

Nicholson®

FILES, SAWS AND MULTI-PURPOSE TOOLS



Nicholson® Table of Contents

Contents	Page No.
File Terminology	101
Handled Files	102-103
American Pattern Files	104-118
American Pattern Rasps	119-122
X.F.® Files - Swiss Pattern Files	122-125
Curved Tooth Files	126-127
Miscellaneous Tools	128-129
File Sets	129-130
Multi Purpose Tools	131-133
Holesaws	134-144
Hand Hacksaw Frames	145-146
Saw Blades	147-148
Nicholson® Numerical Index	228

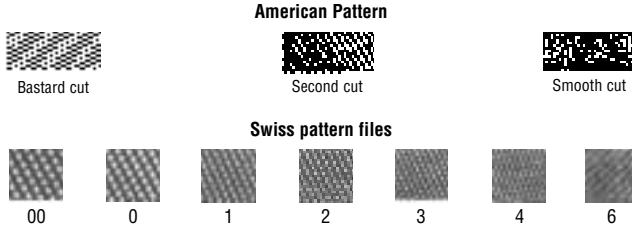
Safety Precautions



Always wear safety glasses. Warn workers nearby to stay clear before you make each cut.

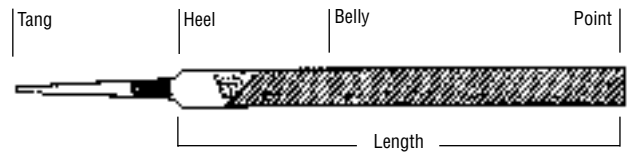
File Terminology

Coarseness



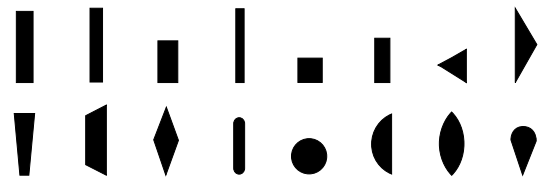
- Work to be accomplished, roughing or finishing, will determine type of teeth and coarseness for each application
- Most American pattern files are available with 3 grades of cut: bastard-cut, second-cut and smooth-cut
- Swiss pattern files are available in seven cuts: No. 00, 0, 1, 2, 3, 4, and 6
-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

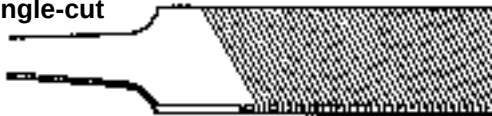
Shape



- 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

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

Rasp-cut



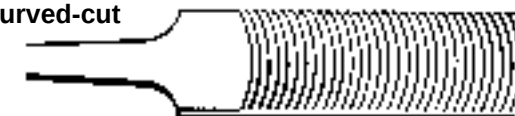
- Series of individual teeth which are formed by a single-pointed tool
- Produces a rough cut that is used primarily on wood, hooves, aluminum and lead

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 hole for easy storage

Length		Cut	Packed	Code No.	Weight g	Shelf Pack
Inch	mm					
HAND						
6	150	Bastard	Carded	0016100601	104	6
6	150	2nd cut	Carded	0016100602	104	6
6	150	Smooth	Carded	0016100603	110	6
8	200	Bastard	Carded	0016100801	140	6
8	200	2nd cut	Carded	0016100802	140	6
8	200	Smooth	Carded	0016100803	215	6
10	250	Bastard	Carded	0016101001	350	6
10	250	2nd cut	Carded	0016101002	350	6
10	250	Smooth	Carded	0016101003	350	6
12	300	Bastard	Carded	0016101201	520	6
12	300	2nd cut	Carded	0016101202	530	6
12	300	Smooth	Carded	0016101203	520	6
HAND MAGICUT						
8	200	Magicut	Carded	0016110800	196	6
10	250	Magicut	Carded	0016111000	344	6
HALFROUND						
6	150	Bastard	Carded	0016300601	92	6
6	150	2nd cut	Carded	0016300602	99	6
8	200	Bastard	Carded	0016300801	176	6
8	200	2nd cut	Carded	0016300802	174	6
10	250	Bastard	Carded	0016301001	310	6
10	250	2nd cut	Carded	0016301002	296	6
12	300	Bastard	Carded	0016301201	487	6
12	300	2nd cut	Carded	0016301202	506	6
ROUND						
6	150	Bastard	Carded	0016500601	68	6
6	150	2nd cut	Carded	0016500602	68	6
8	200	Bastard	Carded	0016500801	102	6
8	200	2nd cut	Carded	0016500802	102	6
10	250	Bastard	Carded	0016501001	180	6
10	250	2nd cut	Carded	0016501002	180	6
12	300	Bastard	Carded	0016501201	238	6

Files with Ergonomic Handles

Length		Cut	Packed	Code No.	Weight g	Shelf Pack
Inch	mm					
SQUARE						
6	150	Bastard	Carded	0016400601	75	6
6	150	2nd cut	Carded	0016400602	81	6
8	200	Bastard	Carded	0016400801	112	6
8	200	2nd cut	Carded	0016400802	120	6
10	250	Bastard	Carded	0016401001	230	6
10	250	2nd cut	Carded	0016401002	218	6
THREESQUARE						
6	150	Bastard	Carded	0016600601	117	6
6	150	2nd cut	Carded	0016600602	119	6
WARDING						
6	150	Bastard	Carded	0016900601	80	6
6	150	2nd cut	Carded	0016900602	65	6
MILL BLUNT 1 RE (1 Round Edge)						
6	150	2nd cut	Carded	0015170602	86	6
8	200	2nd cut	Carded	0015170802	144	6
10	250	2nd cut	Carded	0015171002	290	6
12	300	2nd cut	Carded	0015171202	434	6
MILL BLUNT 2 RE (2 Round Edges)						
8	200	2nd cut	Carded	0015180802	144	6
10	250	2nd cut	Carded	0015181002	290	6
SLIM TAPER						
6	150	Single cut	Carded	0015090600	104	6
HANDY FILE						
8	200	Single and double cut	Carded	0017310800	226	6
WOODCRAFT RASP						
8	200	Rasp and file cut	Carded	0017000800	258	6
WOOD RASP ROUND						
8	200	Bastard	Carded	0017130800	115	6
CABINET RASP REGULAR						
8	200	2nd cut	Carded	0017090801	168	6
10	250	2nd cut	Carded	0017091001	248	6
12	300	2nd cut	Carded	0017091201	470	6
5 PIECE SETS (HAND, ROUND, HALFROUND, SQUARE, THREESQUARE)						
8	200	2nd cut	Pouch	0012990800	750	6
10	250	2nd cut	Pouch	0012991000	810	6
HANDLE ONLY						
with 5 inserts/adapters		Carded		0010000150	90	6

Aluminum 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

Inch	Length		Packed	Code No. Made in USA	Code No. Made in Brazil	Weight per doz. g	Shelf Pack
	Inch	mm					
8		200	Boxed	00024	0012030800	1361	12
10		250	Boxed	00047	0012031000	3289	6

Aluminum Files - Type "A" Half Round



- Special tooth construction eliminates clogging when filing aluminum
- Half-round shape
- Double-cut
- Smooth finish obtained by using shearing cut toward left

Inch	Length		Packed	Code No.	Weight per doz. g	Shelf Pack
	Inch	mm				
10		250	Boxed	00161	2608	6

Bodifiles



- For those who work on automobile bodies, particularly in blending solder with sheet metal
- Rectangular shape
- Files have teeth on convex side only
- Files have offset tangs for knuckle clearance in filing large sheet metal surfaces
- D/C refers to double-cut
- For fine finishing steel surfaces

Type	Teeth per Inch	Size Inch x Inch	Packed	Code No.	Bend "R"		Weight per doz. g	Shelf Pack
					Inch	mm		
50-404 D/C	20	1 11/32" x 5/16" -14 Flat Bent	Boxed	03184	196	4981	7541	6

Cabinet Files



- Used by cabinetmakers and woodworkers
- Files are half-round in section
- Teeth are slightly finer than those of wood files
- Radius is larger and thinner than regular half-round files

Length		Packed	Code No.	Weight per doz. g	Shelf Pack
Inch	mm				
10	250	Boxed	0013081000	2466	6

Cantsaw Files



- Used for sharpening crosscut saws with "M" teeth, circular saws and saw teeth with less than 60° angle
- Triangular shape
- Single-cut
- Edges set and cut
- Same number of teeth per inch as mill bastard files of equivalent length
- Supplied with "cut back"

Length		Packed	Code No.	Weight per doz. g	Shelf Pack
Inch	mm				
6	150	Boxed	01327	652	12

Chain Saw Files - Round Smooth



- Round shape
- Smooth-cut
- Carded files, 3 files on card

Length		Diameter		Type	Code No.	Packed	Weight per Shelf Pack g	Shelf Pack
Inch	mm	Inch	mm					
6	150	1/8	3,20	610	0011266100	Boxed	90	6
6	150	1/8	3,20	610	0015266100	Carded	200	4
6	150	9/64	3,60	615	0011266150	Boxed	110	6
6	150	9/64	3,60	615	0015266150	Carded	220	4
6	150	5/32	4,00	620	0011266200	Boxed	120	6
6	150	5/32	4,00	620	0015266200	Carded	260	4
8	200	5/32	4,00	825	0011268250	Boxed	130	6
8	200	5/32	4,00	825	0015268250	Carded	340	4
8	200	11/64	4,50	827	0011268270	Boxed	150	6
8	200	11/64	4,50	827	0015268270	Carded	380	4
8	200	3/16	4,80	83	0011268300	Boxed	180	6
8	200	3/16	4,80	83	0015268300	Carded	440	4
8	200	13/64	5,20	832	0011268320	Boxed	210	6
8	200	13/64	5,20	832	0015268320	Carded	500	4
8	200	7/32	5,60	835	0011268350	Boxed	240	6
8	200	7/32	5,60	835	0015268350	Carded	560	4
8	200	1/4	6,40	84	0011268400	Boxed	260	6

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	0011251600	767	12
18	8	200	Boxed	0011251800	1304	12

Crosscut - Great American



- Used for sharpening saws of Great American type and varieties of crosscut saws
- Triangular shape
- Single-cut
- Rounded back and thin edge are cut
- Same number of teeth per inch as mill bastard files of equivalent length
- Rounded back used to deepen rounded gullets of saw teeth

Length		Packed	Code No. Made in USA	Code No. Made in Brazil	Weight per doz. g	Shelf Pack
Inch	mm					
8	200	Boxed	02435	0011340800	1474	12
10	250	Boxed	02465	0011341000	2835	12

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
9	225	Boxed	02949M	907	12
10	250	Boxed	02969M	1077	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. Made in USA	Code No. Made in Brazil	Weight per doz. g	Shelf Pack
Inch	mm					
8	200	Boxed	06649	0013290800	2155	12
10	250	Boxed	06668	0013291000	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	Made in USA	Made in Brazil	Made in USA	Made in Brazil	Made in USA	Made in Brazil		
4	100	03367	0012000401	03401	0012000402	03434	0012000403	255	12
6	150	03467	0012000601	03500	0012000602	03533	0012000603	709	12
8	200	03566	0012000801	03599	0012000802	03632	0012000803	1701	12
10	250	03665	0012001001	03698	0012001002	03731	0012001003	3261	6
12	300	03764	0012001201	03797	0012001202	03830	0012001203	5103	6
14	350	03863	0012001401	03896	0012001402	03929	0012001403	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	Made in USA	Made in Brazil	Made in USA	Made in Brazil	Made in USA	Made in Brazil		
4	100	04695	0012300401	04729	0012300402	04762	0012300403	284	12
6	150	04795	0012300601	04828	0012300602	04861	0012300603	709	12
8	200	04896	0012300801	04927	0012300802	04960	0012300803	1503	12
10	250	04995	0012301001	05026	0012301002	05059	0012301003	2750	6
12	300	05094	0012301201	05125	0012301202	05158	0012301203	4763	6
14	350	05194	0012301401	05225	0012301402	05258	0012301403	7371	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	Made in USA	Made in Brazil	Made in USA	Made in Brazil	Made in USA	Made in Brazil		
4	100	05652	0012100401	05675	0012100402	05698	0012100403	397	12
6	150	05738	0012100601	05771	0012100602	05804	0012100603	794	12
8	200	05853	0012100801	05886	0012100802	05919	0012100803	1758	12
10	250	05968	0012101001	06001N	0012101002	06034	0012101003	3402	6
12	300	06084	0012101201	06117	0012101202	06150	0012101203	7768	6
14	350	06198	-	-	-	-	-	7836	6

Handy File



- One side is single-cut for use in tool sharpening and smoothing metal surfaces, reverse side is double-cut for general filing and rapid stock removal
- Rectangular shape
- 1 cut edge, 1 safe edge
- Length measured exclusive of handle
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
8	200	0013310801	2581	12

Plastics File



- Used for filing wide range of plastics and other soft materials
- Rectangular shape
- Easily cleaned
- Finish easily varied by user
- Laboratory tests were performed on Masonite, C-Grade Phenolic, UHMW Polyethylene, Nylon and Acrylic with outstanding results
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
8	200	06610	1150	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 Code No.		Second Cut Code No.		Smooth Cut Code No.		Weight per doz. g	Shelf Pack
Inch	mm	Made in USA	Made in Brazil	Made in USA	Made in Brazil	Made in USA	Made in Brazil		
4	100	06711	0012700401	06742	0012700402	06773	0012700403	170	12
6	150	06804	0012700601	06836	0012700602	06867	0012700603	539	12
8	200	06898	0012700801	06930	0012700802	06961	0012700803	1134	12
10	250	06992	0012701001	07023	0012701002	07054	0012701003	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.	Code No.	Weight per doz.	Shelf
Inch	mm	Made in USA	Made in Brazil	g	Pack
10	250	07657	0012191001	3260	6
12	300	07688	0012191201	5103	6
14	350	07719	0012191401	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	07842	0012191002	1730	6
12	300	07851	0012191202	2638	6
14	350	07863	0012191402	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. Made in USA	Code No. Made in Brazil	Weight per doz. g	Shelf Pack
Inch	mm				
8	200	07894	0012010800	1701	12
10	250	07917	-	3260	6
12	300	07941	-	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. Made in USA	Code No. Made in Brazil	Weight per doz. g	Shelf Pack
Inch	mm				
8	200	-	0012110800	1740	12
10	250	-	0012111000	3360	6
12	300	08204	-	7768	6

Magicut® Files - Halfround



- Used by machinists as all-purpose file to remove stock rapidly and to leave a smooth finish
- Used on concave, convex or flat surfaces
- Rounded on one side, flat on the other side
- 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	0012310800	1560	12
10	250	0012311000	2940	6
12	300	0012311200	4960	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 Inch	mm	Type Cut	Two Square Edges Code No.	One Round Edge Code No.	Two Round Edges Code No.	Weight per doz. g	Shelf Pack
6	150	Bastard	0011160601	-	-	600	12
8	200	Bastard	0011160801	-	-	1320	12
10	250	Bastard	0011161001	-	-	2640	12
12	300	Bastard	0011161201	-	-	4440	6
8	200	2nd cut	0011160802	-	-	1380	12
10	250	2nd cut	0011161002	-	-	2640	12
12	300	2nd cut	0011161202	-	-	4380	6
8	200	Bastard	-	0011170801	-	1260	12
10	250	Bastard	-	0011171001	-	2520	12
6	150	2nd cut	-	0011170602	-	600	12
8	200	2nd cut	-	0011170802	-	1320	12
10	250	2nd cut	-	0011171002	-	2580	12
12	300	2nd cut	-	0011171202	-	4320	6
6	150	2nd cut	-	-	0011180602	540	12
8	200	2nd cut	-	-	0011180802	1320	12
10	250	2nd cut	-	-	0011181002	2400	12
12	300	2nd cut	-	-	0011181202	4260	6

Mill Blunt Heavy

8	200	-	-	0011210800	-	2160	12
10	250	-	-	0011211000	-	3540	6
8	200	-	-	-	0011220800	2040	12
10	250	-	-	-	0011221000	3480	6

Pillar File



- Used mostly by machinists for filing slots and keyways
- Similar to hand files but narrower
- Rectangular cross section
- 1 safe edge

Length Inch	mm	Packed	Type Cut	Code No.	Weight per doz. g	Shelf Pack
8	200	Boxed	Bastard	11118	1673	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		Diameter		Bastard Cut Code No.		Second Cut Code No.		Smooth Cut Code No.		Weight per doz. g	Shelf Pack
Inch	mm	Inch	mm	Made in USA	Made in Brazil	Made in USA	Made in Brazil	Made in USA	Made in Brazil		
4	100	$\frac{5}{32}$	4	12790	0012400401	12824	0012400402	12857	0012400403	113	12
5	125	$\frac{3}{16}$	5	-	0012400501	-	0012400502	-	0012400503	240	12
6	150	$\frac{1}{4}$	6	12967	0012400601	13000	0012400602	13033	0012400603	482	12
8	200	$\frac{5}{16}$	8	13081	0012400801	13114	0012400802	13147	0012400803	879	12
10	250	$\frac{3}{8}$	10	13196	0012401001	13229	0012401002	13262	0012401003	1758	12
12	300	$\frac{1}{2}$	13	13310	0012401201	13343	0012401202	13376	0012401203	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 Code No.		Second Cut Code No.		Smooth Cut Code No.		Weight per doz. g	Shelf Pack
Inch	mm	Inch	mm	Made in USA	Made in Brazil	Made in USA	Made in Brazil	Made in USA	Made in Brazil		
4	100	$\frac{1}{8}$	3	11526	0012500401	11559N	0012500402	11592N	0012500403	113	12
5	125	$\frac{3}{16}$	5	11637	0012500501	11665	0012500502	-	0012500503	255	12
6	150	$\frac{1}{4}$	6	11716	0012500601	11748	0012500602	11781	0012500603	397	12
8	200	$\frac{5}{16}$	8	11904	0012500801	11936	0012500802	11969	0012500803	624	12
10	250	$\frac{3}{8}$	10	12019	0012501001	12051	0012501002	12084	0012501003	1446	12
12	300	$\frac{1}{2}$	13	12134	0012501201	12166	0012501202	12199	0012501203	3090	6
14	350	$\frac{5}{8}$	16	12248	0012501401	12282	0012501402	-	-	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 or 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 Inch mm	Code No. Made in USA	Code No. Made in Mexico	Weight per doz. g	Shelf Pack
Regular				
3 1/2 88	-	0011000350	180	12
4 100	13727M	0011000400	311	12
4 1/2 113	13750M	0011000450	425	12
5 125	13772M	0011000500	567	12
6 150	13807	0011000600	907	12
7 175	13841	0011000700	1332	12
8 200	13875	0011000800	1956	12
9 225	-	0011000900*	2520	12
10 250	13930	0011001000*	3402	12
Heavy				
6 150	-	0011070600*	1200	12
7 175	-	0011070700	1680	12
8 200	-	0011070800	2400	12

* Made in Brazil

Taper Files - Slim



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

Length		Code No.	Code No.	Weight per doz.	Shelf
Inch	mm	Made in USA	Made in Mexico	g	Pack
4	100	14106	0011090400	170	12
4 1/2	113	14139	0011090450	226	12
5	125	14162	0011090500	255	12
6	150	14224	0011090600	482	12
7	175	14255	0011090700	765	12
8	200	14290	0011090800*	1191	12

*Made in Brazil

Taper Files - Extra Slim



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

Length		Code No.	Code No.	Weight per doz.	Shelf
Inch	mm	Made in USA	Made in Mexico	g	Pack
4	100	14547	0011100400	113	12
4 1/2	113	14579	0011100450*	141	12
5	125	14599	0011100500	170	12
6	150	14665	0011100600	312	12
7	175	14698	0011100700	539	12
8	200	14729	0011100800*	851	12

*Made in Brazil

Taper Files - Double Extra Slim



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

Length			Code No.	Weight per doz.	Shelf
Inch	mm	Packed		g	Pack
4	100	Boxed	0011120400	82	12
5	125	Boxed	0011120500	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				
5	125	0011010500	540	12
6	150	0011010600	900	12
7	175	0011010700	1320	12
8	200	0011010800	1920	12

HEAVY				
6	150	0011080600	1080	12
7	175	0011080700	1640	12
8	200	0011080800	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	0011060850	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	Made in USA	Made in Brazil	Made in USA	Made in Brazil	Made in USA	Made in Brazil		
4	100	15803M	0012600401	-	0012600402	-	0012600403	340	12
5	125	-	0012600501	-	0012600502	-	0012600503	540	12
6	150	15925	0012600601	15958	0012600602	15991	0012600603	879	12
8	200	16036	0012600801	16069	0012600802	16102	0012600803	1928	12
10	250	16147	0012601001	16180	0012601002	16213	0012601003	3402	12
12	300	16258	0012601201	16291	0012601202	-	0012601203	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
- Available with attractive carded display
- Code No. 02381 contains 12 files

Length		Packed	Code No.	Weight per doz. g	Shelf Pack
Inch	mm				
5 1/4	133	Boxed	02373	1134	12
5 1/4	133	1/cd	02375	567	6
5 1/4	133	12/cd	02381	1588	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	Made in USA	Made in Brazil	Made in USA	Made in Brazil	Made in USA	Made in Brazil		
4	100	16507	0012900401	16540	0012900402	16573	-	142	12
6	150	16663	-	16696	-	16729	-	369	12
8	200	16761	-	16794	-	16827	-	737	12

Hoof Knife File



- Specially designed to sharpen hoof knives
 - Rectangular shape
 - Both sides single-cut
- 2 round cut edges
 - Contoured to sharpen entire knife, even at hook end
 - Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
8	200	10626	1361	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.		Smooth Cut Code No.		Weight per doz. g	Shelf Pack
Inch	mm	Made in USA	Made in Brazil	Made in USA	Made in Brazil		
8	200	17615	0013090801	-	-	1361	12
10	250	17683	0013091001	17718	0013091003	2466	6
12	300	17751	0013091201	17786	0013091203	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	17903	8902	6

Farrier's Handy Rasp



- Rectangular shape
- Single-cut on edges
- Comfortable cushion grip at point and handle
- Rasp teeth on 1 side, file teeth on opposite
- Rasp cut is 6 teeth per row (other horse rasps have 5 teeth per row)
- Body is the same as the 14" Plater's Special
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
14	350	18155	8591	5

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 rasping
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
12	300	18035	8165	6
14	350	18057	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
- 18" rasp is specially designed for draft horses
- Sharper than regular horse rasps
- Double extra thin
- Boxed

Length		Code No.	Weight per doz. g	Shelf Pack
Inch	mm			
14	350	18156N*	7428	6
14	350	18157	7428	6
14	350	HR14	7428	6
18	450	18180	9639	6

* Aggressive cut – Black Diamond® Brand

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	18130	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	18846	1644	6

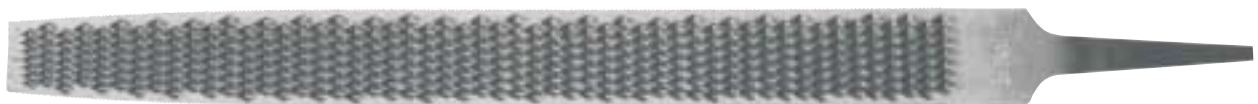
4-in-Hand® (Formerly Shoe Rasp)



- 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	18924	1871	6

Wood Rasps - Flat Bastard



- Flat shape
- Bastard-cut
- Boxed

Length		Code No. Made in USA	Code No. Made in Brazil	Weight per doz. g	Shelf Pack
Inch	mm				
10	250	19136	0013151001	3402	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	Made in USA	Made in Brazil	Made in USA	Made in Brazil		
8	200	19394	0013140801	19575	0013140802	1559	12
10	250	19427	0013141001	19593	0013141002	2948	6
12	300	19460	0013141201	19611	0013141202	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	35025	00	255	12
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	36533	2	539	12
6	150	36545	4	539	12

Hand Files

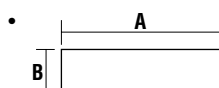


- Used by tool and die makers, jewelers, model makers and home craftsman
- Rectangular shape
- Double-cut sides
- Cut numbers 0 and 2 are single-cut on 1 edge, other is safe
- Parallel in width but taper in thickness
- Boxed

Length		Code No.	Cut No.	Weight per doz. g	Shelf Pack
Inch	mm				
6	150	36743	0	1049	12
6	150	36755	2	1049	12
8	200	36785	0	2070	6
8	200	36797	2	2070	6

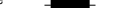
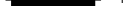
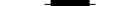
Needle Files

- 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	0014470402	2	116	1
5 1/2	140	0014470552	2	138	1
6 1/4	160	0014470600	0	148	1
6 1/4	160	0014470602	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	Flat		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

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	0014210600	0	108	12
		6 1/4	160	0014210602	2	96	12
Flat		6 1/4	160	0014220600	0	108	12
		6 1/4	160	0014220602	2	96	12
Halfround		6 1/4	160	0014230600	0	108	12
		6 1/4	160	0014230602	2	108	12
Threesquare		6 1/4	160	0014240600	0	96	12
		6 1/4	160	0014240602	2	96	12
Square		6 1/4	160	0014250600	0	84	12
		6 1/4	160	0014250602	2	84	12
Round		6 1/4	160	0014260600	0	84	12
		6 1/4	160	0014260602	2	84	12
Knife		6 1/4	160	0014270600	0	96	12
		6 1/4	160	0014270602	2	96	12
Crossing		6 1/4	160	0014280600	0	120	12
		6 1/4	160	0014280602	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	39899	0	737	12
6	150	39905	1	737	12
6	150	39911	2	737	12
6	150	39923	4	737	12
8	200	39935	0	1588	6
8	200	39947	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	40070	00	567	12
6	150	40076	0	567	12
6	150	40088	2	567	12
8	200	40127	2	1191	6

Three Square Files



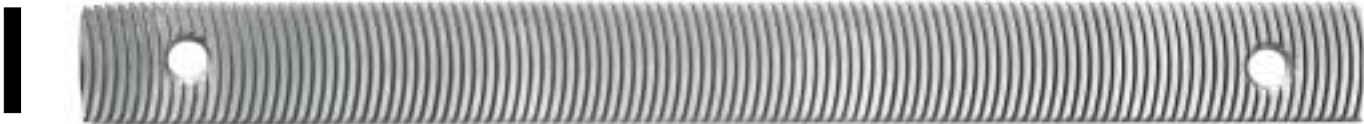
- Triangular in section with angles of 60°
- Double-cut on three sides, single-cut on edges
- Taper to point and have sharp corners
- Boxed

Length		Code No.	Cut No.	Weight per doz. g	Shelf Pack
Inch	mm				
6	150	41498	2	737	12
6	150	41506	4	737	12
8	200	41524	1	1191	12
8	200	41530	2	1191	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

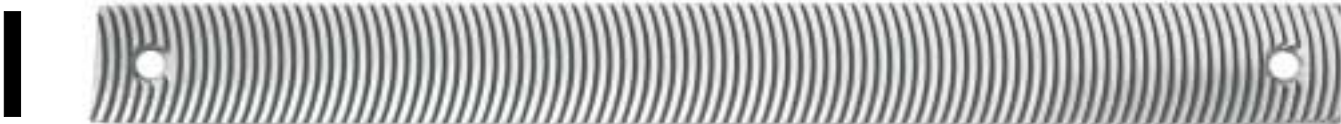
Flexible Files (Without Tang)



- 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	20138	10/Standard	2495	6
14	350	20205	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		Type	Code No.	No. of Teeth Per Inch/Cut	Weight per doz. g	Shelf Pack
Inch	mm					
14	350	50-908	20189	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	20342	10/Standard	4224	6
14	350	20393	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	21067	12/Standard	2665	6
12	300	21118	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	21272	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
- Carded

Code No.	Description	Weight per Shelf Pack g	Shelf Pack
0010000150	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	0010000116	File handle with insert	25	10
No. 2	0010000118	File handle with insert	32	10
No. 3	0010000120	File handle with insert	50	10

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 Inch	mm	Weight g	Shelf Pack
110	12	0010000012	4	100	56	1
111	14	0010000014	5	125	60	1
113	16	0010000016	6	150	64	1
117	18	0010000018	7	175	68	1
120	20	0010000020	8	200	72	1
134	22	0010000022	9	225	76	1
134	24	0010000024	10	250	80	1
140	26	0010000026	12	300	84	1
140	28	0010000028	14	350	88	1

Sleeves for Files - Plastic

- For files without handle
- With hang hole for easy storage

Code No.	For File Length Inch	mm	Weight per doz. g	Shelf Pack
0010000204	4	100	24	12
0010000206	6	150	38	12
0010000208	8	200	72	12
0010000210	10	250	108	12
0010000212	12	300	156	12

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	0012990800	750	1
NFK2	10	250	2nd cut	0012991000	930	1

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 Inch mm		Packed	Cut	Code No.	Weight g	Shelf Pack
4	100	Metal Box	Bastard	0012991410	150	1
4	100	Plastic Pouch	Bastard	0012991411	110	1
4	100	Metal Box	2nd cut	0012991420	150	1
4	100	Plastic Pouch	2nd cut	0012991422	110	1
4	100	Metal Box	Smooth	0012991430	150	1
4	100	Plastic Pouch	Smooth	0012991433	110	1

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

MultiMax Mini

- Universal mini tool made from particularly high-grade steel
- 11 tools included:
 - Drop Point Blade
 - Needle-Nose Plier
 - Regular Plier
 - 2 Slotted Screwdrivers
 - Wire Cutter
 - Bottle Opener
 - Nail File
 - Nail Cleaner
 - Inch Ruler
 - Metric Ruler
 - Lanyard Keyring
- Carded blister pack



Type	Code No.	Description	Length when closed		Width when closed		Weight	Shelf
			Inch	mm	Inch	mm	g	Pack
NMP4V	NMP4V	MultiMax Mini	2 1/2	63	3/4	19	125	3

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
- Code No. 0010020265 packed in box
- Code No. 0010020266 packed on card



Type	Code No.	Description	Length when closed		Width when closed		Weight	Shelf
			Inch	mm	Inch	mm	g	Pack
NMP12	0010020265	MultiMax Pro	4	100	1 3/16	30	240	6
NMP12	0010020266	MultiMax Pro	4	100	1 3/16	30	275	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 Plier 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
- Code No. 0010020268 packed in box
- Code No. 0010020269 packed on card

Type	Code No.	Description	Length when closed Inch mm	Width when closed Inch mm	Weight g	Shelf Pack
NMP15	0010020268	MultiMax Pro XL	4 1/2 113	1 3/8 35	270	6
NMP15	0010020269	MultiMax Pro XL	4 1/2 113	1 3/8 35	305	6

Display for MultiMax Pro and MultiMax Pro XL



- Capacity for 12 pcs. of boxed NMP12 or NMP15 plus a demonstration model which can be attached by a chain to the anti-theft device on the display
- With a base of 15 x 13 cm and a height of 56 cm, this counter display requires only a small space
- Consist of acrylic display (unstocked), header and chain for demonstration model
- If ordering 12 pcs. of NMP12 or NMP15, display is free of charge

Code No.	Description	Weight g	Shelf Pack
0055627499	Display for 12 pcs. NMP12	870	1
0055644599	Display for 12 pcs. NMP15	870	1

Spare Parts for MultiMax NMP12 and NMP15

- All stainless steel components

Code No.	Description	Application		Shelf Pack
		NMP12	NMP15	
237100	Awl		x	1
237101	Can/Bottle Opener	x	x	1
237102	File	x	x	1
237103	Drop Point Blade	x		1
237104	Serrated Edge Blade	x		1
237105	Lanyard Ring	x	x	1
237106	Combination Plier	x		1
237107	Phillips® Screwdriver	x	x	1
237108	Slotted Screwdriver-Medium	x	x	1
237109	Slotted Screwdriver-Large	x	x	1
237110	Slotted Screwdriver-Small		x	1
237111	Saw		x	1
237112	Combination Plier		x	1
237113	Serrated Edge Blade		x	1
E966	Nylon Pouch	x		1
E972	Nylon Pouch		x	1
0055643600	Operating Instruction		x	1
0055618100	Operating Instruction	x		1

Bi-Metalloy® Holesaws



- The variable pitch design has varying numbers of teeth per inch (from 4 TPI to 6 TPI) and different gullet depths. These variations help break up the harmonics and therefore reduce vibration and noise. The teeth of the VP holesaws have a 7° positive rake angle compared to a 0° angle on the standard holesaw. The positive rake angle allows faster cutting rates. Plus the smoother cutting makes it easier to cut faster
- The reduced vibration helps increase blade life. However the main reason for the increased life is the thicker base. All VP holesaws have a stronger, thicker base
- The main cause of failure in holesaws is the failure of the pin holes in the base. The new stronger base makes this virtually impossible
- The reduced vibration and the more aggressive tooth design result in a smoother, cleaner hole
- Cuts holes from $\frac{9}{16}$ "/14 mm to 6"/152 mm in diameter 1 $\frac{1}{8}$ "/28 mm deep

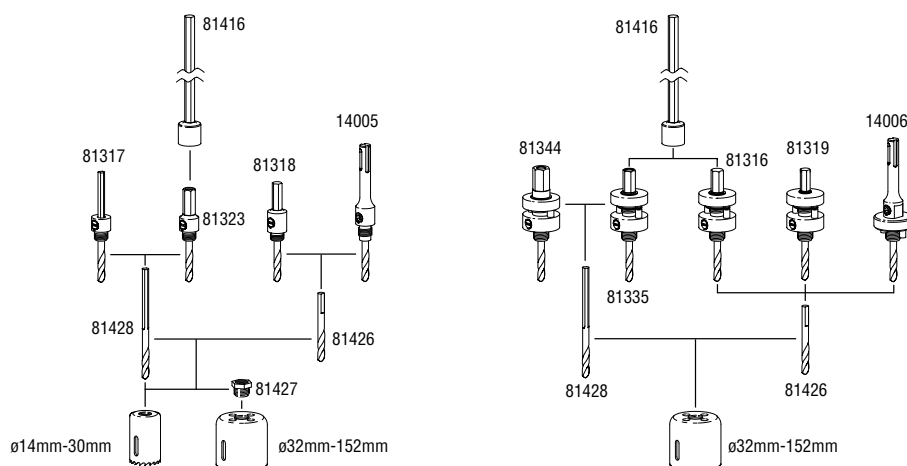
Type/ Code No.	Diameter		Shelf Pack
	Inch	mm	
81152	$\frac{9}{16}$	14,3	1
81155	$\frac{5}{8}$	15,9	1
81158	$\frac{11}{16}$	17,5	1
81161	$\frac{3}{4}$	19,1	1
81450	$\frac{7}{9}$	20	1
81164	$\frac{13}{16}$	20,6	1
81167	$\frac{7}{8}$	22,2	1
81170	$\frac{15}{16}$	23,8	1
81173	1	25,4	1
81176	1 $\frac{1}{16}$	27	1
81179	1 $\frac{1}{8}$	28,6	1
81182	1 $\frac{3}{16}$	30,2	1
81188	1 $\frac{1}{4}$	31,8	1
81191	1 $\frac{5}{16}$	33,3	1
81197	1 $\frac{3}{8}$	34,9	1
81200	1 $\frac{7}{16}$	36,5	1
81206	1 $\frac{1}{2}$	38,1	1
81209	1 $\frac{9}{16}$	39,7	1
81212	1 $\frac{5}{8}$	41,3	1
81215	1 $\frac{11}{16}$	42,9	1
81218	1 $\frac{3}{4}$	44,5	1
81451	-	45	1
81455	1 $\frac{3}{16}$	46	1
81224	1 $\frac{7}{8}$	47,6	1
81452	-	50	1
81227	2	50,8	1
81230	2 $\frac{1}{16}$	52,4	1
81233	2 $\frac{1}{8}$	54	1
81453	-	55	1
81236	2 $\frac{1}{4}$	57,2	1
81239	2 $\frac{5}{16}$	58,7	1

Type/ Code No.	Diameter		Shelf Pack
	Inch	mm	
81242	2 3/8	60,3	1
81245	2 1/2	63,5	1
81248	2 9/16	65,1	1
81251	2 5/8	66,7	1
81460	2 11/16	68	1
81461	2 6/8	68,5	1
81254	2 3/4	69,9	1
81257	2 7/8	73	1
81260	3	76,2	1
81263	3 1/8	79,4	1
81266	3 1/4	82,6	1
81269	3 3/8	85,7	1
81272	3 1/2	88,9	1
81275	3 5/8	92,1	1
81278	3 3/4	95,3	1
81281	3 7/8	98,5	1
81284	4	101,6	1
81287	4 1/8	104,8	1
81290	4 1/4	108	1
81296	4 1/2	114,3	1
81299	4 3/4	120,7	1
81302	5	127	1
81308	5 1/2	139,7	1
81314	6	152,4	1

Pilot Drill

81428	1/4	6,35 (Length 103 mm)	1
81426	1/4	6,35 (Length 85 mm)	1

Mandrels/Arbors for Bi-Metalloy® Holesaws



Type/ Code No.	For Holesaws Diameter mm	Shank	Shelf Pack
81317	14 - 30	6,35 mm round	1
81318	14 - 30	8,75 mm hexagon	1
81323	14 - 30	11 mm hexagon	1
81335	32 - 152	11 mm hexagon	1
81316	32 - 152	11 mm hexagon, solid	1
81319	32 - 152	8,75 mm hexagon, solid	1
81344	32 - 152	16 mm hexagon	1
81416	Lengthening (304 mm)	11 mm hexagon	1
81427	Adapter for holder 81317, 81318, 81323		
14005/0026814005	14 - 30	SDS Plus	1
14006/0026814006	32 - 152	SDS Plus	1

Hole Edge Core Drill



- For fitting cavity wall outlets with exactly flush borders
- The ideal tool for every electrician
- Resharpener cutting edges guarantee long service life and all-purpose use
- Consist of:
 - 1 hole saw Bi-Metalloy® ø 68 mm
 - 1 mandrel / arbor 81335
 - 1 hole edge core drill

For Holesaws Type	Code No.	Description	Shelf Pack
LSS-68-3	0026814460	Holesaw kit with edge core drill	1

Hard Metal Holesaws - Flat-Cut

- Design:
Hard metal-faced holesaws with ejection spring for manual- and upright drills, will cut anything. Can be used on all machinable materials. Sturdy construction guarantees high running precision. The special cut, ground axially and radially, ensures optimum cutting results along with good chip clearance. Resharpenable, long service life.
- Applications:
Steel, stainless steel, glass fibre, aluminium etc.
- Flat-cut for material strength up to 4 mm and stainless steel up to 2 mm
- Packed in plastic box with hang-up hole



Type	Code No.	Diameter mm	Shank Diameter mm	Tank Thread	Shelf Pack
HM-F15,2	0022015200	15,2	10	PG9	1
HM-F16	0022016000	16	10		1
HM-F17	0022017000	17	10		1
HM-F18	0022018000	18	10		1
HM-F18,6	0022018600	18,6	10	PG11	1
HM-F19	0022019000	19	10		1
HM-F20	0022020000	20	10		1
HM-F20,4	0022020400	20,4	10	PG13	1
HM-F21	0022021000	21	10		1
HM-F22	0022022000	22	10		1
HM-F22,5	0022022500	22,5	10	PG16	1
HM-F23	0022023000	23	10		1
HM-F24	0022024000	24	10		1
HM-F25	0022025000	25	10		1
HM-F26	0022026000	26	10		1
HM-F27	0022027000	27	10		1
HM-F28	0022028000	28	10		1
HM-F28,3	0022028300	28,3	10	PG21	1
HM-F29	0022029000	29	10		1
HM-F30	0022030000	30	10		1
HM-F32	0022032000	32	10		1
HM-F33	0022033000	33	10		1
HM-F34	0022034000	34	10		1
HM-F35	0022035000	35	10		1
HM-F36	0022036000	36	10		1
HM-F37	0022037000	37	10	PG29	1
HM-F38	0022038000	38	10		1
HM-F40	0022040000	40	10		1
HM-F42	0022042000	42	10		1
HM-F44	0022044000	44	10		1
HM-F45	0022045000	45	10		1
HM-F47	0022047000	47	10	PG36	1
HM-F48	0022048000	48	10		1
HM-F50	0022050000	50	10		1
HM-F52	0022052000	52	13		1

Type	Code No.	Diameter mm	Shank Diameter mm	Tank Thread	Shelf Pack
HM-F55	0022055000	55	13		1
HM-F60	0022060000	60	13	PG48	1
HM-F65	0022065000	65	13		1
HM-F70	0022070000	70	13		1
HM-F75	0022075000	75	13		1
HM-F80	0022080000	80	13		1
HM-F85	0022085000	85	13		1
HM-F90	0022090000	90	13		1
HM-F95	0022095000	95	13		1
HM-F100	0022100000	100	13		1
HM-F110	0022110000	110	13		1

Other diameters on request

Replacement drill

Type	Code No.	For Holesaw Diameter mm	Diameter x Length mm
HSS	0022065200	15 - 74	6 x 62
HSS	0022085200	75 - 150	8 x 52
HM	0022165200	15 - 74	6 x 62
HM	0022185200	75 - 150	8 x 52

Hard Metal Holesaws - Deep-Cut



- Design:
Hard metal-faced holesaws for manual- and upright drills, will cut anything. Can be used on all machinable materials. Sturdy construction guarantees high running precision. The special cut, ground axially and radially, ensures optimum cutting results along with good chip clearance. Resharpenable, long service life.
- Applications:
Steel, stainless steel, glass fibre, aluminium etc.
- Deep-cut for cuts into pipes and curved surfaces, for material strength up to 4 mm and stainless steel up to 2 mm
- Packed in plastic box with hang-up hole

Type	Code No.	Diameter mm	Shank Diameter mm	Shelf Pack
HM-T18	0022018010	18	10	1
HM-T20	0022020010	20	10	1
HM-T21	0022021010	21	10	1
HM-T22	0022022010	22	10	1
HM-T23	0022023010	23	10	1
HM-T25	0022025010	25	10	1
HM-T26	0022026010	26	10	1
HM-T27	0022027010	27	10	1
HM-T28	0022028010	28	10	1
HM-T30	0022030010	30	10	1
HM-T32	0022032010	32	10	1
HM-T33	0022033010	33	10	1

Type	Code No.	Diameter mm	Shank Diameter mm	Shelf Pack
HM-T34	0022034010	34	10	1
HM-T35	0022035010	35	10	1
HM-T37	0022037010	37	10	1
HM-T39	0022039010	39	10	1
HM-T40	0022040010	40	10	1
HM-T42	0022042010	42	10	1
HM-T43	0022043010	43	10	1
HM-T45	0022045010	45	10	1
HM-T46	0022046010	46	10	1
HM-T48	0022048010	48	10	1
HM-T49	0022049010	49	10	1
HM-T55	0022055010	55	13	1
HM-T60	0022060010	60	13	1
HM-T65	0022065010	65	13	1
HM-T70	0022070010	70	13	1
HM-T75	0022075010	75	13	1
HM-T80	0022080010	80	13	1
HM-T85	0022085010	85	13	1
HM-T90	0022090010	90	13	1

Other diameters on request

Replacement drill

Type	Code No.	For Holesaw Diameter mm	Diameter x Lenth mm
HSS	0022067710	16 - 60	6 x 77
HSS	0022081040	61 - 100	8 x 104
HM	0022167710	16 - 60	6 x 77
HM	0022181040	61 - 100	8 x 104

Holesaw Kits - Bi-Metalloy®

Professional Holesaw Kit



Type	Description	Diameter mm	Code No.	Shelf Pack
81433	Professional Holesaw Kit, complete		0026814330	1
includes:				
81155	Holesaw	15,9		
81161	Holesaw	19,1		
81167	Holesaw	22,2		
81173	Holesaw	25,4		
81179	Holesaw	28,6		
81188	Holesaw	31,8		
81197	Holesaw	34,9		
81206	Holesaw	38,1		
81218	Holesaw	44,5		
81227	Holesaw	50,8		
81245	Holesaw	63,5		
81260	Holesaw	76,2		
81323	Mandrel	-		
81335	Mandrel	-		
81428	3 Pilot Drills	6,35/Length 103 mm		

Journeyman's Holesaw Kit



Type	Description	Diameter mm	Code No.	Shelf Pack
81429	Journeyman's Holesaw Kit, complete		0026814290	1
includes:				
81161	Holesaw	19,1		
81167	Holesaw	22,2		
81179	Holesaw	28,6		
81197	Holesaw	34,9		
81206	Holesaw	38,1		
81218	Holesaw	44,5		
81227	Holesaw	50,8		
81236	Holesaw	57,2		
81245	Holesaw	63,5		
81317	Mandrel	-		
81335	Mandrel	-		
81427	Adaptor	6,35		
81428	Pilot Drill	6,35/Length 103 mm		

Maintenance Holesaw Kit



Type	Description	Diameter mm	Code No.	Shelf Pack
81430	Maintenance Holesaw Kit, complete		0026814300	1
includes:				
81167	Holesaw	22,2		
81173	Holesaw	25,4		
81179	Holesaw	28,6		
81188	Holesaw	31,8		
81206	Holesaw	38,1		
81317	Mandrel	-		
81427	Adaptor	-		

Electrician's Holesaw Kit



Type	Description	Diameter mm	Code No.	Shelf Pack
81431	Electrician's Holesaw Kit, complete		0026814310	1
includes:				
81167	Holesaw	22,2		
81179	Holesaw	28,6		
81197	Holesaw	34,9		
81218	Holesaw	44,5		
81227	Holesaw	50,8		
81245	Holesaw	63,5		
81323	Mandrels	-		
81335	Mandrels	-		
81428	Pilot Drill	6,35/Length 103 mm		

Plumber's Holesaw Kit



Type	Description	Diameter mm	Code No.	Shelf Pack
81432	Plumber's Holesaw Kit, complete		0026814320	1
includes:				
81161	Holesaw	19,1		
81167	Holesaw	22,2		
81179	Holesaw	28,6		
81206	Holesaw	38,1		
81218	Holesaw	44,5		
81236	Holesaw	57,2		
81317	Mandrel	-		
81335	Mandrel	-		
81428	Pilot Drill	6,35/Length 103 mm		

Plumber's Holesaw Kit No. 2



Type	Description	Diameter mm	Code No.	Shelf Pack
81442	Plumber's Holesaw Kit No. 2, complete		0026814420	1
includes:				
81167	Holesaw	22,2		
81179	Holesaw	28,6		
81206	Holesaw	38,1		
81218	Holesaw	44,5		
81236	Holesaw	57,2		
81251	Holesaw	66,7		
81323	Mandrel	-		
81335	Mandrel	-		

Electrician's Holesaw Kit No. 1



Type	Description	Diameter mm	Code No.	Shelf Pack
81443	Electrician's Holesaw Kit No. 1, complete		0026814430	1
includes:				
81197	Holesaw	34,9		
81460	Holesaw	68		
81257	Holesaw	73		
81335	Mandrels	-		
81428	Pilot Drill	6,35/Length 103 mm		

Electrician's Holesaw Kit No. 2



Type	Description	Diameter mm	Code No.	Shelf Pack
81444	Electrician's Holesaw Kit No. 2, complete		0026814440	1
includes:				
81167	Holesaw	22,2		
81173	Holesaw	25,4		
81188	Holesaw	31,8		
81227	Holesaw	50,8		
81460	Holesaw	68		
81323	Mandrel	-		
81335	Mandrel	-		

Electrician's Holesaw Kit No. 3



Type	Description	Diameter mm	Code No.	Shelf Pack
81445	Electrician's Holesaw Kit No. 3, complete		0026814450	1
includes:				
81450	Holesaw	20		
81173	Holesaw	25,4		
81188	Holesaw	31,8		
81197	Holesaw	34,9		
81227	Holesaw	50,8		
81460	Holesaw	68		
81257	Holesaw	73		
81323	Mandrel	-		
81335	Mandrel	-		

Cushion Grip Hacksaw Frame



- Unique cushioned rubber grip reduces slippage for better control and comfort
- Rugged, sturdy frame built for professional tool users
- High tension technology for tightening the blade to 30.000 PSI
- Blade can be positioned for 45° or 90° cutting
- Patented quick change blade design

Professional and Industrial



Code No.	Type	Blade		Weight per Shelf Pack g	Shelf Pack
		Inch	mm		
80965	Cushion Grip High Tension	12	300	903	1

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		1

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



Standard Packs

- 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

Solid Flexible Carbon Steel



- Solid high carbon 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
- Virtually unbreakable
- 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	
MH1812	Wavy	0023151812	12	304	18	1/2	12,70	0,025	0,65	2,050
MH2412	Wavy	0023152412	12	304	24	1/2	12,70	0,025	0,65	2,050
MH3212	Wavy	0023153212	12	304	32	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.

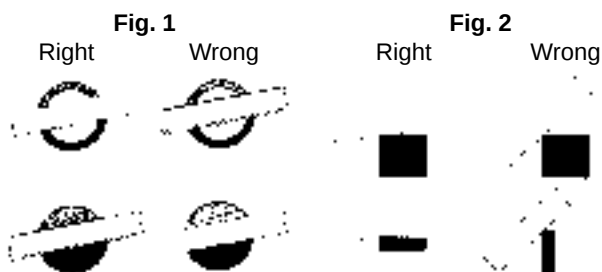
At least three teeth should be in contact with the work at all times.

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).



Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А