			10380N	1320	12

Square Files



- Used on slots, keyways and general surface filing.
- Square shape
- Double-cut
- Tapered slightly towards point
- Larger sizes frequently preferred to corresponding flat files because of heavier section and 4 filing surfaces.
- Boxed

Length		Width		Bastard Cut Code No.	Second Cut Code No.	Smooth Cut Code No.	Weight per doz. g	Shelf Pack
Inch	mm	Inch	mm					
4	100	$\frac{5}{32}$	4	12790	12824	12857	113	12
5	125	$\frac{3}{16}$	5	12890			240	12
6	150	$\frac{1}{4}$	6	12967	13000N	13033	482	12
8	200	$\frac{5}{16}$	8	13081	13114	13147	879	12
10	250	$\frac{3}{8}$	10	13196N	13229	13262	1758	12
12	300	$\frac{1}{2}$	13	13310	13343	13376	3799	6

Round Files



- Primarily used to file circular openings or concave surfaces.
- Round shape
- All 4, 5, 6, 8, 10, 12" files are single-cut
- 14" bastard file is double-cut
- Tapered slightly towards point
- Boxed

Length		Diameter		Bastard Cut	Second Cut	Smooth Cut	Weight per doz.	Shelf
Inch	mm	Inch	mm	Code No.	Code No.	Code No.	g	Pack
4	100	1/8	3	11526N	11559NN	11592NN	113	12
5	125	3/16	5	11637N		T0012500503	255	12
6	150	1/4	6	11716N	11748N	11781N	397	12
8	200	5/16	8		11936	11969	624	12
10	250	3/8	10	12019	12051	12084	1446	12
12	300	1/2	13	12134	12166		3090	6
14	350	5/8	16	12248			5415	6

Taper (Triangular) Saw Files

Number of Saw Points	Files Recommended
5	7"/178 mm Taper Regular
5 1/2	7"/178 mm Taper Regular
6	7"/178 mm or 8"/200 mm Slim
7	6"/150 mm or 7"/178 mm Slim
8	6"/150 mm Slim
	7"/178 mm Extra Slim
	8"/200 mm Double Extra Slim
9	6"/150 mm Extra Slim
	7"/178 mm Double Extra Slim
10	5"/127 mm of 6"/150 mm Extra Slim
11	5"/127 mm Extra Slim
	6"/150 mm Double Extra Slim
12	5"/127 mm Extra Slim
13 and 14	5"/127 mm Double Extra Slim
15 and 16	4"/102 mm Double Extra Slim

- Made for filing saws with 60° angle teeth
- Triangular shape
- Single-cut
- Edges set and cut for filing gullets between saw teeth.
- In filing handsaws, it is important to select the right file.
- In general, the table lists suggested size and type of file that will give best results.

Taper Files – Regular and Heavy



- Triangular shape
- Boxed

- Edges set and cut for filing gullets between saw teeth.
- Tapers slightly towards the point.

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
Regular				
3 1/2	88	13710M	180	12
4	100	13727M	311	12
4 1/2	113	13750M	425	12
5	125	13772M	567	12
6	150	13807M	907	12
7	175	13841M	1332	12
8	200	13875M	1956	12
10	250	13930N	3402	12

Heavy

6	150	14032M	1520	12
7	175	14048M	1680	12
8	200	14060M	2400	12

Taper Files – Slim



- Triangular shape
- Boxed

- Edges set and cut for filing gullets between saw teeth.

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
4	100	14106M	170	12
4 1/2	113	14139M	226	12
5	125	14162M	255	12
6	150	14224M	482	12
7	175	14255M	765	12
8	200	14290M	1191	12

Taper Files – Extra Slim



- Triangular shape
- Boxed

- Edges set and cut for filing gullets between saw teeth.

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
4	100	14547M	113	12
5	125	14599M	170	12
6	150	14665M	312	12
7	175	14698N	539	12
8	200	14729N	851	12

Taper Files – Double Extra Slim



- Triangular shape
- Boxed
- Edges set and cut for filing gullets between teeth.

Length		Packed	Code No.	Weight per doz. g	Shelf Pack
Inch	mm				
4	100	Boxed	14942M	82	12
5	125	Boxed	14992M	142	12

Taper Files – Bandsaw Regular and Heavy



- For filing and sharpening bandsaws.
- Triangular shape
- Edges set and cut for filing gullets between saw teeth.
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
Regular				
6	150	T0011010600	900	12
7	175	00648N	1320	12
8	200	00668N	1920	12
Heavy				
8	200	14065	2360	12

Taper Files – Machine Bandsaw Blunt



- File is blunt over the whole body length.
- Triangular shape
- Edges set and cut for filing gullets between saw teeth.
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
8,5	210	13899	1980	12

Three Square Files



- For general use by machinists for filing internal angles more acute than right angles, clearing out square corners and filing taps and gutters.
- Triangular shape
- Double-cut
- Sharp corners are slightly set and cut.
- Cut to the point
- Boxed

Length		Bastard Cut Code No.	Second Cut Code No.	Smooth Cut Code No.	Weight per doz. g	Shelf Pack
Inch	mm					
6	150	15925N	15958N	15991N	879	12
8	200	16036N	16069N	16102N	1928	12
10	250	16147	16180N	16213N	3402	12
12	300		16291		5216	6

Tungsten Point Files



- Designed for dressing distributor points that are tipped with tungsten, iridium and similar metals.
- Thin rectangular shape
- Double-cut
- 5 1/4" overall
- Chisel tip of file enters slots or gaps easily.
- Approximate size 5/16" / 8 mm x 0,044" / 1,10 mm.

Length		Packed	Code No.	Weight per doz. g	Shelf Pack
Inch	mm				
5 1/4	133	Boxed	02373N	1134	12

Warding Files



- Used primarily by locksmiths in repairing and filing ward notches in keys.
- Thin rectangular shape
- Double-cut on sides, single-cut on edges
- Also suited for use in narrow spaces where other files will not fit.

Length		Bastard Cut Code No.	Second Cut Code No.	Smooth Cut Code No.	Weight per doz. g	Shelf Pack
Inch	mm					
4	100	16507N	16540N	16573N	142	12
6	150	16663N	16696N	16729N	369	12
8	200	16761N	16794N		737	12

Cabinet Rasps



- Used by cabinetmakers and woodworkers.
- Half-round
- Single-cut on edges
- Curved side of rasps similar to half-round rasps but has larger radius.
- Boxed

Length		Regular (Second Cut) Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
8	200	17615N	1361	12
10	250	17683N	2466	6
12	300	17751N	4224	6

Horse Rasp – Plain 1/2 File



- Some farriers prefer this thin fine-toothed rasp for shoeing racetrack, riding horses and ponies.
- Plain horse rasps are double-ended with rasp teeth on 1 side, file teeth on opposite.
- Rectangular shape
- Boxed

Length		Type	Code No.	Weight per doz. g	Shelf Pack
Inch	mm				
14	350	Regular	17903N	8902	6

Horse Rasps – Tanged



- Rectangular shape
- Single-cut on edges
- Tanged
- Rasp teeth on 1 side, file teeth on opposite.
- Thicker than Plater's Special – ideal for hot asping.
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
12	300	18035N	8165	6
14	350	18057N	12020	6

Farrier Rasp – Double Extra Thin



- Primarily for race track and other horses with light shoes.
- Both sides are safe $\frac{7}{8}$ " / 22 mm at point.
- Rasp teeth on 1 side, file teeth on opposite.
- Rasp cut is 6 teeth per row (other horse rasps have 5 teeth per row).
- Rectangular shape
- Sharper than regular horse rasps.
- Double extra thin
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
14	350	HR14N	7428	6

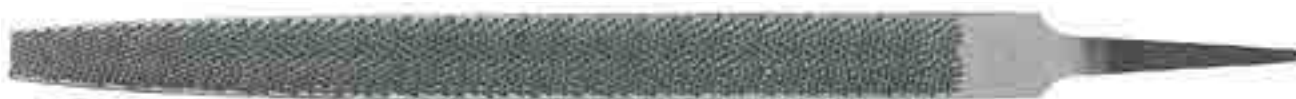
Magicut® Plater's Special Horse Rasp



- Maximum cutting surface design gives rapid removal and smoother finish.
- Single-cut on edges
- Opposite side has Nicholson's® unique Magicut® file pattern of narrow chip breakers created by steep and angled serrations.
- Rectangular shape
- Tooth design is cut deeper to last longer and cut much faster than conventional horse rasps.
- Rasp cut is 6 teeth per row (other horse rasps have 5 teeth per row).
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
14	350	18130N	7144	6

Pattern Maker's Cabinet Rasp



- Used primarily by cabinetmakers.
- Half-round shape
- Narrow pattern, cut edges
- Used when smooth wood finish is required.
- Boxed

Length		Type	Cut	Code No.	Weight per doz. g	Shelf Pack
Inch	mm					
10	250	49	Second cut	18846N	1644	6

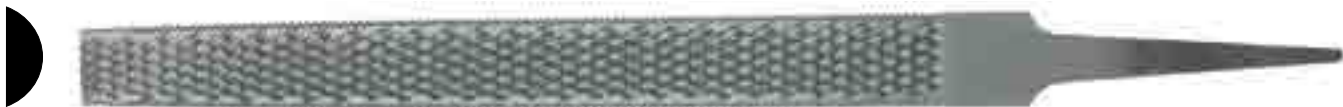
4-in-Hand® (Formerly Shoe Rasp)



- 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.
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
8	200	18924N	1871	6

Wood Rasps – Half Round



- Used by woodworkers, hobbyists and plumbers.
- Half-round shape
- Single-cut file teeth on edge.
- For use on wood and soft metals.
- Boxed

Length		Bastard Cut Code No.	Second Cut Code No.	Weight per doz. g	Shelf Pack
Inch	mm				
8	200	19394N	19575	1559	12
10	250	19427N	19593	2948	6
12	300	19460N		4763	6

Wood Rasps Round Bastard



- Used for same purpose as regular wood rasps in places for which their shapes make them particularly effective.
- Round shape
- Bastard-cut
- Made from same size steel as round files.
- Boxed

Length		Diameter		Code No.	Weight per doz. g	Shelf Pack
Inch	mm	inch	mm			
8	200	5/16	8	19846	624	12
10	250	3/8	10	19875	1474	12

Nicholson™ X.F® Files Swiss Pattern

- Made to more exacting measurements than American pattern files.
- Made in finer cuts, which vary from No. 00 (coarsest) to No. 6 (finest).
- Used by tool and die makers, jewelers, model makers and home craftsman.
- Recommended for those who do superfine precision filing.

Barrette Files



- Double-cut, wide flat sides
- Flat on 1 side, backs are beveled on edges as indicated by cross section.
- Back and beveled edges are safe.
- Included angle is 33°.
- Boxed

Length		Code No.	Cut No.	Weight per doz. g	Shelf Pack
Inch	mm				
4	100	35031	0	255	12

Half Round Files

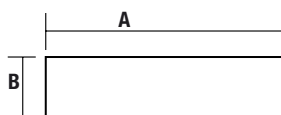


- Used by tool and die makers, jewelers, model makers and home craftsman.
- Half-round shape
- Double-cut on both flat and half-round sides.
- Taper in thickness and width to point.
- Boxed

Length		Code No.	Cut No.	Weight per doz. g	Shelf Pack
Inch	mm				
6	150	36533N	2	539	12
6	150	36545N	4	539	12













Needle Files

- Used primarily by jewellers, die makers, watchmakers and fine toolmakers.
- With round, knurled handles.



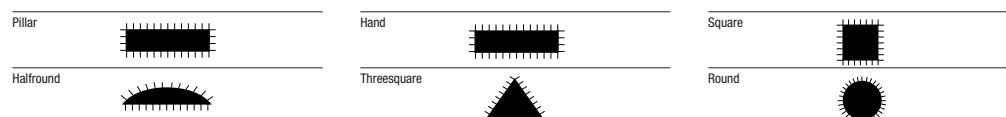
Assortments of 12 Shapes Packed in Protective Pouch

Length		Code No.	Cut No.	Weight per doz. g	Shelf Pack
Inch	mm				
4	100	T0014470402	2	116	1
5 1/2	140	T0014470552	2	138	1
6 1/4	160	T0014470600	0	148	1
6 1/4	160	T0014470602	2	150	1

		Length mm	A x B mm			Length mm	A x B mm			Length mm	A x B mm			Length mm	A x B mm
Pillar		100	3,5 x 0,9	Knife		100	4,0 x 1,1	Square		100	1,7	Slitting		100	4,6 x 1,6
		140	4,8 x 1,1			140	5,0 x 1,4			140	2,2			140	5,5 x 1,9
		160	5,4 x 1,2			160	5,4 x 1,5			160	2,4			160	6,1 x 2,1
Halfround		100	3,8 x 1,1	Hand		100	3,4 x 0,9	Round		100	2,1	Joint File round edges		100	3,8 x 1,0
		140	5,1 x 1,5			140	4,8 x 1,1			140	2,8			140	4,8 x 1,2
		160	5,6 x 1,7			160	5,4 x 1,2			160	2,9			160	5,4 x 1,3
Crossing		100	3,5 x 1,4	Threesquare		100	2,8	Barrette		100	3,7 x 1,4	Halfround, cut on back only		100	3,8 x 1,2
		140	4,4 x 1,8			140	3,5			140	4,7 x 1,7			140	5,1 x 1,5
		160	5,1 x 2,0			160	3,8			160	5,1 x 1,8			160	5,6 x 1,8









Assortments of 6 Shapes Packed in Protective Plastic Pouch

Length		Code No.	Cut No.	Weight g	Shelf Pack
Inch	mm				
6 1/4	160	T0014471602	2	65	1



Needle Files

8 Individual Shapes, 12 Files in a Box

Shape		Length		Code No.	Cut No.	Weight g	Shelf Pack
		Inch	mm				
Pillar		6 1/4	160	T0014210600	0	108	12
		6 1/4	160	T0014210602	2	96	12
Hand		6 1/4	160	T0014220600	0	108	12
		6 1/4	160	T0014220602	2	96	12
Halfround		6 1/4	160	T0014230600	0	108	12
		6 1/4	160	T0014230602	2	108	12
Threesquare		6 1/4	160	T0014240600	0	96	12
		6 1/4	160	T0014240602	2	96	12
Square		6 1/4	160	T0014250600	0	84	12
		6 1/4	160	T0014250602	2	84	12
Round		6 1/4	160	T0014260600	0	84	12
		6 1/4	160	T0014260602	2	84	12
Knife		6 1/4	160	T0014270600	0	96	12
		6 1/4	160	T0014270602	2	96	12
Crossing		6 1/4	160	T0014280600	0	120	12
		6 1/4	160	T0014280602	2	120	12

Pillar Files



- Rectangular in shape
- Double-cut on 2 sides only
- Safe edges
- Tapered in thickness
- Similar in shape to hand files but only $\frac{2}{3}$ as wide.
- Boxed

Length		Code No.	Cut No.	Weight per doz. g	Shelf Pack
Inch	mm				
6	150	39911N	2	737	12
6	150	39923N	4	737	12
8	200	39935N	0	1588	6
8	200	39947N	2	1588	6

Pillar Narrow Files



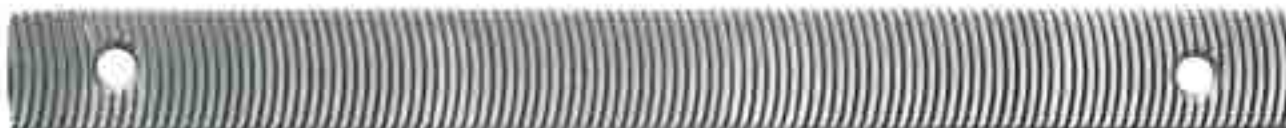
- Rectangular shape
- Narrow
- Double-cut on 2 sides only
- Safe edges
- Similar to pillar files but are narrower for their length.
- Boxed

Length		Code No.	Cut No.	Weight per doz. g	Shelf Pack
Inch	mm				
6	150	40088N	2	567	12

Nicholson™ Curved Tooth Files

- Made on specially designed and improved Nicholson™ machinery.
- Fitted for smooth, rapid work on cast iron, bronze, lead, babbitt, aluminum, zinc, plastics and any steel up to the hardness of annealed tool steel.
- Pitch and rake designed to avoid pinning and to provide smoothest finish.
- Superior® milled tooth files.

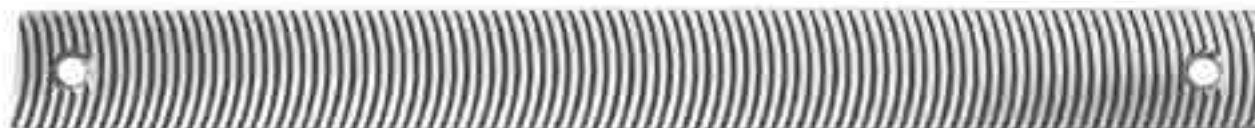
Flexible Files (Without Tang)



- Ideal for smooth, rapid work on cast iron, bronze, lead, babbitt, aluminum, zinc, plastics and any steel up to the hardness of annealed tool steel.
- Rectangular shape
- Curved-cut
- Pitch and rake designed to avoid pinning and to provide smoothest finish.
- Boxed

Length		Code No.	No. of Teeth Per Inch/Cut	Weight per doz. g	Shelf Pack
Inch	mm				
12	300	20138N	10/Standard	2495	6
14	350	20205N	12/Fine	3204	6

Milled Tooth Bodifiles



- Ideal for smooth, rapid work on cast iron, bronze, lead, babbitt, aluminum, zinc, plastics and any steel up to the hardness of annealed tool steel.
- Rectangular shape
- Curved-cut
- Pitch and rake designed to avoid pinning and to provide smoothest finish.
- Boxed

Length		Code No.	Type	No. of Teeth Per Inch/Cut	Weight per doz. g	Shelf Pack
Inch	mm					
14	350	20189N	50-908	8/Standard	3204	6

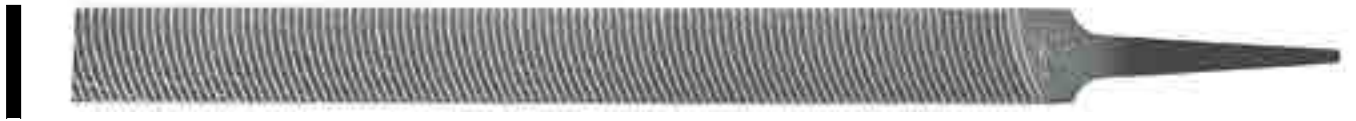
Flat Files – Rigid Type (With Tang)



- Ideal for smooth, rapid work on cast iron, bronze, lead, babbitt, aluminum, zinc, plastics and any steel up to the hardness of annealed tool steel.
- Rectangular shape
- Curved-cut
- Rigid type with tang
- Pitch and rake designed to avoid pinning and to provide smoothest finish.
- Boxed

Length		Code No.	No. of Teeth Per Inch/Cut	Weight per doz. g	Shelf Pack
Inch	mm				
12	300	20342N	10/Standard	4224	6
14	350	20393N	8/Standard	6747	6

Super Shear®

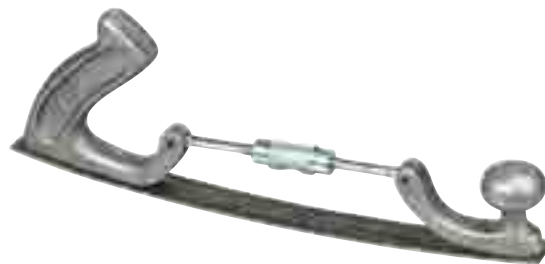


- A double purpose milled curved tooth file – different and exclusive with Nicholson™.
- Rectangular shape
- Curved-cut
- Teeth cut in an off center arc to permit fast cutting.
- Wide industrial usage on flat and convex surfaces of aluminum, brass, babbitt, bronze, copper, magnesium, iron, annealed steel, soft metal alloys, plastics, hard rubber and hardwood.
- Smooths as it roughs.
- Boxed

Length		Code No.	No. of Teeth Per Inch/Cut	Weight per doz. g	Shelf Pack
Inch	mm				
10	250	21067N	12/Standard	2665	6
12	300	21118N	10/Standard	4224	6

Adjustable Flexible File Holder No. 25

- For curved tooth files without tang.
- Can be used with either 12" or 14" files.
- Easily adjusted for curving file outward or inward.
- Boxed



No.	Code No.	Weight per doz. g	Shelf Pack
25	21272N	907	1

Ergonomic File Handle

- 5 Interchangeable cushion inserts are designed to fit most popular files.
- Rubber-coated ergonomic shape for better comfort and control.
- Rear taper, wide middle and flared neck increases push force.
- Bagged



Code No.	Description	Weight per Shelf Pack g	Shelf Pack
T0010000150	Ergonomic File handle and inserts	350	6

File Handles – Plastic

- Handle made of strong high-impact material, contoured to fit hand for straight, lathe and draw filing.
- Non-slip textured finish for easier grip.
- Bulk packed
- Suitable for file:
 - No. 1: 6" files, 8" round and square
 - No. 2: 8" and 10" files, 6" threesquare and regular taper
 - No. 3: 12" files



Type	Code No.	Description	Weight g	Shelf Pack
No. 1	T0010000116	File handle with insert	25	50
No. 2	T0010000118	File handle with insert	32	50
No. 3	T0010000120	File handle with insert	50	50

Wooden File Handles – Metal Ferruled



- Made from close grain hardwood with strong nickel-plated metal ferrules.
- Varnished finish
- Bulk packed

Length mm	Diameter mm	Code No.	For File Length		Weight g	Shelf Pack
Inch			Inch	mm		
110	12	T0010000012	4	100	56	1
111	14	T0010000014	5	125	60	1
113	16	T0010000016	6	150	64	1
117	18	T0010000018	7	175	68	1
120	20	T0010000020	8	200	72	1
134	22	T0010000022	9	225	76	1
134	24	T0010000024	10	250	80	1
140	26	T0010000026	12	300	84	1
160	28	T0010000028	14	350	88	1

5 Piece Ergonomic File Set



- Assortment of machinist's files.
- With ergonomic, co-molded handle.
- Consist of Square, Round, Halfround, Hand and Threesquare.

Type	Length		Cut	Code No.	Weight g	Shelf Pack
	Inch	mm				
NFK1	8	200	2nd cut	T0012990800	750	6
NFK2	10	250	2nd cut	T0012991000	930	6

Hobby Files



- Assortment of 6 miniature files with fine cut for intricate work.
- Consist of:
Equaling, Half Round, Flat, Round, Square, and Threesquare
- Handy vinyl case vacuum packed on hang up card.
- Ideal for handycrafts and hobbies.

Length		Description	Code No.	Weight per Shelf Pack g	Shelf Pack
Inch	mm				
5 1/2	140	Assorted	42030	340	3

4"/100 mm File Assortment



- With wooden handle
- Six files in metal box or in plastic pouch.
- Consist of:
Hand, Warding, Half Round, Square,
Round and Slim Taper

Length		Packed	Cut	Code No.	Weight g	Shelf Pack
Inch	mm					
4	100	Metal Box	Bastard	T0012991410	150	1
4	100	Plastic Pouch	Bastard	T0012991411	110	1
4	100	Metal Box	2nd cut	T0012991420	150	1
4	100	Plastic Pouch	2nd cut	T0012991422	110	1
4	100	Metal Box	Smooth	T0012991430	150	1
4	100	Plastic Pouch	Smooth	T0012991433	110	1

MultiMax Pro



- 14 tools in one
- All stainless steel components
- Adjustable / replaceable tool components
- Blades open up from closed handles.
- Tool comes with nylon pouch that can be used in vertical or horizontal position on belt.
- 14 tools included:
 - Needle-Nose / Regular Pliers
 - Wire Cutter
 - 2 Slotted Screwdrivers
 - Phillips® Screwdriver
 - Drop Point Blade
 - Serrated Edge Blade
 - Metric / English Ruler (measures up to 8"/20 cm)
 - Lanyard Ring
 - Can / Bottle Opener
 - Metal / Wood File
- Packed in coloured box

Type	Code No.	Description	Length when closed		Width when closed		Weight	Shelf
			Inch	mm	Inch	mm	g	Pack
NMP12	T0010020265	MultiMax Pro	4	100	1 3/16	30	240	6

MultiMax Pro XL



- 15 tools in one
- All stainless steel components
- Adjustable / replaceable tool components
- Blades open up from closed handles.
- Tool comes with nylon pouch that can be used in vertical or horizontal position on belt.
- 15 tools included:
 - Large Pliers Head
 - Wire Cutter
 - Wire Crimper
 - Serrated Drop Point Blade
 - 3 Slotted Screwdrivers (small, medium, large)
 - Phillips® Screwdriver
 - Can / Bottle Opener
 - Lanyard Ring
 - Metal / Wood File
 - Metric / English Ruler
 - Saw
 - Awl
- Packed in coloured box

Type	Code No.	Description	Length when closed		Width when closed		Weight	Shelf
			Inch	mm	Inch	mm	g	Pack
NMP15	T0010020268	MultiMax Pro XL	4 1/2	113	1 3/8	35	270	6

High Tension Hacksaw Frame

- Quick changing blades.
- Adjustable crank handle for tension up to 30,000 PSI torque and micro-adjustment.
- Spare blades can be stored inside frame.
- Blade can be positioned for 45° or 90° cutting.
- End of frame can be used as a jab saw.



Code No.	Type	Blade		Weight per Shelf Pack g	Shelf Pack
		Inch	mm		
80956	High Tension Adjustable	12	300	903	1

4-in-1 Hacksaw Frame with Cushion Grip

- 4-in-1 Hacksaw Frame comes complete with Bi-Metalloy® 18-tooth 12-inch hacksaw blade with High Speed Steel edge and 8" x 3/4" x 0.035" High Speed Steel Bi-Metal reciprocal saw blade.
- Visible blade storage holds either standard hacksaw blade or reciprocal saw blade.
- Cast aluminum construction for durability and light weight.
- Co-molded cushion grips at both ends of the saw add comfort and reduce slippage for better control.



1. General Use



2. Angle 45°



3. Low Profile



4. Jab Saw

Code No.	Type	Blade		Weight g	Shelf Pack
		Inch	mm		
80975EU	4-in-1, High Tension	12	300	1133	4

General Purpose Hacksaw Frame

- Instantly adjustable for 10"/250 mm to 12"/300 mm blades.
- Adjusts 90° for vertical or horizontal cuts.



Code No.	Type	Blade		Weight per Shelf Pack g	Shelf Pack
		Inch	mm		
80951	Adjustable	10 and 12	250 and 300	4196	10

Economy Hacksaw Frame



- Adjustable from 10"/250 mm to 12"/300 mm.
- Cuts to 2,75"/70 mm in depth.
- For DIY and home use.

Code No.	Type	Blade		Weight per Shelf Pack g	Shelf Pack
		Inch	mm		
80950	Adjustable	10 and 12	250 and 300	4196	10

Little-Nic® Utility Hacksaw



- For professionals and homeowners.
- Ergonomic cushioned handle.
- Gets into small places, makes difficult cutting jobs easy.
- Overall length 10"/254 mm, will fit into any tool box.
- Uses any standard size hacksaw blade.
- Blister packed on attractive card with suggested uses on back.

Code No.	Packed	Blade		Weight per Shelf Pack g	Shelf Pack
		Inch	mm		
80968	Carded	10	250	652	6

Jab Saw



- Special saw always needed for the difficult jobs: those narrow, hard-to-reach areas.
- Jab saw will work with any standard size hacksaw blade.
- Can replace worn blade easily: Untighten adjusting saw, remove worn blade and replace with a new Nicholson™ blade, re-tighten the adjusting screw.
- A must for all tool boxes.

Code No.	Packed	Blade		Weight per Shelf Pack g	Shelf Pack
		Inch	mm		
80969	Carded	10	250	1701	12

Bi-Metalloy® Hand Hacksaw Blades



- Molybdenum alloy tool steel edge.
- Tough flexible high carbon steel backing.
- Lasts twice as long as high-speed steel.
- Lasts up to ten times longer than carbon steel.
- Operates 20% to 50% faster.
- High tooth hardness and shock resistance.
- Boxed: 100 blades per box.

Type	Set Type	Code No.	Length		Teeth Per Inch	Width		Gauge		Weight per 100 Boxed kg
			Inch	mm		Inch	mm	Inch	mm	
NF1218	Wavy	62723	12	304	18	1/2	12,70	0,025	0,65	2,050
NF1224	Wavy	62749	12	304	24	1/2	12,70	0,025	0,65	2,050
NF1232	Wavy	62776	12	304	32	1/2	12,70	0,025	0,65	2,050

Flexible High Speed Steel



- Flexible high speed steel.
- Tempered to provide hard edge with flexible back.
- Specially hardened to induce toughness.
- Economy blade for sawing light to medium-hard materials.
- A good balance of wear resistance and mechanical shock absorbing properties.
- Boxed: 100 blades per box.

Type	Set Type	Code No.	Length		Teeth Per Inch	Width		Gauge		Weight per 100 Boxed kg
			Inch	mm		Inch	mm	Inch	mm	
NM1812	Wavy	63400	12	304	18	1/2	12,70	0,025	0,65	2,050
NM2412	Wavy	63401	12	304	24	1/2	12,70	0,025	0,65	2,050

Hand Hacksaw Blade – Care and Servicing

Blade Breakage

1. Lack of tension. Tighten until taut.
2. Too much tension. Loosen slightly.
3. Cutting in awkward position. Use flexible type blades.
4. Jamming in cut. Hold work securely – stock should fall free after cut. In soft material teeth may be binding because they are too fine.

Pinhole Breakage

1. Too much tension. Loosen slightly.
2. Worn pins causing pressure on eyeholes. Replace pins.

Rounded Teeth – Premature Wear

1. Blade not cutting. Use slower stroke and apply heavier feed.
2. Dragging on return stroke. Lift saw.
3. Material too hard. Select proper blade.

Crooked Cutting

1. Too much pressure. Reduce feed.
2. Blade out of alignment. Check frame and blade tension.
3. Blade worn out. Replace.

Tooth Breakage

1. Teeth too coarse. Keep three teeth in the work.
2. Too much feed, teeth loading. Ease feed pressure.
3. Teeth too fine, clogging. Change to coarser tooth.
4. Starting cut on sharp corner. Reposition work.

General Tooth Recommendations

18 Tooth: For general shop use, when same blade is used on several jobs.

24 Tooth: For cross section $\frac{1}{16}$ " / 1,58 mm – $\frac{1}{4}$ " / 6,35 mm such as pipe, angles, small drill rod.

32 Tooth: To cut stock up to $\frac{1}{16}$ " / 1,58 mm such as light tubing, sheet metal, BX.

At least three teeth should be in contact with the work at all times.

Choose the Right Number of Teeth Per Inch

The sketches below (figure 1) show how coarseness of teeth affects blade efficiency. Speed varies according to material being cut and saw blade coarseness.

Starting the Cut

If possible, avoid starting cut on a sharp corner. When unavoidable, begin with light pressure and use a steady forward stroke. As many teeth as possible should be in contact with the cutting area and at least three teeth must be engaged. Note cutting angles shown below (figure 2).

