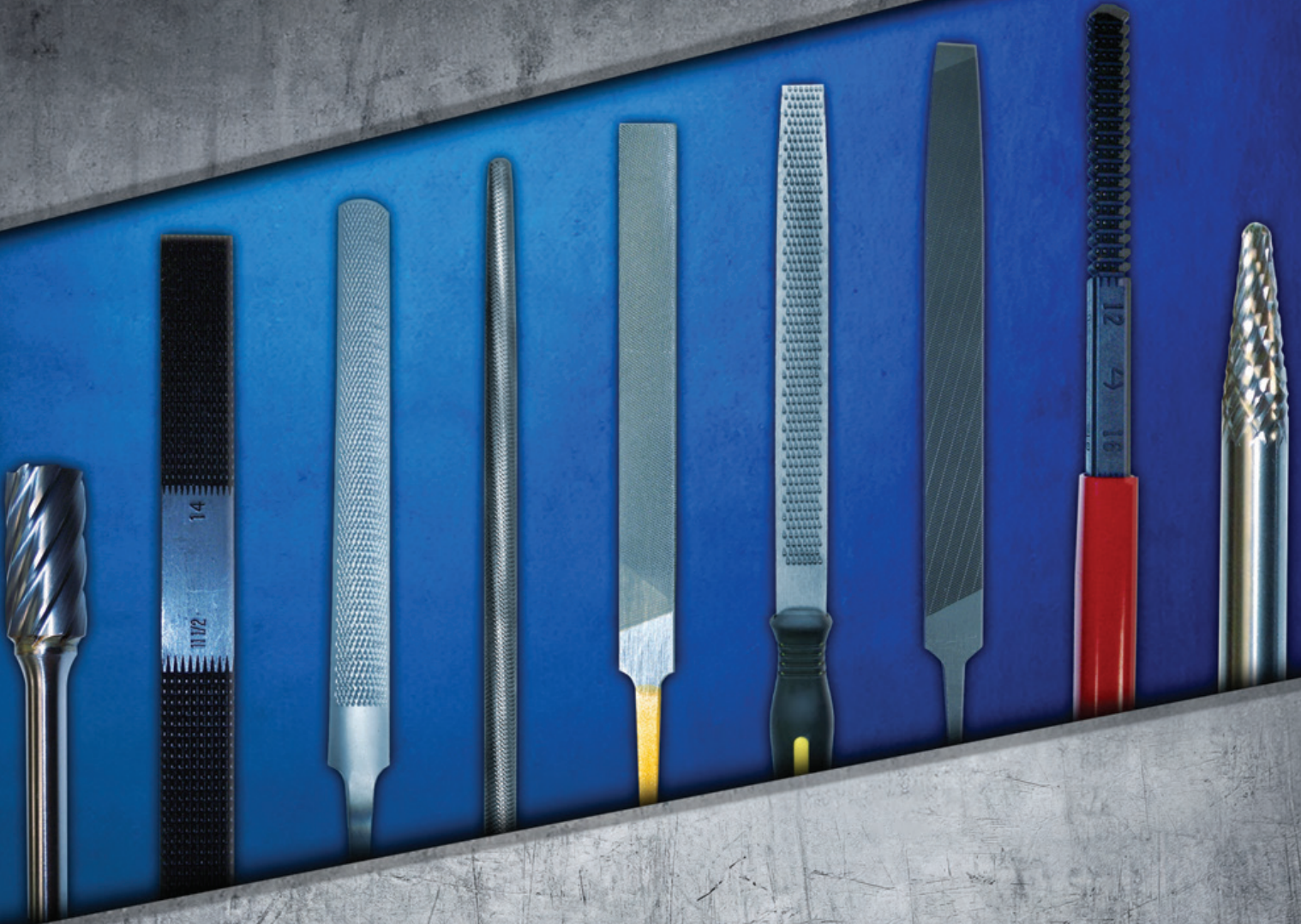


# *Filing Tools*

REVISED JAN 2026



# ICS USA

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# ICS Technical Information

# Files

## Cuts (Coarseness)

**Bastard Cut** is a coarse cut for filing steels and castings.

**Second Cut** is a medium cut for filing hard metals.

**Smooth Cut** is a fine cut for filing hard metals and for finishing.

**Cabinet Rasp Second Cut** is a finer rasp cut for filing wood.

**Wood Rasp Second Cut** is a very coarse rasp cut for filing wood.

## Styles

**Mill or Saw Files** are used for sharpening and dressing edge tools.

**Machinists Files** are used where metal must be removed rapidly.

**Curved Tooth Files** are used for auto body repair and sheet metal work.

**Swiss Pattern Files** are used for fine finish work.

**Rasps** are used for filing soft metals, wood, and plastics.

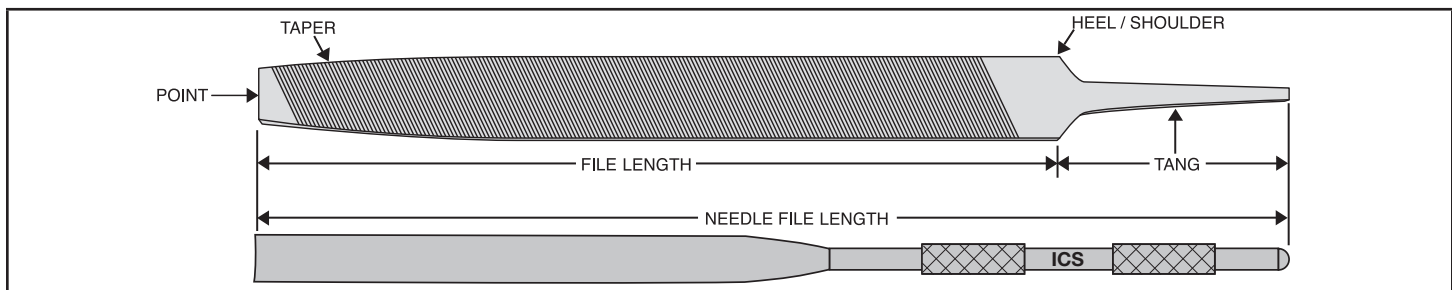
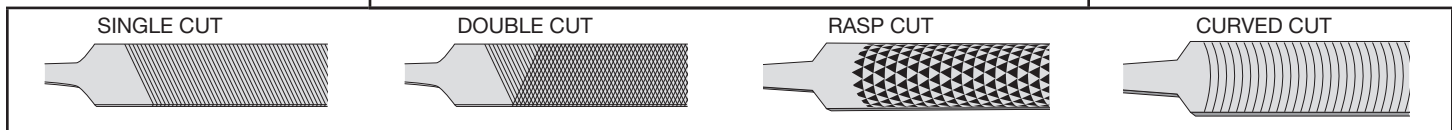
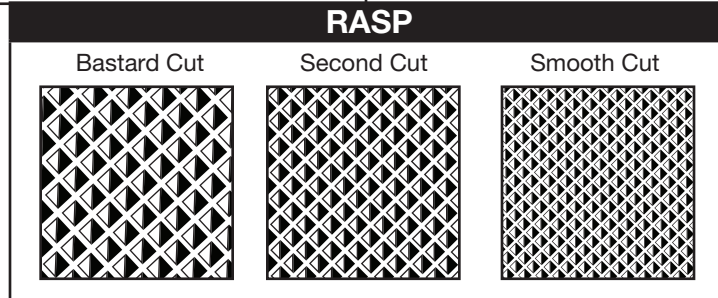
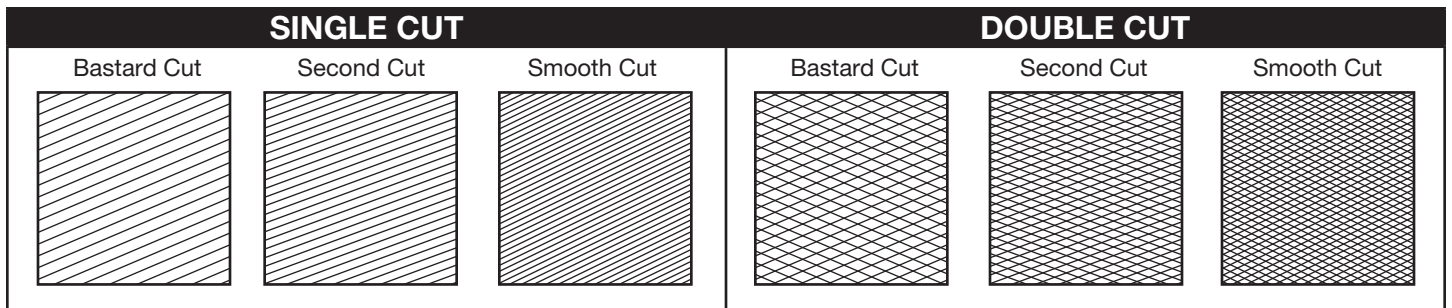
## Cuts (Teeth)

**Single Cut** is a file tooth arrangement where a series of parallel teeth run diagonally across the width of the file. It is used for sharpening saws and for finishing work.

**Double Cut** is a file tooth arrangement formed by two series of parallel teeth running diagonally across the width of the file with one series crossing over the other. It is used for fast stock removal.

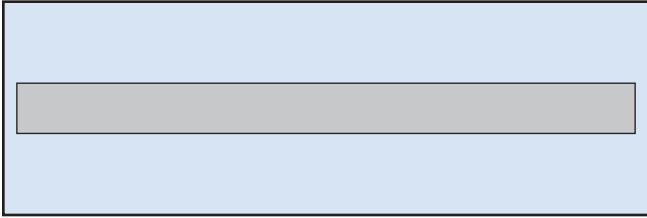
**Rasp Cut** is a file tooth arrangement where a series of individual raised round teeth are formed by a single pointed punch tool. It is used for fast and rough cutting of wood, leather, hooves, and soft metals.

**Curved Cut** is a file tooth arrangement where a series of teeth are mill cut in curved contours across the width of the file. It is used for filing soft metals, plastics and where chip removal is required.

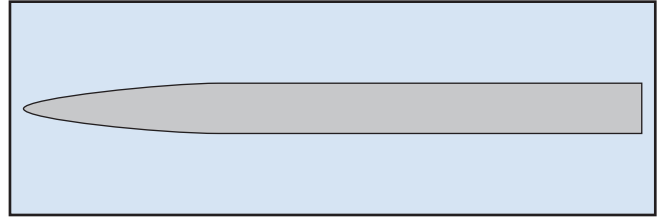


As illustrated above, file lengths do not include the tang. Needle file lengths do represent the overall length.

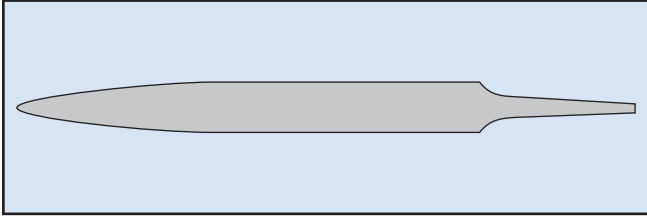
# THE FILE MANUFACTURING PROCESS



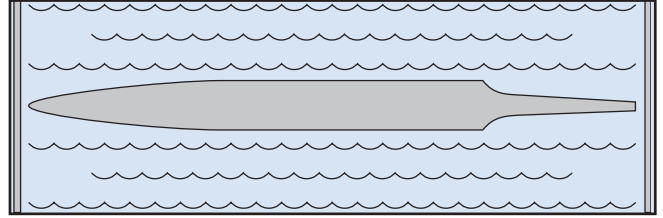
1) Steel cut to size.



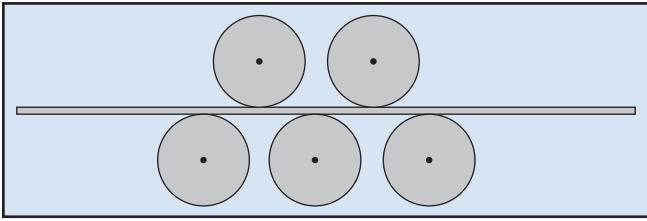
2) Steel is heated to forge point.



3) Steel heated to forge tang.



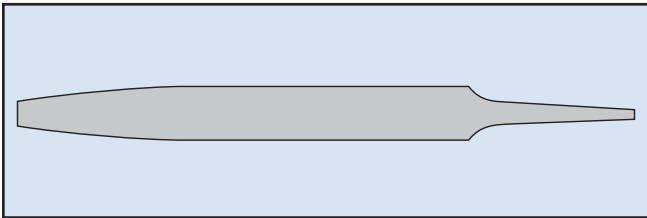
4) Formed file blank annealed in furnace.



5) File blank is now straightened.



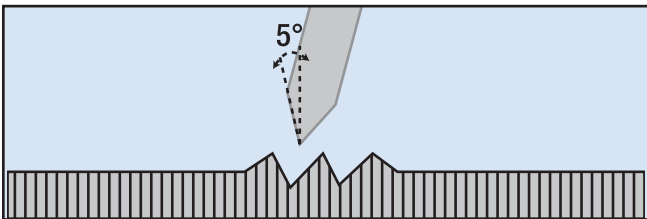
6) Edges and sides are ground.



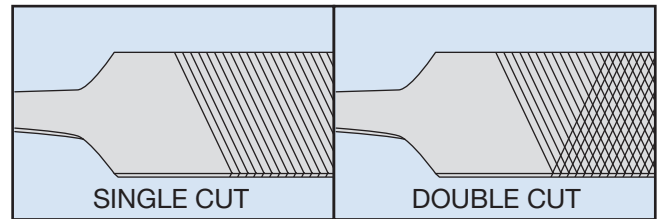
7) Point edge cut.



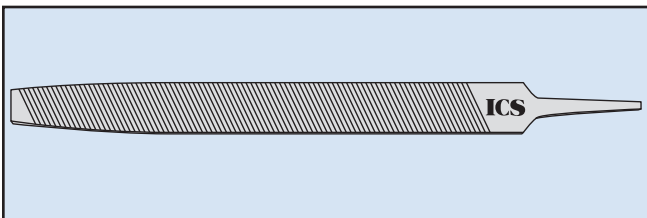
8) Edges cut and burrs on sides are "stripped".



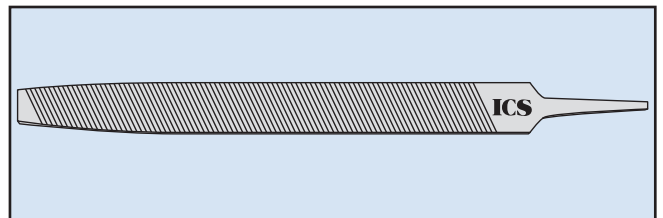
9) Teeth are formed by striking with chisel.



10) Teeth are either single cut or double cut.



11) Files are straightened, cut to size and marked.



12) Files are hardened and finished.

# MACHINISTS' (AMERICAN PATTERN) FILES

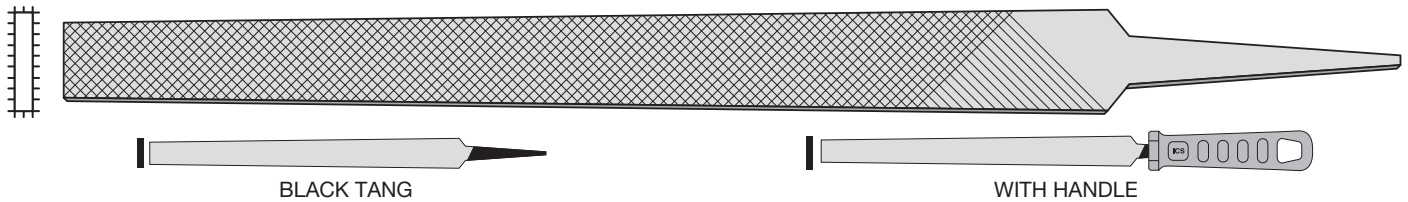
ICS

WIS

SPECIAL PURPOSE

CHISEL CUT

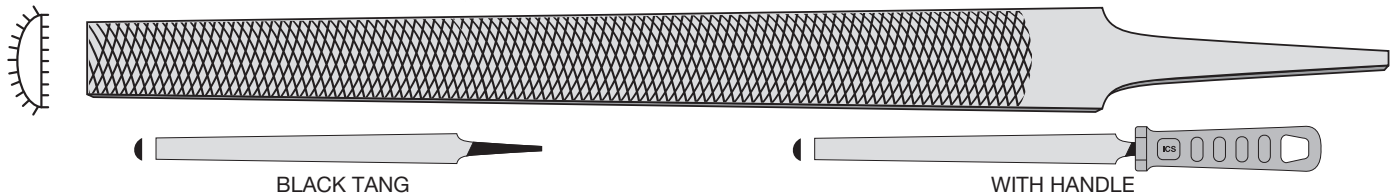
## ALUMINUM (FLAT) FILES



Aluminum Flat Files are designed with a special tooth construction for filing aluminum and other soft metals with a minimum of clogging. They are double cut and tapered in width and thickness.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		PRICE EACH	ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK TANG	PRICE EACH		FILE WITH HANDLE	PRICE EACH		
8 x 25/32 x 7/32	Special	F-AF-08	10.00	FH-AF-08	11.42	12	3.7	
10 x 31/32 x 1/4	Double	F-AF-10	13.32	FH-AF-10	14.74	12	7.2	
12 x 1-5/32 x 9/32	Cut	F-AF-12	17.00	FH-AF-12	18.52	12	11.2	

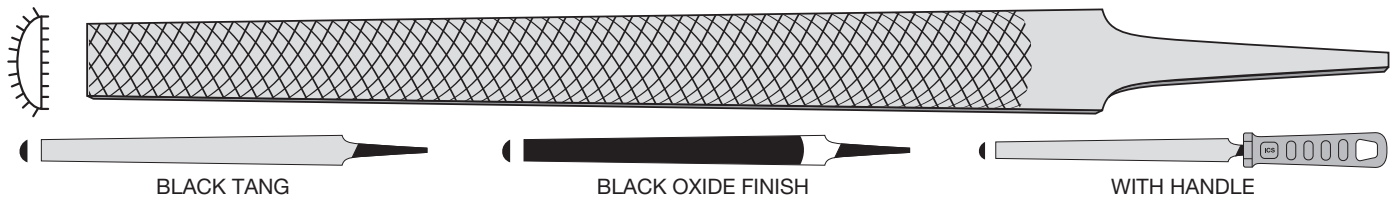
## ALUMINUM (HALF ROUND) FILES



Aluminum Half Round Files are designed with a special tooth construction for filing both flat and curved surfaces in aluminum and other soft metals. They are double cut and tapered in width and thickness.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		PRICE EACH	ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		GOLD TANG	PRICE EACH		FILE WITH ERGONOMIC HANDLE	PRICE EACH		
8 x 3/4 x 7/32	Special Double Cut	F-AHR-08	14.26	FH-AHR-08	15.68	12	3.3	
10 x 15/16 x 9/32		F-AHR-10	17.84	FH-AHR-10	19.26	12	6.0	
12 x 1-1/8 x 11/32		F-AHR-12	26.00	FH-AHR-12	27.54	12	10.5	
14 x 1-9/32 x 13/32		F-AHR-14	32.48	FH-AHR-14	34.00	6	16.2	

## ALUMINUM (HALF ROUND) PIPE LINE FILES



Half Round Aluminum Pipe Line Files are designed for filing weld beads and scale off pipe line. The narrow, half round design gives more contact on the edge for cleaning welds. They are double cut and tapered in width and thickness.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		PRICE EACH	ITEM NO.		PRICE EACH	STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK TANG	PRICE EACH		BLACK OXIDE	PRICE EACH			
14 x 1-1/8 x 11/32	Bastard	F-HRP-14B	12.64	FO-HRP-14B	13.00	FH-HRP-14B	14.06	12	19.1

# MACHINISTS' (AMERICAN PATTERN) FILES

FT-4

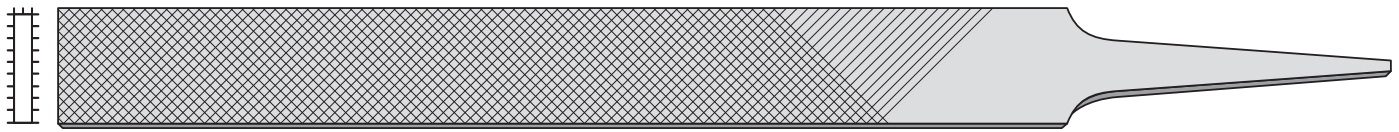
ICS

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SPECIAL PURPOSE

CHISEL CUT

## FLAT HAND FILES



BLACK TANG



BLACK OXIDE FINISH

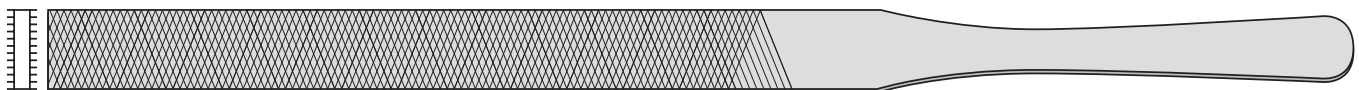


WITH HANDLE

Flat Hand Files are designed for safe filing of internal corners and where metal must be removed rapidly. One edge is uncut or "safe" for filing one surface without damaging an adjoining one. They are double cut on both sides and one edge, and parallel in width. Similar to Flat Taper Files but taper in thickness and have one safe edge.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		ITEM NO.		WEIGHT	
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH	STD. PKG.	PER DOZ. (lbs.)
4 x 15/32 x 3/32	Bastard Cut	F-H-04B	3.62	FO-H-04B	3.72	FH-H-04B	4.80	12	0.9
6 x 39/64 x 5/32		F-H-06B	3.70	FO-H-06B	3.82	FH-H-06B	4.88	12	1.6
8 x 25/32 x 13/64		F-H-08B	5.18	FO-H-08B	5.40	FH-H-08B	6.70	12	4.3
10 x 31/32 x 1/4		F-H-10B	6.52	FO-H-10B	6.74	FH-H-10B	8.02	12	7.1
12 x 1-5/32 x 9/32		F-H-12B	10.32	FO-H-12B	10.68	FH-H-12B	11.84	12	11.9
14 x 1-11/32 x 5/16		F-H-14B	13.64	FO-H-14B	14.00	FH-H-14B	15.16	6	17.8
4 x 15/32 x 3/32	Second Cut	F-H-04SC	3.70	FO-H-04SC	3.82	FH-H-04SC	4.88	12	0.9
6 x 39/64 x 5/32		F-H-06SC	4.30	FO-H-06SC	4.52	FH-H-06SC	5.82	12	1.6
8 x 25/32 x 13/64		F-H-08SC	5.86	FO-H-08SC	6.08	FH-H-08SC	7.40	12	4.3
10 x 31/32 x 1/4		F-H-10SC	7.12	FO-H-10SC	7.36	FH-H-10SC	8.66	12	7.1
12 x 1-5/32 x 9/32		F-H-12SC	11.06	FO-H-12SC	11.40	FH-H-12SC	12.58	12	11.9
14 x 1-11/32 x 5/16		F-H-14SC	14.62	FO-H-14SC	14.98	FH-H-14SC	16.16	6	17.8
4 x 15/32 x 3/32	Smooth Cut	F-H-04SM	4.44	FO-H-04SM	4.56	FH-H-04SM	5.62	12	0.9
6 x 39/64 x 5/32		F-H-06SM	4.66	FO-H-06SM	4.80	FH-H-06SM	5.84	12	1.6
8 x 25/32 x 13/64		F-H-08SM	6.04	FO-H-08SM	6.26	FH-H-08SM	7.56	12	4.3
10 x 31/32 x 1/4		F-H-10SM	8.06	FO-H-10SM	8.30	FH-H-10SM	9.58	12	7.1
12 x 1-5/32 x 9/32		F-H-12SM	11.90	FO-H-12SM	12.24	FH-H-12SM	12.24	12	11.9
14 x 1-11/32 x 5/16		F-H-14SM	15.44	FO-H-14SM	15.80	FH-H-14SM	16.98	6	17.8

## IGNITION POINT FILES



Ignition Point Files are designed for dressing tungsten connector points, spark plugs, electrical switches and relays. They are double cut on both sides with two uncut "safe" edges to protect adjacent surfaces.

LENGTH x THICKNESS	CUT	ITEM NO.	STD. PKG.	WEIGHT PER DOZ.
5-1/4 x .044	Smooth	GRAY FINISH F-IP-05	EACH 6.20	10 .030

# MACHINISTS' (AMERICAN PATTERN) FILES

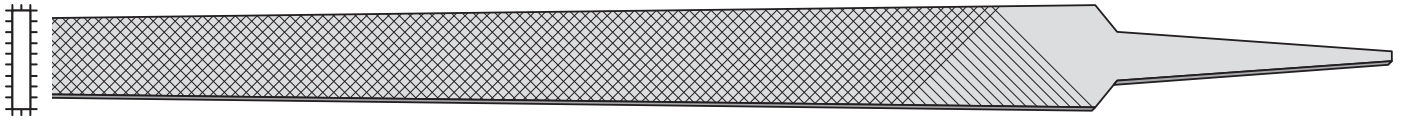
ICS

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GENERAL PURPOSE

CHISEL CUT

## FLAT TAPER FILES



Flat Taper Files are designed for use where metal must be removed rapidly and a smooth finish is not required. They are double cut on the sides with single cut edges and tapered in width and thickness. Similar to Mill Files but thicker in cross section and double cut.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		ITEM NO.		WEIGHT	
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH	STD. PKG.	PER DOZ. (lbs.)
4 x 15/32 x 3/32	Bastard Cut	F-FT-04B	3.62	FO-FT-04B	3.72	FH-FT-04B	4.80	12	0.8
6 x 39/64 x 5/32		F-FT-06B	3.70	FO-FT-06B	3.82	FH-FT-06B	4.88	12	1.7
8 x 25/32 x 13/64		F-FT-08B	5.18	FO-FT-08B	5.40	FH-FT-08B	6.70	12	3.9
10 x 31/32 x 1/4		F-FT-10B	6.52	FO-FT-10B	6.74	FH-FT-10B	8.02	12	7.0
12 x 1-5/32 x 9/32		F-FT-12B	10.32	FO-FT-12B	10.68	FH-FT-12B	11.84	12	11.9
14 x 1-11/32 x 5/16		F-FT-14B	13.64	FO-FT-14B	14.00	FH-FT-14B	15.16	6	17.8
16 x 1-17/32 x 11/32	F-FT-16B	34.00	FO-FT-16B	35.00	FH-FT-16B	37.50	6	24.1	
4 x 15/32 x 3/32	Second Cut	F-FT-04SC	3.70	FO-FT-04SC	3.82	FH-FT-04SC	4.88	12	0.8
6 x 39/64 x 5/32		F-FT-06SC	4.08	FO-FT-06SC	4.20	FH-FT-06SC	5.26	12	1.7
8 x 25/32 x 13/64		F-FT-08SC	5.56	FO-FT-08SC	5.80	FH-FT-08SC	7.10	12	3.9
10 x 31/32 x 1/4		F-FT-10SC	7.12	FO-FT-10SC	7.36	FH-FT-10SC	8.66	12	7.0
12 x 1-5/32 x 9/32		F-FT-12SC	11.28	FO-FT-12SC	11.40	FH-FT-12SC	12.58	12	11.9
14 x 1-11/32 x 5/16		F-FT-14SC	14.62	FO-FT-14SC	14.98	FH-FT-14SC	16.16	6	17.8
4 x 15/32 x 3/32	Smooth Cut	F-FT-04SM	4.44	FO-FT-04SM	4.56	FH-FT-04SM	5.62	12	0.8
6 x 39/64 x 5/32		F-FT-06SM	4.66	FO-FT-06SM	4.80	FH-FT-06SM	5.84	12	1.7
8 x 25/32 x 13/64		F-FT-08SM	6.04	FO-FT-08SM	6.26	FH-FT-08SM	7.56	12	3.9
10 x 31/32 x 1/4		F-FT-10SM	8.06	FO-FT-10SM	8.30	FH-FT-10SM	9.58	12	7.0
12 x 1-5/32 x 9/32		F-FT-12SM	11.90	FO-FT-12SM	12.24	FH-FT-12SM	12.24	12	11.9
14 x 1-11/32 x 5/16		F-FT-14SM	15.44	FO-FT-14SM	15.80	FH-FT-14SM	16.98	6	17.8

# MACHINISTS' (AMERICAN PATTERN) FILES

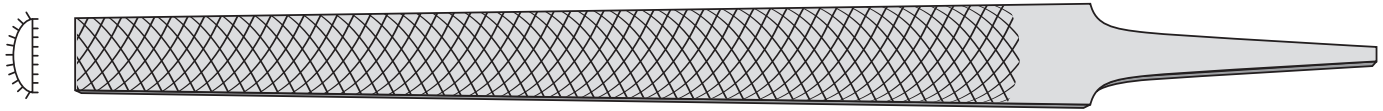
ICS

WIS

GENERAL PURPOSE

CHISEL CUT

## HALF ROUND FILES



BLACK TANG



BLACK OXIDE FINISH



WITH HANDLE

Half Round Files are designed for filing both flat and curved surfaces. They are double cut and tapered in width and thickness.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		PRICE EACH	ITEM NO.		PRICE EACH	ITEM NO.		PRICE EACH	STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK TANG	BLACK OXIDE		FILE WITH HANDLE							
4 x 23/64 x 9/64	Bastard Cut	F-HR-04B	FO-HR-04B	4.68	4.82	FH-HR-04B	5.86	12	0.6			
6 x 19/32 x 11/64		F-HR-06B	FO-HR-06B	5.34	5.44	FH-HR-06B	6.52	12	1.5			
8 x 3/4 x 7/32		F-HR-08B	FO-HR-08B	8.22	8.46	FH-HR-08B	9.74	12	3.3			
10 x 7/8 x 9/32		F-HR-10B	FO-HR-10B	10.06	10.30	FH-HR-10B	11.60	12	6.0			
12 x 1-1/8 x 11/32		F-HR-12B	FO-HR-12B	12.58	12.82	FH-HR-12B	14.10	12	10.5			
14 x 1-9/32 x 13/32		F-HR-14B	FO-HR-14B	18.54	18.78	FH-HR-14B	20.08	6	16.2			
4 x 23/64 x 9/64	Second Cut	F-HR-04SC	FO-HR-04SC	5.28	5.40	FH-HR-04SC	6.46	12	0.6			
6 x 19/32 x 11/64		F-HR-06SC	FO-HR-06SC	5.86	5.98	FH-HR-06SC	7.04	12	1.5			
8 x 3/4 x 7/32		F-HR-08SC	FO-HR-08SC	8.98	9.20	FH-HR-08SC	10.50	12	3.3			
10 x 7/8 x 9/32		F-HR-10SC	FO-HR-10SC	11.08	11.30	FH-HR-10SC	12.60	12	6.0			
12 x 1-1/8 x 11/32		F-HR-12SC	FO-HR-12SC	13.62	13.84	FH-HR-12SC	15.14	12	10.5			
14 x 1-9/32 x 13/32		F-HR-14SC	FO-HR-14SC	20.58	20.84	FH-HR-14SC	22.12	6	16.2			
4 x 23/64 x 9/64	Smooth Cut	F-HR-04SM	FO-HR-04SM	5.76	5.86	FH-HR-04SM	6.94	12	0.6			
6 x 19/32 x 11/64		F-HR-06SM	FO-HR-06SM	6.54	6.64	FH-HR-06SM	7.72	12	1.5			
8 x 3/4 x 7/32		F-HR-08SM	FO-HR-08SM	9.80	10.04	FH-HR-08SM	11.32	12	3.3			
10 x 7/8 x 9/32		F-HR-10SM	FO-HR-10SM	12.14	12.40	FH-HR-10SM	13.68	12	6.0			
12 x 1-1/8 x 11/32		F-HR-12SM	FO-HR-12SM	14.58	14.80	FH-HR-12SM	16.12	12	10.5			
14 x 1-9/32 x 13/32		F-HR-14SM	FO-HR-14SM	22.08	22.30	FH-HR-14SM	23.60	6	16.2			

# MACHINISTS' (AMERICAN PATTERN) FILES

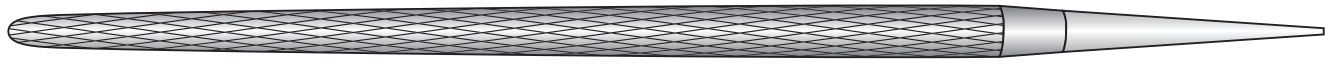
ICS

WIS

GENERAL PURPOSE

CHISEL CUT

## ROUND FILES



BLACK TANG



BLACK OXIDE FINISH



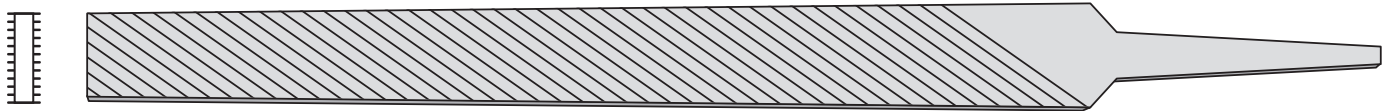
WITH HANDLE

Round Files are designed for enlarging holes and shaping curved surfaces. They taper slightly to a point and teeth are either 'Single' cut or 'Double' cut depending on the size.

LENGTH x SIZE	TEETH*	CUT*	ITEM NO.		ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
			BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH		
4 x 5/32	Single	Bastard Cut	F-R-04B	3.50	FO-R-04B	3.62	FH-R-04B	4.66	12	0.2
6 x 1/4	Double		F-R-06B	3.72	FO-R-06B	3.84	FH-R-06B	4.90	12	0.9
8 x 19/64			F-R-08B	4.44	FO-R-08B	4.66	FH-R-08B	5.96	12	1.4
10 x 3/8			F-R-10B	6.08	FO-R-10B	6.32	FH-R-10B	7.60	12	3.2
12 x 1/2			F-R-12B	9.08	FO-R-12B	9.30	FH-R-12B	10.58	12	6.8
14 x 5/8			F-R-14B	12.54	FO-R-14B	12.80	FH-R-14B	14.08	6	11.9
4 x 5/32	Single	Second Cut	F-R-04SC	3.72	FO-R-04SC	3.84	FH-R-04SC	4.90	12	0.2
6 x 1/4			F-R-06SC	4.12	FO-R-06SC	4.90	FH-R-06SC	5.30	12	0.9
8 x 19/64			F-R-08SC	4.66	FO-R-08SC	4.90	FH-R-08SC	6.20	12	1.4
10 x 3/8			F-R-10SC	6.52	FO-R-10SC	6.74	FH-R-10SC	8.02	12	3.2
12 x 1/2			F-R-12SC	9.66	FO-R-12SC	9.90	FH-R-12SC	11.18	12	6.8
14 x 5/8	F-R-14SC		13.44	FO-R-14SC	13.68	FH-R-14SC	14.98	6	11.9	
4 x 5/32	Single	Smooth Cut	F-R-04SM	4.26	FO-R-04SM	4.40	FH-R-04SM	5.44	12	0.2
6 x 1/4			F-R-06SM	4.48	FO-R-06SM	4.60	FH-R-06SM	5.66	12	0.9
8 x 19/64			F-R-08SM	5.54	FO-R-08SM	5.78	FH-R-08SM	7.06	12	1.4
10 x 3/8			F-R-10SM	6.66	FO-R-10SM	6.92	FH-R-10SM	8.20	12	3.2
12 x 1/2			F-R-12SM	10.38	FO-R-12SM	10.64	FH-R-12SM	11.92	12	6.8
14 x 5/8			F-R-14SM	14.10	FO-R-14SM	14.34	FH-R-14SM	15.62	6	11.9

\* NOTE: Single or Double Cut 'TEETH' refers to whether the teeth are cut in one or two directions, whereas Bastard, Second or Smooth 'CUT' refers to how coarse or fine the teeth are. The finer the 'CUT' the smaller and more numerous the teeth will be. Refer to page 346 for more information.

## LONG ANGLE LATHE FILES



BLACK TANG



BLACK OXIDE FINISH



WITH HANDLE

Long Angle Lathe Files are designed for filing work that is rotating in a lathe and for bench filing of aluminum and copper alloys. The long bastard cut tooth angle is self clearing when used at right angles to work. It cuts clean and does not drag or tear. Both edges are safe (uncut) to protect shoulders of work which are not to be filed. This file tapers slightly in width toward the point.

NOTE: Safety File Handle (page 358A) should be attached to any file when working with a lathe.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH		
8 x 25/32 x 13/64	Special Cut	F-LAL-08	9.58	FO-LAL-08	9.84	FH-LAL-08	11.00	12	4.0
10 x 31/32 x 1/4		F-LAL-10	13.30	FO-LAL-10	13.52	FH-LAL-10	14.70	12	7.2
12 x 1-5/32 x 9/32		F-LAL-12	18.72	FO-LAL-12	19.08	FH-LAL-12	20.12	12	11.2
14 x 1-11/32 x 5/16		F-LAL-14	24.82	FO-LAL-14	25.18	FH-LAL-14	26.24	6	16.6

# MACHINISTS' (AMERICAN PATTERN) FILES

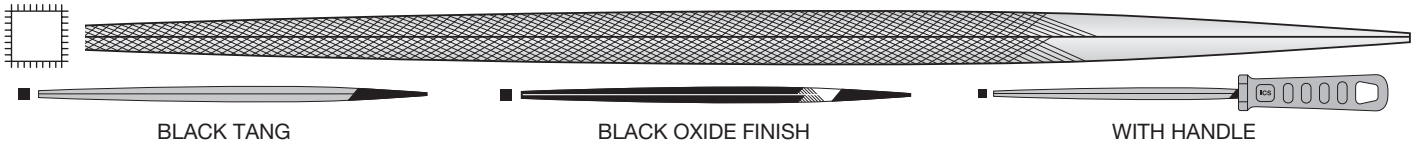
FT-8

ICS WIS

GENERAL PURPOSE

CHISEL CUT

## SQUARE FILES



BLACK TANG

BLACK OXIDE FINISH

WITH HANDLE

Square Files are designed for filing slots, keyways, grooves, square holes and edges, and for filing flat surfaces where a heavier section is preferred. They are double cut on all four sides and taper slightly to a point.

LENGTH x SIZE	CUT	ITEM NO.		ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH		
4 x 5/32	Bastard Cut	F-SQ-04B	3.50	FO-SQ-04B	3.62	FH-SQ-04B	4.66	12	0.2
6 x 1/4		F-SQ-06B	3.92	FO-SQ-06B	4.04	FH-SQ-06B	5.08	12	1.0
8 x 5/16		F-SQ-08B	5.92	FO-SQ-08B	6.16	FH-SQ-08B	7.44	12	1.9
10 x 3/8		F-SQ-10B	7.64	FO-SQ-10B	7.90	FH-SQ-10B	9.18	12	3.9
12 x 1/2		F-SQ-12B	10.42	FO-SQ-12B	10.66	FH-SQ-12B	11.94	12	8.4
14 x 5/8		F-SQ-14B	13.72	FO-SQ-14B	13.96	FH-SQ-14B	15.26	6	14.7
4 x 5/32	Second Cut	F-SQ-04SC	3.84	FO-SQ-04SC	3.98	FH-SQ-04SC	5.02	12	0.2
6 x 1/4		F-SQ-06SC	4.30	FO-SQ-06SC	4.44	FH-SQ-06SC	5.48	12	1.0
8 x 5/16		F-SQ-08SC	5.94	FO-SQ-08SC	6.18	FH-SQ-08SC	7.48	12	1.9
10 x 3/8		F-SQ-10SC	8.24	FO-SQ-10SC	8.48	FH-SQ-10SC	9.78	12	3.9
12 x 1/2		F-SQ-12SC	11.16	FO-SQ-12SC	11.40	FH-SQ-12SC	12.68	12	8.4
14 x 5/8		F-SQ-14SC	14.74	FO-SQ-14SC	14.98	FH-SQ-14SC	16.26	6	14.7
4 x 5/32	Smooth Cut	F-SQ-04SM	4.22	FO-SQ-04SM	4.36	FH-SQ-04SM	5.40	12	0.2
6 x 1/4		F-SQ-06SM	4.64	FO-SQ-06SM	4.78	FH-SQ-06SM	6.06	12	1.0
8 x 5/16		F-SQ-08SM	7.40	FO-SQ-08SM	7.62	FH-SQ-08SM	8.92	12	1.9
10 x 3/8		F-SQ-10SM	8.86	FO-SQ-10SM	9.10	FH-SQ-10SM	10.38	12	3.9
12 x 1/2		F-SQ-12SM	11.28	FO-SQ-12SM	11.52	FH-SQ-12SM	12.82	12	8.4
14 x 5/8		F-SQ-14SM	15.48	FO-SQ-14SM	15.74	FH-SQ-14SM	17.02	6	14.7

## THREE SQUARE (TRIANGULAR) FILES



BLACK TANG

BLACK OXIDE FINISH

WITH HANDLE

Three Square Files are designed for filing internal angles above 60°, corners, grooves, notches, and for filing HSS taps and cutters after machining. They are double cut on all three sides and taper slightly to point. Note: This file has sharp corners and is not recommended for filing saws.

LENGTH x SIZE	CUT	ITEM NO.		ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH		
4 x 11/64	Bastard Cut	F-TSQ-04B	4.26	FO-TSQ-04B	4.40	FH-TSQ-04B	5.44	12	1.0
6 x 15/32		F-TSQ-06B	5.04	FO-TSQ-06B	4.86	FH-TSQ-06B	5.92	12	1.9
8 x 5/8		F-TSQ-08B	6.14	FO-TSQ-08B	6.36	FH-TSQ-08B	7.64	12	4.2
10 x 3/4		F-TSQ-10B	8.60	FO-TSQ-10B	8.82	FH-TSQ-10B	10.12	12	7.5
12 x 7/8		F-TSQ-12B	13.10	FO-TSQ-12B	13.46	FH-TSQ-12B	14.64	12	10.0
4 x 11/64	Second Cut	F-TSQ-04SC	4.76	FO-TSQ-04SC	4.86	FH-TSQ-04SC	5.92	12	1.0
6 x 15/32		F-TSQ-06SC	5.04	FO-TSQ-06SC	5.18	FH-TSQ-06SC	6.22	12	1.9
8 x 5/8		F-TSQ-08SC	6.80	FO-TSQ-08SC	7.04	FH-TSQ-08SC	8.34	12	4.2
10 x 3/4		F-TSQ-10SC	9.02	FO-TSQ-10SC	9.26	FH-TSQ-10SC	10.54	12	7.5
12 x 7/8		F-TSQ-12SC	13.72	FO-TSQ-12SC	14.08	FH-TSQ-12SC	15.26	12	10.0
4 x 11/64	Smooth Cut	F-TSQ-04SM	4.96	FO-TSQ-04SM	5.06	FH-TSQ-04SM	6.14	12	1.0
6 x 15/32		F-TSQ-06SM	5.22	FO-TSQ-06SM	5.34	FH-TSQ-06SM	6.38	12	1.9
8 x 5/8		F-TSQ-08SM	7.04	FO-TSQ-08SM	7.30	FH-TSQ-08SM	8.58	12	4.2
10 x 3/4		F-TSQ-10SM	9.84	FO-TSQ-10SM	10.06	FH-TSQ-10SM	11.34	12	7.5
12 x 7/8		F-TSQ-12SM	14.34	FO-TSQ-12SM	14.68	FH-TSQ-12SM	15.86	12	10.0

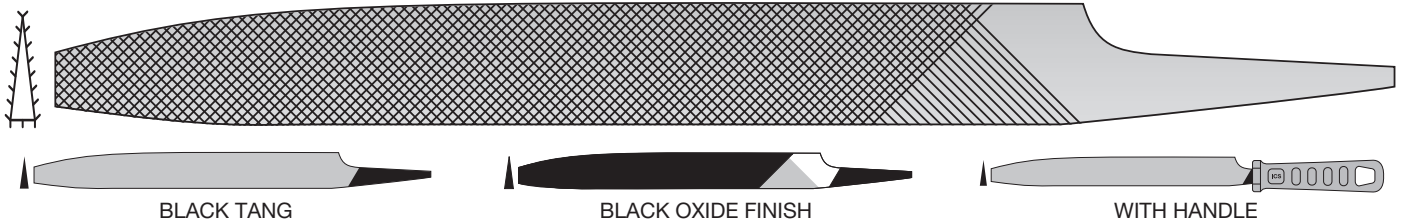
# MACHINISTS' (AMERICAN PATTERN) FILES

ICS WIS

GENERAL PURPOSE

CHISEL CUT

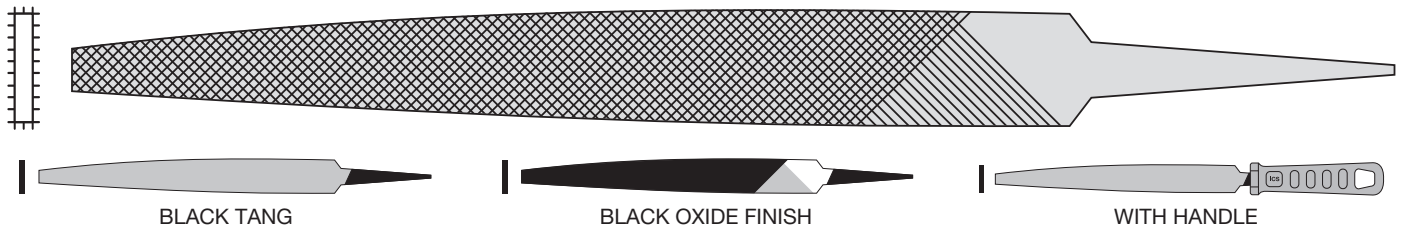
## KNIFE FILES



Knife Files are designed in the shape of a knife for filing slots, keyways, and acute angles. It is used primarily for tool and die work. They are double cut on sides and have a thin single cut edge.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH		
4 x 15/32 x 7/64	Bastard Cut	F-K-04 B	8.78	FO-K-04 B	8.90	FH-K-04 B	9.96	12	0.4
6 x 21/32 x 5/32		F-K-06 B	8.78	FO-K-06 B	8.90	FH-K-06 B	9.96	12	1.2
8 x 27/32 x 3/16		F-K-08 B	11.02	FO-K-08 B	11.26	FH-K-08 B	12.66	12	2.5
10 x 1-1/32 x 1/4		F-K-10 B	14.44	FO-K-10 B	14.66	FH-K-10 B	15.96	12	4.6
4 x 15/32 x 7/64	Second Cut	F-K-04 SC	9.66	FO-K-04 SC	9.78	FH-K-04 SC	10.84	12	0.4
6 x 21/32 x 5/32		F-K-06 SC	9.66	FO-K-06 SC	9.78	FH-K-06 SC	10.84	12	1.2
8 x 27/32 x 3/16		F-K-08 SC	12.14	FO-K-08 SC	12.40	FH-K-08 SC	13.68	12	2.5
10 x 1-1/32 x 1/4		F-K-10 SC	15.86	FO-K-10 SC	16.12	FH-K-10 SC	17.40	12	4.6
4 x 15/32 x 7/64	Smooth Cut	F-K-04 SM	9.86	FO-K-04 SM	9.96	FH-K-04 SM	11.02	12	0.4
6 x 21/32 x 5/32		F-K-06 SM	9.86	FO-K-06 SM	9.96	FH-K-06 SM	11.02	12	1.2
8 x 27/32 x 3/16		F-K-08 SM	12.40	FO-K-08 SM	12.62	FH-K-08 SM	13.90	12	2.5
10 x 1-1/32 x 1/4		F-K-10 SM	16.16	FO-K-10 SM	16.38	FH-K-10 SM	17.68	12	4.6

## WARDING FILES



Warding Files are designed for filing in narrow spaces where other files will not fit. They are used by locksmiths to repair or file ward notches in keys. This file is also useful for sharpening small drills. They are double cut on sides and single cut on edges.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH		
4 x 15/32 x 3/64	Bastard Cut	F-W-04 B	6.62	FO-W-04 B	6.74	FH-W-04 B	7.92	12	0.3
6 x 39/64 x 5/64		F-W-06 B	6.62	FO-W-06 B	6.74	FH-W-06 B	7.92	12	0.8
8 x 25/32 x 3/32		F-W-08 B	8.16	FO-W-08 B	8.38	FH-W-08 B	9.92	12	1.6
4 x 15/32 x 3/64	Second Cut	F-W-04 SC	6.90	FO-W-04 SC	7.00	FH-W-04 SC	8.18	12	0.3
6 x 39/64 x 5/64		F-W-06 SC	6.90	FO-W-06 SC	7.00	FH-W-06 SC	8.18	12	0.8
8 x 25/32 x 3/32		F-W-08 SC	8.46	FO-W-08 SC	8.70	FH-W-08 SC	10.24	12	1.6
4 x 15/32 x 3/64	Smooth Cut	F-W-04 SM	7.18	FO-W-04 SM	7.32	FH-W-04 SM	8.36	12	0.3
6 x 39/64 x 5/64		F-W-06 SM	7.18	FO-W-06 SM	7.32	FH-W-06 SM	8.36	12	0.8
8 x 25/32 x 3/32		F-W-08 SM	9.64	FO-W-08 SM	9.88	FH-W-08 SM	11.16	12	1.6

# MACHINISTS' (AMERICAN PATTERN) FILES

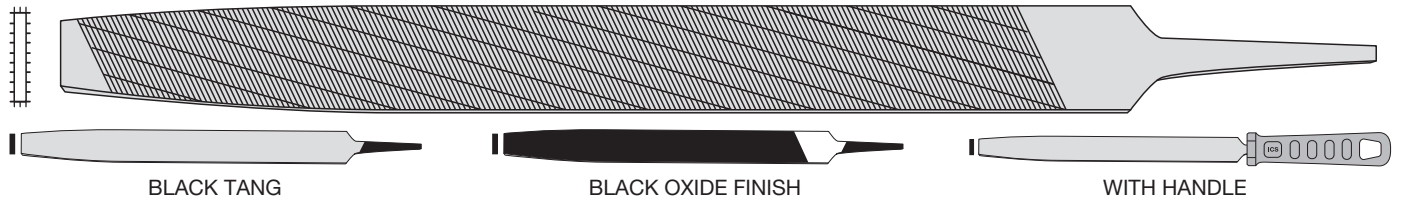
FT-10

ICS WIS

SPECIAL PURPOSE

CHISEL CUT

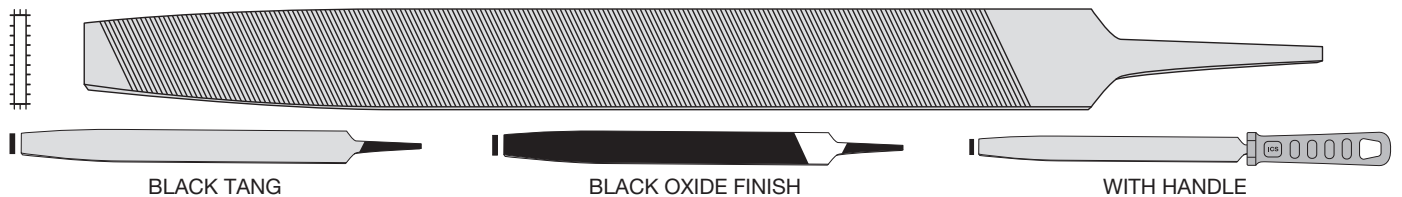
## RAPID CROSS CUT LAMINATE



Rapid Cross Cut Laminate Files are designed for fast stock removal while leaving a smooth finish. They are single cut on the sides and edges. The width is tapered slightly.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		ITEM NO.		WEIGHT	
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH	STD. PKG.	PER DOZ. (lbs.)
8 x 25/32 x 7/32	Special Cut	F-LRC-08	12.84	FO-LRC-08	13.84	FH-LRC-08	14.84	12	3.7
10 x 31/32 x 1/4		F-LRC-10	18.94	FO-LRC-10	19.94	FH-LRC-10	20.94	12	5.4
12 x 1-5/32 x 9/32		F-LRC-12	24.06	FO-LRC-12	25.06	FH-LRC-12	26.06	12	9.0
14 x 1-11/32 x 5/16		F-LRC-14	33.46	FO-LRC-14	34.46	FH-LRC-14	35.46	6	14.0

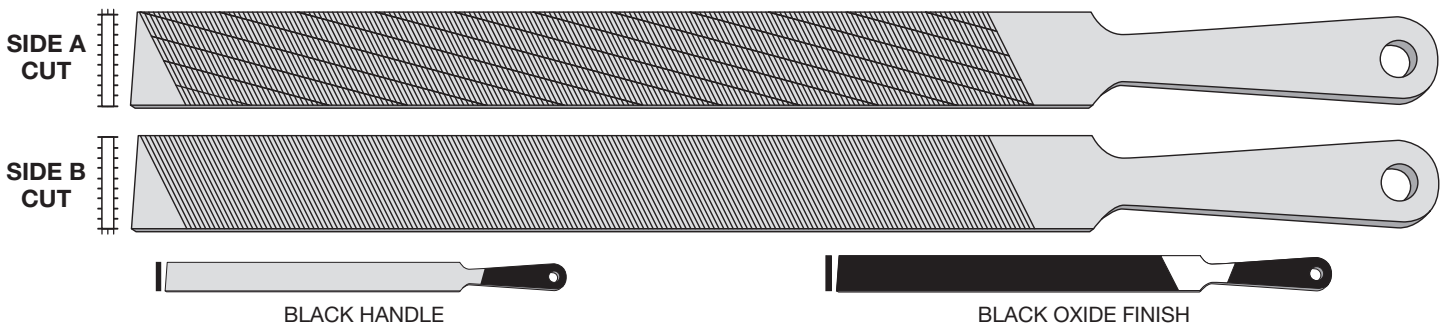
## MILL LAMINATE



Mill Laminate files are designed for the smoothest finish on plastics and laminates. They are single cut on the sides and edges. The width is tapered slightly.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		ITEM NO.		WEIGHT	
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH	STD. PKG.	PER DOZ. (lbs.)
8 x 25/32 x 7/32	Special Cut	F-LM-08	9.58	FO-LM-08	10.58	FH-LM-08	11.58	12	3.7
10 x 31/32 x 1/4		F-LM-10	12.52	FO-LM-10	13.52	FH-LM-10	14.52	12	5.4
12 x 1-5/32 x 9/32		F-LM-12	16.72	FO-LM-12	17.72	FH-LM-12	18.72	12	9.0
14 x 1-11/32 x 5/16		F-LM-14	24.46	FO-LM-14	25.46	FH-LM-14	26.46	6	14.0

## DUAL CUT LAMINATE



Dual Cut Laminate Files combine the best features of all laminate files in one file. They have a rapid cross cut on one side and a mill cut on the other side. They also have a built in handle. One edge has no teeth for safe corner filing.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		WEIGHT	
		BLACK HANDLE	PRICE EACH	BLACK FINISH	PRICE EACH	STD. PKG.	PER DOZ. (lbs.)
8 x 25/32 x 7/32	Special	F-LDC-08	11.00	FO-LDC-08	12.00	3.7	3.7
10 x 31/32 x 1/4	Cut	F-LDC-10	13.80	FO-LDC-10	14.80	5.4	5.4

# MACHINISTS' (AMERICAN PATTERN) FILES

## STAINLESS STEEL FILES

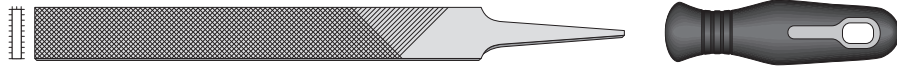
**ICS** **WIS**

**SPECIAL PURPOSE**

**CHISEL CUT**

Designed for use in filing stainless steel and other hard-to-file metals with little to no clogging. Files are chrome plated and therefore corrosion resistant. Surface hardness of 72 RC for excellent wear resistance and long service life.

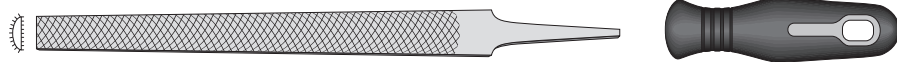
### HAND



Flat Hand Files are designed for safe filing of internal corners and where metal must be removed rapidly. One edge is uncut or "safe" for filing one surface without damaging an adjoining one. They are double cut on both sides and one edge, and parallel in width. Similar to Flat Taper Files but taper in thickness and have one safe edge.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		PRICE EACH	ITEM NO.		PRICE EACH	STD. PKG.	WEIGHT PER DOZ. (lbs.)
		GOLD TANG			FILE WITH ERGONOMIC HANDLE				
6 x 3/4 x 5/32	Bastard Cut	CF-H-06B		8.80	CFHE-H-06B		12.80	12	1.6
6 x 3/4 x 5/32	Second Cut	CF-H-06SC		9.40	CFHE-H-06SC		13.40	12	1.6
8 x 55/64 x 3/16	Bastard Cut	CF-H-08B		12.60	CFHE-H-08B		16.60	12	4.3
8 x 55/64 x 3/16	Second Cut	CF-H-08SC		12.30	CFHE-H-08SC		16.30	12	4.3
8 x 55/64 x 3/16	Smooth Cut	CF-H-08SM		14.30	CFHE-H-08SM		18.30	12	4.3

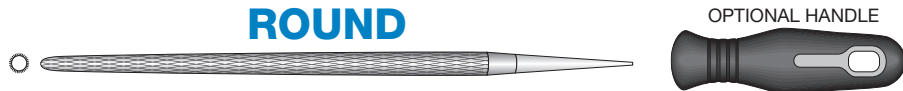
### HALF ROUND



Half Round Files are designed for filing both flat and curved surfaces. They are double cut and tapered in width and thickness.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		PRICE EACH	ITEM NO.		PRICE EACH	STD. PKG.	WEIGHT PER DOZ. (lbs.)
		GOLD TANG			FILE WITH ERGONOMIC HANDLE				
6 x 39/64 x 5/32	Second Cut	CF-HR-06SC		17.00	CFHE-HR-06SC		21.00	12	1.5
8 x 55/64 x 7/32	Smooth Cut	CF-HR-08SM		16.66	CFHE-HR-08SM		20.66	12	3.3

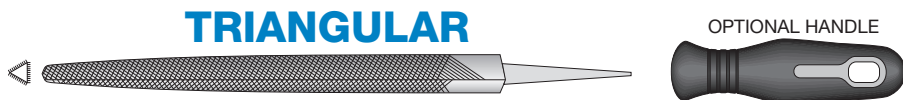
### ROUND



Round Files are designed for enlarging holes and shaping curved surfaces. They taper slightly to a point and teeth are either 'Single' cut or 'Double' cut depending on the size.

LENGTH x SIZE	CUT	ITEM NO.		PRICE EACH	ITEM NO.		PRICE EACH	STD. PKG.	WEIGHT PER DOZ. (lbs.)
		GOLD TANG			FILE WITH ERGONOMIC HANDLE				
8 x 5/16 DIA.	Second Cut	CF-R-08SC		12.20	CFHE-R-08SC		16.20	12	1.4
8 x 5/16 DIA.	Smooth Cut	CF-R-08SM		13.26	CFHE-R-08SM		17.26	12	1.4

### TRIANGULAR



Three Square Files are designed for filing internal angles above 60°, corners, grooves, notches, and for filing HSS taps and cutters after machining. They are double cut on all three sides and taper slightly to point. Note: This file has sharp corners and is not recommended for filing saws.

LENGTH x SIZE	CUT	ITEM NO.		PRICE EACH	ITEM NO.		PRICE EACH	STD. PKG.	WEIGHT PER DOZ. (lbs.)
		GOLD TANG			FILE WITH ERGONOMIC HANDLE				
8 x 9/16	Bastard Cut	CF-TSQ-08B		13.40	CFHE-TSQ-08B		17.40	12	4.2
8 x 9/16	Second Cut	CF-TSQ-08SC		14.66	CFHE-TSQ-08SC		18.66	12	4.2

### SQUARE



Square Files are designed for filing slots, key ways, grooves, square holes and edges, and for filing flat surfaces where a heavier section is preferred. They are double cut on all four sides and taper slightly to a point.

LENGTH x SIZE	CUT	ITEM NO.		PRICE EACH	ITEM NO.		PRICE EACH	STD. PKG.	WEIGHT PER DOZ. (lbs.)
		GOLD TANG			FILE WITH ERGONOMIC HANDLE				
6 x 13/64	Second Cut	CF-SQ-06SC		12.14	CFHE-SQ-06SC		16.14	12	1.0
6 x 13/64	Smooth Cut	CF-SQ-06SM		12.54	CFHE-SQ-06SM		16.54	12	1.0

# CURVED TOOTH FILES

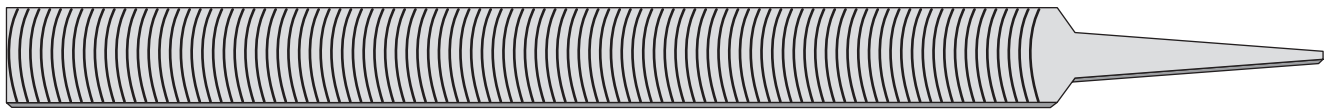
FT-12

ICS WIS

SPECIAL PURPOSE

MILLED CUT

## FLAT (Tanged Type)



BLACK TANG



BLACK OXIDE FINISH

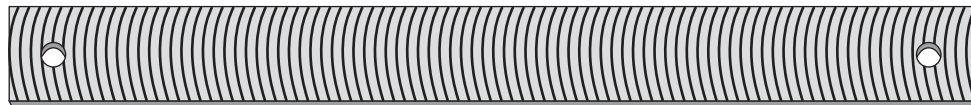


WITH HANDLE

Flat (with Tang) Curved Tooth Files are designed for smooth, rapid work on all materials from the softest aluminum to the hardest (annealed) steel without any clogging of the teeth. The undercut sharp edges enable the file to self clean and to remove material in a spiral form similar to lathe turnings. It is considered to be the most efficient file ever designed for auto body repair and sheet metal work.

LENGTH x WIDTH x THICKNESS	CUT (T.P.I.)	ITEM NO.		ITEM NO.		ITEM NO.		WEIGHT	
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH	STD. PKG.	PER DOZ. (lbs.)
8 x 13/16 x 11/64	15 Tooth	<b>CTF-F-08</b>	28.14	<b>CTFO-F-08</b>	28.38	<b>CTFH-F-08</b>	29.56	10	3.5
10 x 1 x 7/32	12 Tooth	<b>CTF-F-10</b>	30.54	<b>CTFO-F-10</b>	30.76	<b>CTFH-F-10</b>	31.94	10	5.0
12 x 1-9/64 x 17/64	9 Tooth	<b>CTF-F-12</b>	34.58	<b>CTFO-F-12</b>	34.92	<b>CTFH-F-12</b>	35.98	10	8.9
14 x 1-11/32 x 19/64	8 Tooth	<b>CTF-F-14</b>	41.92	<b>CTFO-F-14</b>	41.72	<b>CTFH-F-14</b>	42.78	10	13.7

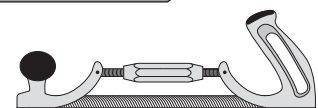
## FLAT FLEXIBLE (Blade Type)



GRAY FINISH



BLACK OXIDE FINISH



WITH HANDLE

Flat Flexible (Blade) Curved Tooth Files are designed for smooth, scratch-free work on all types of auto body and sheet metal work and where filing has to be done in the middle of large surfaces. Flexible blades have teeth on both sides and can be adjusted to file outward (convex) and inward (concave) or flat.

LENGTH x WIDTH x THICKNESS	CUT (T.P.I.)	ITEM NO.		ITEM NO.		ITEM NO.		WEIGHT	
		GRAY FINISH	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH	STD. PKG.	PER DOZ. (lbs.)
14 x 1-11/32 x 3/16	8 Tooth	<b>CTF-FF-14</b>	41.36	<b>CTFO-FF-14</b>	36.22	<b>CTFH-FF-14</b>	85.98	10	6.0

## CURVED TOOTH FILE RECOMMENDATIONS

TEETH PER INCH	MATERIALS
6 to 9	Aluminum, plastics, rubber, wood, lead, white metal, fiber, auto body fillers, etc.
10 to 13	Copper, bronze, brass, slate, marble, etc.
15 to 18	Cast iron, stainless steel, high carbon steel, etc.

# SAW (AMERICAN PATTERN) FILES

ICS WIS

SPECIAL PURPOSE

CHISEL CUT

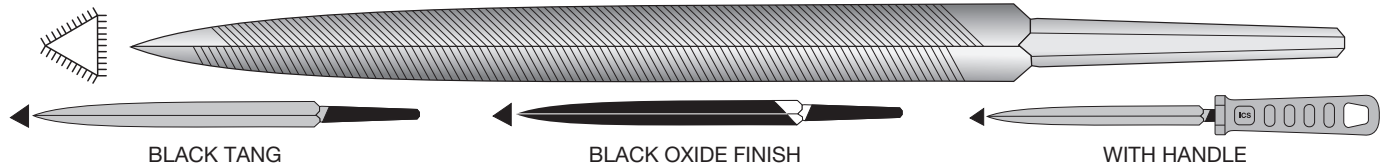
## MILL SAW FILES



Mill Saw Files are designed as multi-purpose files for sharpening saws, various cutting edge tools, draw filing, lathe work, and finishing work on hard materials. They are single cut on the sides and edges, width is tapered slightly.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		ITEM NO.		WEIGHT	
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH	STD. PKG.	PER DOZ. (lbs.)
6 x 19/32 x 7/64	Bastard Cut	F-M-06B	3.44	FO-M-06B	3.58	FH-M-06B	4.62	12	1.2
8 x 25/32 x 9/64		F-M-08B	4.44	FO-M-08B	4.66	FH-M-08B	5.96	12	2.7
10 x 31/32 x 11/64		F-M-10B	5.66	FO-M-10B	5.88	FH-M-10B	7.18	12	5.4
12 x 1-5/32 x 7/32		F-M-12B	8.90	FO-M-12B	9.14	FH-M-12B	10.44	12	9.0
14 x 1-5/16 x 1/4		F-M-14B	20.86	FO-M-14B	21.62	FH-M-14B	23.12	6	17.8
16 x 1-1/2 x 9/32		F-M-16B	32.00	FO-M-16B	33.50	FH-M-16B	35.00	6	23.2
6 x 19/32 x 7/64	Second Cut	F-M-06SC	3.72	FO-M-06SC	3.84	FH-M-06SC	4.90	12	1.2
8 x 25/32 x 9/64		F-M-08SC	4.78	FO-M-08SC	5.00	FH-M-08SC	6.30	12	2.7
10 x 31/32 x 11/64		F-M-10SC	6.26	FO-M-10SC	6.52	FH-M-10SC	7.80	12	5.4
12 x 1-5/32 x 7/32		F-M-12SC	10.00	FO-M-12SC	10.24	FH-M-12SC	11.54	12	9.0
6 x 19/32 x 7/64	Smooth Cut	F-M-06SM	4.28	FO-M-06SM	4.42	FH-M-06SM	5.46	12	1.2
8 x 25/32 x 9/64		F-M-08SM	5.18	FO-M-08SM	5.40	FH-M-08SM	6.70	12	2.7
10 x 31/32 x 11/64		F-M-10SM	7.06	FO-M-10SM	7.32	FH-M-10SM	8.60	12	5.4
12 x 1-5/32 x 7/32		F-M-12SM	11.54	FO-M-12SM	11.68	FH-M-12SM	13.06	12	9.0

## TAPER SAW FILES



Taper Saw Files are designed for sharpening all styles of saws with 60° angle teeth. They are single cut on edges and flat sides. Flat sides are equal and taper towards point. Note: The side (size) of the file used should always be a little more than twice as wide as the side of the saw teeth.

LENGTH x SIZE	CUT	ITEM NO.		ITEM NO.		ITEM NO.		WEIGHT	
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH	STD. PKG.	PER DOZ. (lbs.)
6 x 15/32	Regular	F-TSR-06	3.76	FO-TSR-06	3.86	FH-TSR-06	4.94	12	2.0
7 x 17/32		F-TSR-07	4.40	FO-TSR-07	4.62	FH-TSR-07	5.92	12	2.9
8 x 19/32		F-TSR-08	5.46	FO-TSR-08	5.72	FH-TSR-08	7.00	12	4.3
10 x 47/64		F-TSR-10	5.88	FO-TSR-10	6.24	FH-TSR-10	6.24	12	7.5
4 x 15/64	Slim	F-TSS-04	2.82	FO-TSS-04	2.92	FH-TSS-04	4.00	12	0.4
5 x 17/64		F-TSS-05	3.20	FO-TSS-05	3.30	FH-TSS-05	4.38	12	0.5
6 x 21/64		F-TSS-06	3.76	FO-TSS-06	3.86	FH-TSS-06	4.94	12	1.0
7 x 25/64		F-TSS-07	4.20	FO-TSS-07	4.44	FH-TSS-07	5.74	12	1.7
8 x 15/32		F-TSS-08	5.06	FO-TSS-08	5.30	FH-TSS-08	6.60	12	2.6
10 x 19/32		F-TSS-10	5.66	FO-TSS-10	6.02	FH-TSS-10	7.18	12	5.2
4 x 3/16	Extra Slim	F-TSES-04	2.86	FO-TSES-04	2.98	FH-TSES-04	4.04	12	0.2
5 x 15/64		F-TSES-05	3.54	FO-TSES-05	3.66	FH-TSES-05	4.70	12	0.4
6 x 17/64		F-TSES-06	3.76	FO-TSES-06	3.86	FH-TSES-06	4.94	12	0.7
7 x 21/64		F-TSES-07	4.20	FO-TSES-07	4.44	FH-TSES-07	5.74	12	1.2
8 x 25/64	F-TSES-08	5.66	FO-TSES-08	5.88	FH-TSES-08	7.18	12	1.9	
4 x 11/64	Double Extra Slim	F-TSDES-04	3.84	FO-TSDES-04	3.98	FH-TSDES-04	-	12	0.2
5 x 3/16		F-TSDES-05	3.92	FO-TSDES-05	3.92	FH-TSDES-05	-	12	0.3
6 x 15/64		F-TSDES-06	4.24	FO-TSDES-06	4.38	FH-TSDES-06	-	12	0.5
7 x 17/64		F-TSDES-07	5.14	FO-TSDES-07	5.38	FH-TSDES-07	-	12	0.7
8 x 19/64		F-TSDES-08	6.24	FO-TSDES-08	6.48	FH-TSDES-08	-	12	1.0

# SAW (AMERICAN PATTERN) FILES

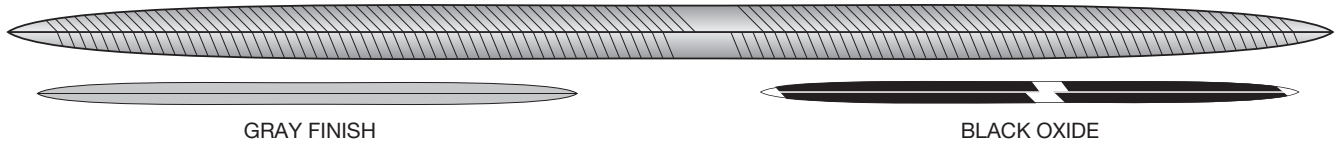
FT-14

ICS WIS

SPECIAL PURPOSE

CHISEL CUT

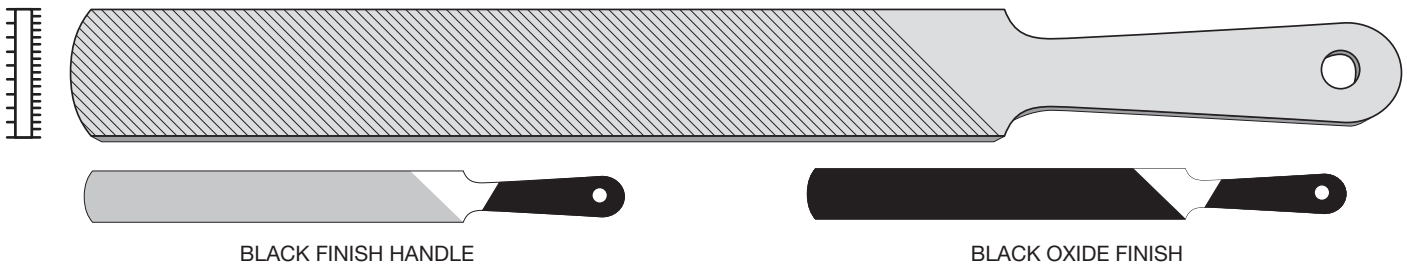
## DOUBLE END SAW FILES



Double End Saw Files are designed for general saw sharpening. They are triangular in shape and are equivalent to a slim taper saw file. They are supplied second cut with no tang and are tapered from center to each end.

LENGTH x SIZE	CUT	ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		GRAY FINISH	PRICE EACH	BLACK OXIDE	PRICE EACH		
8 x 9/32	Second	F-DES-08	4.48	FO-DES-08	4.60	12	0.8
9 x 11/32	Cut	F-DES-09	5.30	FO-DES-09	5.42	12	1.4

## FARMER'S OWN FILES



Farmer's Own Files are designed for sharpening cutting edge tools, i.e., knives, hoes, mower machine blades, etc. This file is also popular for working with formica. They are single cut on one side and double cut on the other side. Edges are not cut. Self handled with 3/8" diameter hole for hanging up file.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK HANDLE	PRICE EACH	BLACK OXIDE	PRICE EACH		
8 x 31/32 x 3/16	Second	F-FO-08	4.84	FO-FO-08	5.06	12	5.6
10 x 31/32 x 11/64	Cut	F-FO-10	5.88	FO-FO-10	6.14	12	8.0

## CHAIN SAW FILES



Chain Saw Files are designed for sharpening all sizes of chain saw teeth. They are single cut and parallel in diameter.

LENGTH x SIZE	CUT	ITEM NO.		ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK TANG	PRICE EACH	BLACK OXIDE	PRICE EACH	FILE WITH HANDLE	PRICE EACH		
6 x 1/8	Single Cut	F-CS-6X008	2.36	FO-CS-6X008	2.48	FH-CS-6X008	3.66	12	0.4
6 x 5/32		F-CS-6X010	2.36	FO-CS-6X010	2.48	FH-CS-6X010	3.66	12	0.4
8 x 5/32		F-CS-8X010	2.36	FO-CS-8X010	2.48	FH-CS-8X010	3.66	12	0.5
8 x 3/16		F-CS-8X012	2.36	FO-CS-8X012	2.48	FH-CS-8X012	3.66	12	0.8
8 x 13/64		F-CS-8X013	2.36	FO-CS-8X013	2.48	FH-CS-8X013	3.66	12	1.0
8 x 7/32		F-CS-8X014	2.36	FO-CS-8X014	2.48	FH-CS-8X014	3.66	12	1.1
8 x 1/4		F-CS-8X016	2.36	FO-CS-8X016	2.48	FH-CS-8X016	3.66	12	1.4

# WOOD FILES AND RASPS

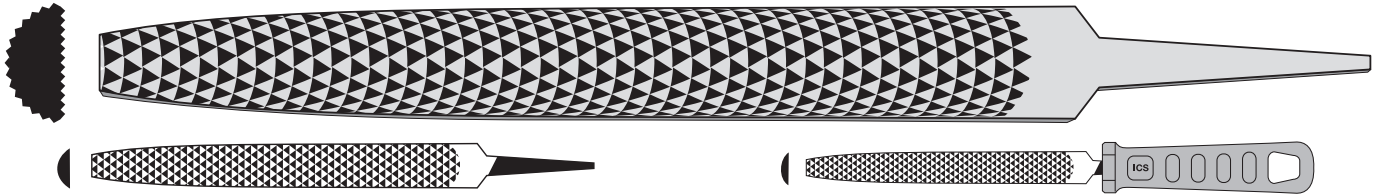
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SPECIAL PURPOSE

CHISEL CUT

## HALF ROUND WOOD RASPS



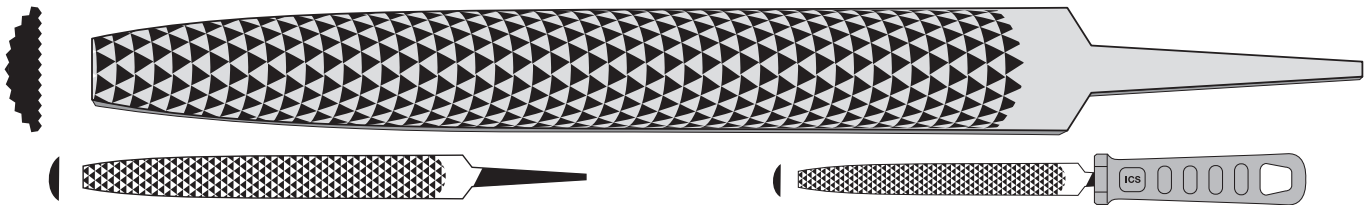
BLACK TANG

WITH HANDLE

Half Round Wood Rasps are designed with a very coarse rasp cut for filing both flat and curved surfaces in wood or soft metals. They are used primarily by woodworkers and plumbers. They are rasp cut on both flat and rounded sides with single cut edges and tapered in width and thickness.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK HANDLE	PRICE EACH	RASP WITH HANDLE	PRICE EACH		
8 x 25/32 x 5/16	Bastard Cut	FR-HRW-08B	8.60	FRH-HRW-08B	10.12	12	3.4
10 x 31/32 x 3/8		FR-HRW-10B	11.36	FRH-HRW-10B	12.90	12	6.5
12 x 1-5/32 x 7/16		FR-HRW-12B	13.44	FRH-HRW-12B	15.00	12	10.5

## HALF ROUND CABINET RASPS



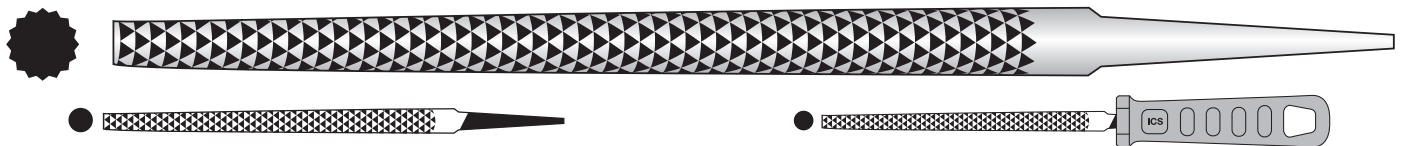
BLACK TANG

WITH HANDLE

Half Round Cabinet Rasps are designed with a finer rasp cut for filing both flat and curved surfaces. The rounded side has a larger radius for smooth finish work. They are used primarily by cabinet makers and woodworkers. They have a fine rasp cut on both flat and rounded sides with single cut edges and tapered in width and thickness.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK HANDLE	PRICE EACH	RASP WITH HANDLE	PRICE EACH		
8 x 29/32 x 1/4	Second	FR-HRC-08SC	8.70	FRH-HRC-08SC	10.24	12	4.0
10 x 1-1/8 x 9/32	Cut	FR-HRC-10SC	11.44	FRH-HRC-10SC	12.98	12	5.6

## ROUND WOOD RASPS



BLACK TANG

WITH HANDLE

Round Wood Rasps are designed with a coarse rasp cut for enlarging holes and shaping curved surfaces in wood or soft metals. They are used primarily by woodworkers, plumbers, and aluminum workers. They are rasp cut and taper slightly to a point.

LENGTH x SIZE	CUT	ITEM NO.		ITEM NO.		STD. PKG.	WEIGHT PER DOZ. (lbs.)
		BLACK HANDLE	PRICE EACH	RASP WITH HANDLE	PRICE EACH		
10 x 3/8	Bastard	FR-R-10B	9.06	FRH-R-10B	10.56	12	0.7

# HORSE RASPS AND FILES

FT-16

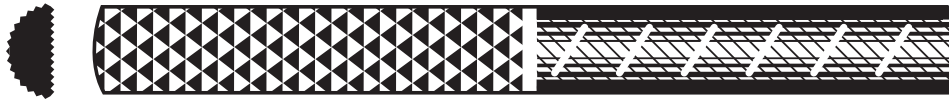
ICS WIS

SPECIAL PURPOSE

CHISEL CUT

## FOUR-IN-HAND (SHOE) RASPS

(Half-File)



GRAY FINISH

Four-In-Hand Rasps are designed for filing both flat and curved surfaces in soft metals, wood, plastics and leather. They are an all-purpose file used by metal and wood workers, hobbyists, shoe repairmen and leather craftsmen. They have a rasp cut and a double cut file on both the flat and curved side. This rasp is also referred to as a Shoe or Hobby Rasp.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO. GRAY FINISH	PRICE EACH	STD. PKG.	WEIGHT PER DOZ. (lbs.)
8 x 13/16 x 9/32	Combination File & Rasp	FR-FIH-08C	8.00	6	4.0
9 x 7/8 x 9/32		FR-FIH-09C	9.42	6	4.5
10 x 1-1/16 x 11/32		FR-FIH-10C	11.56	6	7.5

## HORSE RASPS

(Half-File)



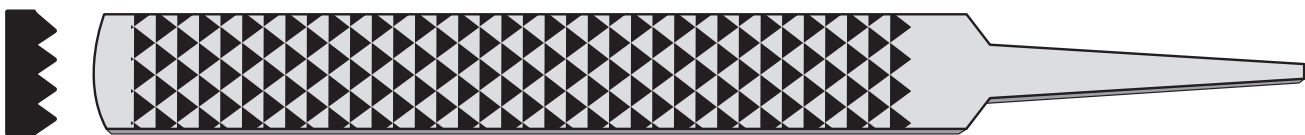
GRAY FINISH

Horse Rasps were designed for filing and shaping horses' hooves prior to shoeing. They are now also used for filing fiberglass and other abrasive materials. They have a rasp cut on one side and double cut coarse file teeth on the other side with single cut edges.

LENGTH x WIDTH x THICKNESS	CUT	ITEM NO. GRAY FINISH	PRICE EACH	STD. PKG.	WEIGHT PER DOZ. (lbs.)
14 x 1-46/64 x 9/32	Combination Double Cut File/Rasp	FR-H-14C	CALL	6	16.5

## FARRIER RASPS

(With Tang)



BLACK TANG



WITH HANDLE

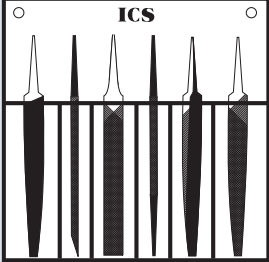
Farrier Rasps were designed for filing and shaping horses' hooves prior to shoeing. They are now also used for filing fiberglass and other abrasive materials. They have a rasp cut on one side and double cut coarse file teeth on the other side with single cut edges.

LENGTH x THICKNESS	CUT	ITEM NO. BLACK TANG	PRICE EACH	ITEM NO. RASP WITH HANDLE	PRICE EACH	STD. PKG.	WEIGHT PER DOZ. (lbs.)
14 x 1-3/4 x 9/32	Combination Double Cut File/Rasp	FR-F-14C	44.74	FRH-F-14C	44.74	6	16.5

# FILE SETS (AMERICAN PATTERN)

## 6 PC FILE SET

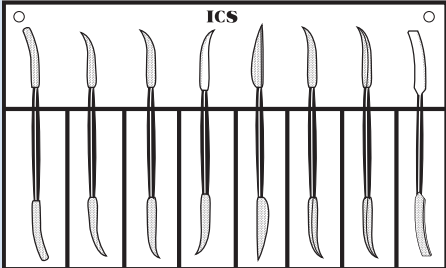
### VINYL POUCHES

DESCRIPTION	LENGTH INCH	CUT	ITEM NO.	PRICE PER SET
<b>6 PC FILE SET</b> 	4	Bastard	<b>FS-AP-4</b>	25.46
	6		<b>FS-AP-6</b>	27.40
	8		<b>FS-AP-8</b>	37.32
<b>TYPE OF FILES IN 6 PC SET</b>				
	1 - Three Square		1 - Flat Taper	
	1 - Square		1 - Round	
	1 - Flat Hand		1 - Half Round	

# RIFFLER (SWISS PATTERN) RASP SETS

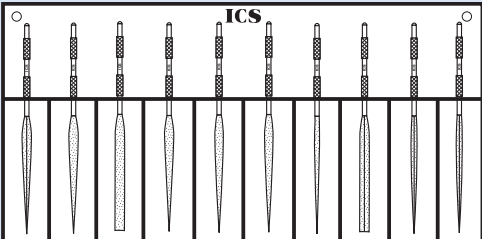
## 8 PC RIFFLER RASP SET

### VINYL POUCHES

DESCRIPTION	LENGTH INCH	CUT	ITEM NO.	PRICE PER SET
<b>8 PC RIFFLER RASP SET</b> 	7-1/2	Rasp	<b>RRS-SP-8</b>	34.36
<b>CONTENTS OF SET</b>				
One each of eight different shaped Riffler Rasps for woodworking, carving, and sculpting.				

# 10 PC DIAMOND COATED NEEDLE FILE SET

### VINYL POUCHES

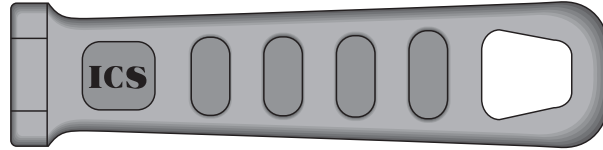
DESCRIPTION	OVERALL LENGTH	LENGTH OF CUT	GRIT	ITEM NO.	PRICE PER SET
<b>10 PC NEEDLE FILE SET</b> (Diamond Coated) 	4	1-1/2	12	<b>DCNFS-SP-10</b>	25.88
<b>CONTENTS OF SET</b>					
		1 - Round		1 - Crossing	
		1 - Half Round		1 - Equaling	
		1 - Square		1 - Barrette	
		1 - Three Square		1 - Marking	
		1 - Flat		1 - Slitting	

# PLASTIC FILE HANDLES - UNIVERSAL TANG HOLE

FT-18

ICS WIS

HEAVY DUTY



Heavy Duty Durable Plastic Handles are ergonomically designed to make work go more safely and easily. Handles can be used repeatedly. Hole in handle to hang up files for safer workspace management and to prevent damage to the file.

FITS FILE SIZES	STANDARD PACKAGE	WEIGHT PER DOZEN	ITEM NO.	PRICE EACH
4" to 6"	12	.20 lbs.	FHP#04	1.18
6" to 8"	12	.28 lbs.	FHP#06	1.18
8" to 10"	12	.40 lbs.	FHP#08	1.44
10" to 12"	12	.50 lbs.	FHP#10	1.54
12" to 14"	12	.65 lbs.	FHP#12	1.54

# WOOD FILE HANDLES - WITH STEEL FERRULE

ICS WIS

HEAVY DUTY

SUPER QUALITY



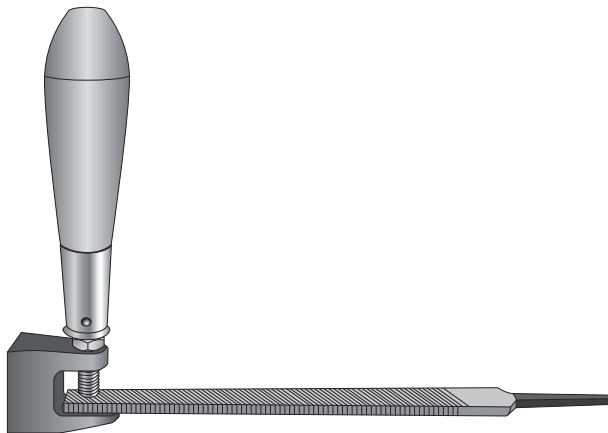
Heavy Duty Hickory File Handles are kiln dried, stained and coated. They are designed with a steel ferrule of heavy construction that "locks in" the tang for the file to remain rigid. Handles can be used repeatedly.

FITS FILE SIZES	STANDARD PACKAGE	WEIGHT PER DOZEN	ITEM NO.	PRICE EACH
4"	12	1.2 lbs.	FHW#04	2.28
6"	12	1.7 lbs.	FHW#06	2.62
8" to 10"	12	2.0 lbs.	FHW#08	2.80
12" to 14"	12	2.2 lbs.	FHW#12	3.36

# SAFETY FILE HANDLE - METAL CONSTRUCTION

ICS WIS

SPECIAL PURPOSE



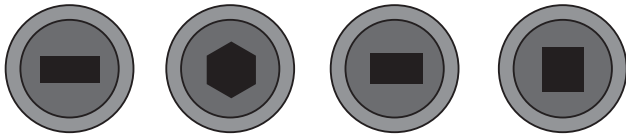
Safety File Handles are designed for machinists doing file work on a lathe. It fits on the point end of the file in an upright position to prevent fingers being under the file during use. Fits all flat or rectangular files. Handle is designed for right hand, left hand, or straight use.

FITS FILE SIZES	STANDARD PACKAGE	WEIGHT EACH	ITEM NO.	PRICE EACH
ALL	1	0.48 lbs.	FHS-S	17.86

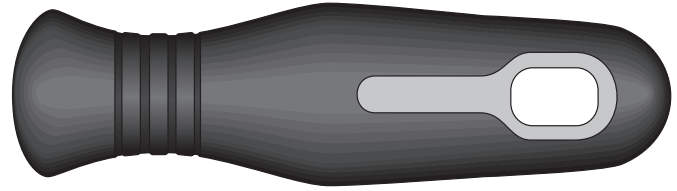
# PLASTIC FILE HANDLE WITH INSERTS

ICS WIS

HEAVY DUTY



HANDLE INSERTS



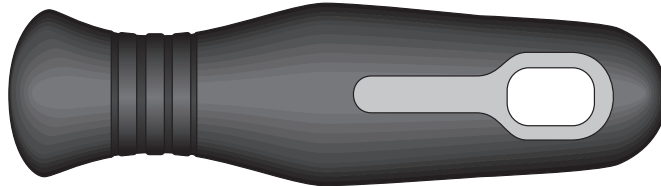
Heavy Duty Plastic File Handle is designed with 4 interchangeable inserts to fit most popular file tangs. Rubber coating over durable plastic handle reduces pressure during each stroke action. Handle is oversized with back taper to fit the hand and prevent slipping. Hole in handle to hang up files for safer workspace management and to prevent damage to the file.

FITS FILE SIZES	STANDARD PACKAGE	WEIGHT PER DOZEN	ITEM NO.	PRICE EACH
6" to 14"	1	.20 lbs.	FHPI-14	5.14

# PLASTIC FILE HANDLE - SOLID TANG HOLE

ICS WIS

HEAVY DUTY



TANG HOLE SHAPES LISTED BELOW

Heavy Duty Plastic File Handles are designed with solid tang hole to fit most popular file tangs from 6" to 12". Rubber coating over durable plastic handle reduces pressure during each stroke action.

FITS FILE SIZE/TYPE	TANG HOLE	STANDARD PACKAGE	WEIGHT EACH	ITEM NO.	PRICE
6" wide tang		6	1.7 oz.	FHPST-06WN	4.20
8" & 10" narrow tang		6	1.7 oz.	FHPST-06MS	4.20
6" mill - small hole		6	1.7 oz.	FHPST-06MS	4.20
6" mill & wide tang		6	1.7 oz.	FHPST-06MW	4.20
6" wide - 8" narrow & wide		6	1.7 oz.	FHPST-08NW	4.20
10" & 12" half round		6	1.7 oz.	FHPST-10HR	4.20
10" & 12" mill		6	1.7 oz.	FHPST-10MW	4.20
8" & 10" wide tang		6	1.7 oz.	FHPST-10MW	4.20
6" mill - round		6	1.7 oz.	FHPST-06MR	4.20

NOTE: Handle reference is a general guide only as file tangs vary by manufacturer.

# FILE CARD CLEANER - WOOD HANDLE

ICS WIS

GENERAL PURPOSE



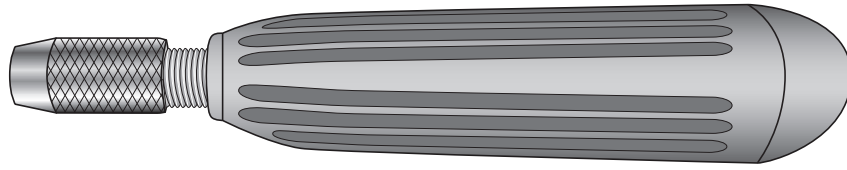
File Cards are used to remove excess filings which clog the teeth. This helps prevent slipping or scratching and increases filing performance. The handle has a hole for hanging.

FITS FILE SIZES	STANDARD PACKAGE	WEIGHT PER DOZEN	ITEM NO.	PRICE EACH
ALL	12	2.0 lbs.	FCC	10.08

# PLASTIC NEEDLE FILE HANDLE - PRECISION CHUCK

ICS WIS

SPECIAL PURPOSE



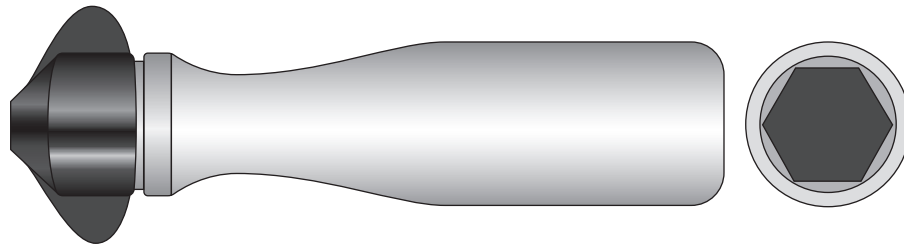
Heavy Duty Plastic Needle File Handles are designed with a precision chuck to tighten the inserted needle file securely in place. Handle can be used repeatedly.

FITS FILE SIZES	STANDARD PACKAGE	WEIGHT PER DOZEN	ITEM NO.	PRICE EACH
4", 5-1/2" & 6"	12	2 lbs.	FHPNFPC	7.38

# PLASTIC CHAINSAW FILE HANDLE - ADJUSTABLE

ICS WIS

SPECIAL PURPOSE



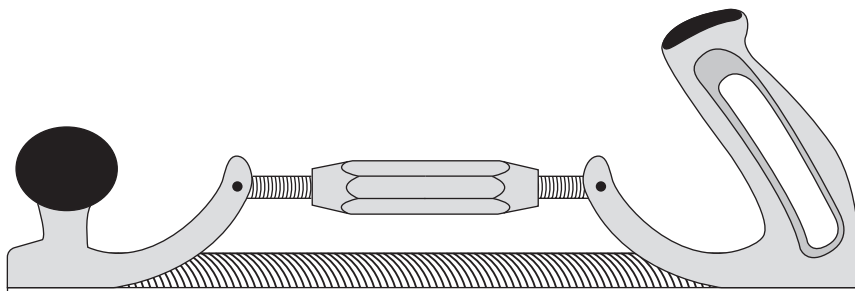
Heavy Duty Plastic Chainsaw File Handle is adjustable and will hold all chainsaw file sizes. End of handle is formed for spark plug removal and installation. Proper guide sharpening angles of 30° and 35° are included on the handle tip.

FITS FILE SIZES	STANDARD PACKAGE	WEIGHT PER DOZEN	ITEM NO.	PRICE EACH
6" & 8"	12	1 lb.	FHCS#06	3.16

# FLEXIBLE CURVED TOOTH FILE HOLDER

ICS WIS

SPECIAL PURPOSE



Heavy Duty Metal Curved Tooth File Holders are designed for flat or flexible files without a tang. It can bend with screw adjustments to fully utilize the flexible file features. Holder is designed for right or left hand use with either 12" or 14" files.

FITS FILE SIZES	STANDARD PACKAGE	WEIGHT EACH	ITEM NO.	PRICE EACH
12" & 14" Flat or Half Round Flexible Files	1	1 lb.	FHCT#14	49.50

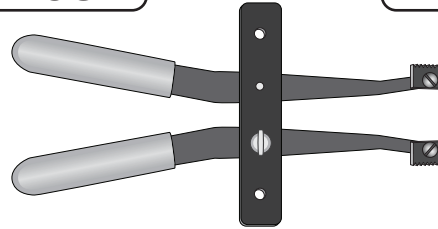
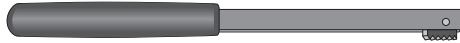
# CARBON STEEL INTERNAL RETHREADING TOOL SETS

**ICS USA**

**SPECIAL PURPOSE**

**MILLED THREAD**

**SINGLE HANDLE**



**TWO HANDLES**

Internal Rethreading Tool Sets are available with either a single handle or two handles. The two handle set can be used to clean and rethread all internal threads from 3/4" to 6" ID capacity and the single handle works with any size internal thread over 3/4" ID. Both tools will rethread right hand, left hand, straight and taper threads. Two handle style automatically lines up with threads and can be locked into place. The rethreaded fit is like new with no undercut. Dies are interchangeable and can be replaced when worn. These are also known as Hand Chasers.

ITEM NO.	SET CONTENTS	PRICE																																				
<b>IRTS-1H-16</b> NC, NF & NPT Set	One Handle Rethreader 8, 9, 10, 11, 11-1/2, 12, 13, 14, 16, 18, 20, 24, 27, 28, 32 TPI dies	30.46																																				
<b>IRTS-1H-9M</b> Metric Set	One Handle Rethreader .80, 1.00, 1.25, 1.50, 1.75, 2.00, 2.50, 3.00mm pitch dies	18.90																																				
<b>IRTS-1H-24C</b> NC, NF, NPT & Metric Set	One Handle Rethreader 8, 9, 10, 11, 11-1/2, 12, 13, 14, 16, 18, 20, 24, 27, 28, 32 TPI dies .80, 1.00, 1.25, 1.50, 1.75, 2.00, 2.50, 3.00mm pitch dies	37.80																																				
<b>IRTS-2H-4NPT</b> Pipe Set	Two Handle Rethreader 14 TPI die for 3/4" diameter pipe • 11-1/2 TPI die for 1" to 2" diameter pipe 8 TPI die for up to 6" diameter pipe	30.46																																				
<b>IRTS-2H-4M</b> Metric Set	Two Handle Rethreader 1.25, 1.50, 1.75mm pitch dies	30.46																																				
<b>IRTS-2H-8M</b> Metric Set	Two Handle Rethreader .80, 1.00, 1.25, 1.50, 1.75, 2.00, 2.50, 3.00mm pitch dies	60.90																																				
<b>IRTS-2H-12C</b> NC & NF Set	Two Handle Rethreader 9, 10, 11, 12, 13, 16, 18, 20, 24, 27, 28, 32 TPI dies	69.30																																				
<b>IRTS-2H-24C</b> NC, NF, NPT, & Metric Set	Two Handle Rethreader 8, 9, 10, 11, 11-1/2, 12, 13, 14, 16, 18, 20, 24, 27, 28, 32 TPI dies .80, 1.00, 1.25, 1.50, 1.75, 2.00, 2.50, 3.00mm pitch dies	81.90																																				
<b>IRTDS-12</b> Die Set Only	One pair each 9, 10, 11, 12, 13, 16, 18, 20, 24, 27, 28, 32 TPI dies	30.46																																				
<b>IRTDS-8M</b> Die Set Only - Metric	One pair each .80, 1.00, 1.25, 1.50, 1.75, 2.00, 2.50, 3.00mm pitch dies	21.00																																				
<b>IRTDP</b> Replacement Die Pairs - NC, NF & NPT -	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>IRTDP-08</td> <td>IRTDP-09</td> <td>IRTDP-10</td> <td>IRTDP-11</td> <td>IRTDP-11.5</td> <td>IRTDP-12</td> <td>IRTDP-13</td> <td>IRTDP-14</td> <td>IRTDP-16</td> </tr> <tr> <td>8 TPI</td> <td>9 TPI</td> <td>10 TPI</td> <td>11 TPI</td> <td>11-1/2 TPI</td> <td>12 TPI</td> <td>13 TPI</td> <td>14 TPI</td> <td>16 TPI</td> </tr> <tr> <td>IRTDP-18</td> <td>IRTDP-20</td> <td>IRTDP-24</td> <td>IRTDP-27</td> <td>IRTDP-28</td> <td>IRTDP-32</td> <td colspan="3"></td> </tr> <tr> <td>18 TPI</td> <td>20 TPI</td> <td>24 TPI</td> <td>27 TPI</td> <td>28 TPI</td> <td>32 TPI</td> <td colspan="3"></td> </tr> </table>	IRTDP-08	IRTDP-09	IRTDP-10	IRTDP-11	IRTDP-11.5	IRTDP-12	IRTDP-13	IRTDP-14	IRTDP-16	8 TPI	9 TPI	10 TPI	11 TPI	11-1/2 TPI	12 TPI	13 TPI	14 TPI	16 TPI	IRTDP-18	IRTDP-20	IRTDP-24	IRTDP-27	IRTDP-28	IRTDP-32				18 TPI	20 TPI	24 TPI	27 TPI	28 TPI	32 TPI				3.16 per die pair size
IRTDP-08	IRTDP-09	IRTDP-10	IRTDP-11	IRTDP-11.5	IRTDP-12	IRTDP-13	IRTDP-14	IRTDP-16																														
8 TPI	9 TPI	10 TPI	11 TPI	11-1/2 TPI	12 TPI	13 TPI	14 TPI	16 TPI																														
IRTDP-18	IRTDP-20	IRTDP-24	IRTDP-27	IRTDP-28	IRTDP-32																																	
18 TPI	20 TPI	24 TPI	27 TPI	28 TPI	32 TPI																																	
<b>IRTDPM</b> Replacement Die Pairs - Metric Pitches -	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>IRTDPM-0.75</td> <td>IRTDPM-0.80</td> <td>IRTDPM-1.00</td> <td>IRTDPM-1.25</td> <td>IRTDPM-1.50</td> <td>IRTDPM-1.75</td> <td>IRTDPM-2.00</td> <td>IRTDPM-2.50</td> <td>IRTDPM-3.00</td> </tr> <tr> <td colspan="9">PITCH</td> </tr> <tr> <td>0.75</td> <td>0.80</td> <td>1.00</td> <td>1.25</td> <td>1.50</td> <td>1.75</td> <td>2.00</td> <td>2.50</td> <td>3.00</td> </tr> </table>	IRTDPM-0.75	IRTDPM-0.80	IRTDPM-1.00	IRTDPM-1.25	IRTDPM-1.50	IRTDPM-1.75	IRTDPM-2.00	IRTDPM-2.50	IRTDPM-3.00	PITCH									0.75	0.80	1.00	1.25	1.50	1.75	2.00	2.50	3.00	3.16 per die pair size									
IRTDPM-0.75	IRTDPM-0.80	IRTDPM-1.00	IRTDPM-1.25	IRTDPM-1.50	IRTDPM-1.75	IRTDPM-2.00	IRTDPM-2.50	IRTDPM-3.00																														
PITCH																																						
0.75	0.80	1.00	1.25	1.50	1.75	2.00	2.50	3.00																														

## THREAD RESTORING FILES

**ICS USA**

**SPECIAL PURPOSE**

**PRECISION CUT**



Thread Restoring Files are designed to restore damaged external and internal threads of any diameter with one tool. They can be used on right or left hand threads or even be used as a thread gauge. Each file restores eight of the most popular sizes.

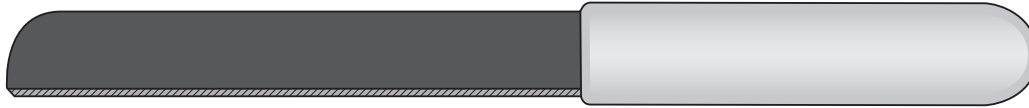
THREAD TYPE	LENGTH x SIZE	THREADS	ITEM NO.	PRICE
Regular	9-1/4 x 3/8	11, 12, 13, 14, 16, 18, 20, 24	<b>TRF-R</b>	48.44
Extra Fine/Coarse	9-1/4 x 3/8	9, 10, 12, 16, 20, 27, 28, 32	<b>TRF-X</b>	48.44
Metric	9-1/4 x 3/8	.80, 1.00, 1.25, 1.50, 1.75, 2.00, 2.50, 3.00	<b>TRF-M</b>	48.44
Pipe	9-1/4 x 3/8	8, 10, 11-1/2, 14, 16, 18, 24, 27	<b>TRF-P</b>	48.44

# UNIVERSAL THREAD RESTORING FILE

ICS USA

GENERAL PURPOSE

MILLED THREAD



The Universal Thread Restoring File is designed to renew all 60° machine screw, fractional, metric, NPT and NPS pipe thread sizes of any diameter. It will restore right or left hand threads.

ITEM NO.	THREAD ANGLE	LENGTH x SIZE	PRICE
UTRF	60°	9 x 7/8 x 1/8	7.56

# EXTERNAL THREAD RESTORING FILES

ICS USA

SPECIAL PURPOSE

MILLED THREAD



PLASTIC SLIP-ON HANDLE FOR EITHER SIDE →




External Thread Restoring Files are designed to renew rusted and damaged external threads of any diameter bolt or pipe with one tool. They can be used on right or left hand threads or even be used as a thread gauge. Files are precision cut and will not skip or jump out of fine pitches. Thread sizes are marked on each file. Each file comes with a plastic handle except ETRF-P4L.

THREAD TYPE	LENGTH x SIZE	THREADS	ITEM NO.	PRICE
REGULAR	8-3/8 x 7/16 SQ	11, 12, 13, 14, 16, 18, 20, 24	ETRF-R	12.60
EXTRA FINE/COARSE	8-3/8 x 7/16 SQ	9, 10, 12, 16, 20, 27, 28, 32	ETRF-X	12.60
METRIC	8-3/8 x 7/16 SQ	.80, 1.00, 1.25, 1.50, 1.75, 2.00, 2.50, 3.00	ETRF-M	12.60
PIPE	8-3/8 x 7/8 x 1/2	8, 10, 11-1/2, 14	ETRF-P4L	27.30
BSW (BRITISH)	8-3/8 x 7/16 SQ	11, 12, 14, 16, 18, 20, 22, 26	ETRF-BSW	13.66
BSP (BRITISH)	8-3/8 x 7/16 SQ	11, 12, 14, 16, 19, 20, 22, 28	ETRF-BSP	13.66
Plastic slip-on handle only (for 7/16" Square Files)			PH-ETRF	1.00

# EXTERNAL THREAD RESTORING FILE SETS

VINYL POUCHES

DESCRIPTION	FILES IN SET	ITEM NO.	PRICE
<b>6PC EXTERNAL THREAD RESTORING FILE SET</b> 	ETRF-R ETRF-X ETRF-M ETRF-P4 ETRF-P4L UTRF	ETRFS-6	68.26
<b>4PC EXTERNAL THREAD RESTORING FILE SET</b> 3 each EXTERNAL THREAD FILES 1 UNIVERSAL THREAD FILE (NOT ILLUSTRATED)	ETRF-R ETRF-M ETRF-P4 UTRF	ETRFS-4U	35.70
<b>3PC EXTERNAL THREAD RESTORING FILE SET</b> 3 each EXTERNAL THREAD FILES (NOT ILLUSTRATED)	ETRF-R ETRF-X ETRF-M	ETRFS-3	34.66

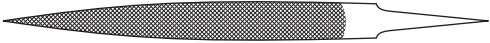





# PRECISION (SWISS PATTERN) FILES

ICS USA

GENERAL PURPOSE

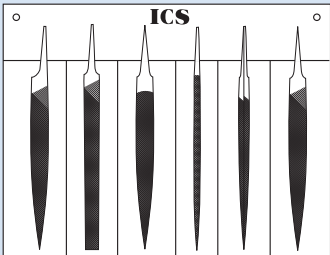
CHISEL/ETCH CUT

Precision (Swiss Pattern) Files are designed for fine finish work and are used by tool and die makers, instrument makers, model makers, and watchmakers. They are made to closer tolerances than American Pattern files and are narrower in width and thickness. The points of the tapered files are smaller for fine detail work.

DESCRIPTION	LENGTH INCH	STD. PKG.	WT. PER DOZ. (lbs)	CUT #0		CUT #2	
				ITEM NO.	PRICE	ITEM NO.	PRICE
 <b>HALF ROUND</b> For filing both flat and curved surfaces	6	12	1.1	PF-HR-06-#0	24.68	PF-HR-06-#2	35.34
 <b>KNIFE</b> For filing acute angles	6	12	1.1	PF-K-06-#0	31.08	PF-K-06-#2	27.74
 <b>PILLAR REGULAR</b> For filing slots and keyways	6	12	1.7	PF-PR-06-#0	17.20	PF-PR-06-#2	15.36
 <b>ROUND</b> For filing round openings	6	12	0.9	PF-R-06-#0	14.78	PF-R-06-#2	15.48
 <b>THREE SQUARE</b> For finishing square openings	6	12	1.8	PF-TSQ-06-#0	17.02	PF-TSQ-06-#2	17.86
 <b>WARDING</b> For filing ward notches in keys	6	12	0.9	PF-W-06-#0	15.76	PF-W-06-#2	16.28

# PRECISION (SWISS PATTERN) FILE SET

VINYL POUCHES

DESCRIPTION	LENGTH INCH	CUT #0		CUT #2	
		ITEM NO.	PRICE	ITEM NO.	PRICE
<b>6 PC PRECISION FILE SET</b> 	6	PFS-SP-06#0	140.00	PFS-SP-06#2	163.14
<b>TYPE OF FILES IN SETS</b>					
1 - Half Round		1 - Round			
1 - Knife		1 - Three Square			
1 - Pillar (Reg.)		1 - Warding			

# NEEDLE (SWISS PATTERN) FILES


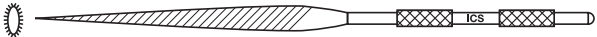






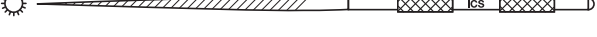

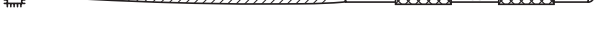
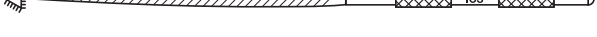
FT-24

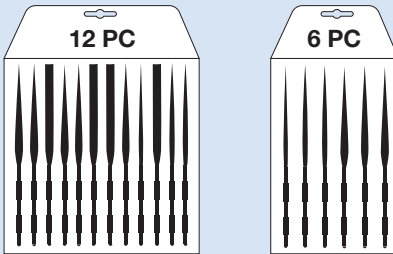
ICS USA

SPECIAL PURPOSE

CHISEL CUT

ICS Needle Files are specially designed for jewelers, watchmakers, diemakers, etc. The appropriate cut number is marked on the round handle.

DESCRIPTION	LENGTH INCH	CUT #0	CUT #2	CUT #3	PRICE EACH
		ITEM NO.	ITEM NO.	ITEM NO.	
<b>BARRETTE</b> 	4	NF-B-4#0	NF-B-4#2	NF-B-4#3	2.42
	5-1/2	NF-B-5#0	NF-B-5#2	NF-B-5#3	3.22
	6	NF-B-6#0	NF-B-6#2	NF-B-6#3	3.22
<b>CROSSING</b> 	4	NF-C-4#0	NF-C-4#2	NF-C-4#3	2.42
	5-1/2	NF-C-5#0	NF-C-5#2	NF-C-5#3	3.22
	6	NF-C-6#0	NF-C-6#2	NF-C-6#3	3.22
<b>EQUALLING (HAND)</b> 	4	NF-E-4#0	NF-E-4#2	NF-E-4#3	2.42
	5-1/2	NF-E-5#0	NF-E-5#2	NF-E-5#3	3.22
	6	NF-E-6#0	NF-E-6#2	NF-E-6#3	3.22
<b>FLAT (WARDING)</b> 	4	NF-F-4#0	NF-F-4#2	NF-F-4#3	2.42
	5-1/2	NF-F-5#0	NF-F-5#2	NF-F-5#3	3.22
	6	NF-F-6#0	NF-F-6#2	NF-F-6#3	3.22
<b>HALF ROUND</b> 	4	NF-HR-4#0	NF-HR-4#2	NF-HR-4#3	2.42
	5-1/2	NF-HR-5#0	NF-HR-5#2	NF-HR-5#3	3.22
	6	NF-HR-6#0	NF-HR-6#2	NF-HR-6#3	3.22
<b>JOINT</b> 	4	NF-J-4#0	NF-J-4#2	NF-J-4#3	2.42
	5-1/2	NF-J-5#0	NF-J-5#2	NF-J-5#3	3.22
	6	NF-J-6#0	NF-J-6#2	NF-J-6#3	3.22
<b>KNIFE</b> 	4	NF-K-4#0	NF-K-4#2	NF-K-4#3	2.42
	5-1/2	NF-K-5#0	NF-K-5#2	NF-K-5#3	3.22
	6	NF-K-6#0	NF-K-6#2	NF-K-6#3	3.22
<b>MARKING</b> 	4	NF-M-4#0	NF-M-4#2	NF-M-4#3	2.42
	5-1/2	NF-M-5#0	NF-M-5#2	NF-M-5#3	3.22
	6	NF-M-6#0	NF-M-6#2	NF-M-6#3	3.22
<b>ROUND</b> 	4	NF-R-4#0	NF-R-4#2	NF-R-4#3	2.42
	5-1/2	NF-R-5#0	NF-R-5#2	NF-R-5#3	3.22
	6	NF-R-6#0	NF-R-6#2	NF-R-6#3	3.22
<b>SLITTING</b> 	4	NF-S-4#0	NF-S-4#2	NF-S-4#3	2.42
	5-1/2	NF-S-5#0	NF-S-5#2	NF-S-5#3	3.22
	6	NF-S-6#0	NF-S-6#2	NF-S-6#3	3.22
<b>SQUARE</b> 	4	NF-SQ-4#0	NF-SQ-4#2	NF-SQ-4#3	2.42
	5-1/2	NF-SQ-5#0	NF-SQ-5#2	NF-SQ-5#3	3.22
	6	NF-SQ-6#0	NF-SQ-6#2	NF-SQ-6#3	3.22
<b>THREE SQUARE</b> 	4	NF-TSQ-4#0	NF-TSQ-4#2	NF-TSQ-4#3	2.42
	5-1/2	NF-TSQ-5#0	NF-TSQ-5#2	NF-TSQ-5#3	3.22
	6	NF-TSQ-6#0	NF-TSQ-6#2	NF-TSQ-6#3	3.22

DESCRIPTION	LENGTH INCH	CUT #0	CUT #2	CUT #3	PRICE EACH
		ITEM NO.	ITEM NO.	ITEM NO.	
<b>NEEDLE FILE SETS</b>					
	<b>12 PC SETS - 1 EACH ALL SHAPES</b>				
	4	NFS-12-40	NFS-12-42	NFS-12-43	26.84
	5-1/2	NFS-12-50	NFS-12-52	NFS-12-53	35.74
	6	NFS-12-60	NFS-12-62	NFS-12-63	35.74
	<b>6 PC SETS</b>				
	4	-	NFS-6-42	-	15.28
	5-1/2	-	NFS-6-52	-	19.76
	6	-	NFS-6-62	-	19.76
	<b>CONTENTS OF 6 PC SET</b>				
	1 ea. Round, Square, Three Square, Equalling (Hand), Half Round and Flat (Warding).				

# DIE SINKERS' (SWISS PATTERN) RIFFLERS

























ICS

USA

SPECIAL PURPOSE

CHISEL CUT

Die Sinkers' Riffilers are specially designed for die sinkers for getting into crevices, corners, and contours of dies and molds. They are also used by jewelers and instrument manufacturers. Riffilers have a cutting surface on each end with a safe (uncut) middle section for handling and are available in many different cross-sectional shapes.

DESCRIPTION	LENGTH INCH	CUT #0	CUT #2	CUT #4	PRICE EACH
		ITEM NO.	ITEM NO.	ITEM NO.	
1  	6-1/2	DSR-01#0	DSR-01#2	DSR-01#4	35.28
4  	6-1/2	DSR-04#0	DSR-04#2	DSR-04#4	35.28
5  	6-1/2	DSR-05#0	DSR-05#2	DSR-05#4	35.28
6  	6-1/2	DSR-06#0	DSR-06#2	DSR-06#4	35.28
7  	6-1/2	DSR-07#0	DSR-07#2	DSR-07#4	35.28
8  	6-1/2	DSR-08#0	DSR-08#2	DSR-08#4	35.28
9  	6-1/2	DSR-09#0	DSR-09#2	DSR-09#4	35.28
11  	6-1/2	DSR-11#0	DSR-11#2	DSR-11#4	35.28
12  	6-1/2	DSR-12#0	DSR-12#2	DSR-12#4	35.28
15  	6-1/2	DSR-15#0	DSR-15#2	DSR-15#4	35.28
16  	6-1/2	DSR-16#0	DSR-16#2	DSR-16#4	35.28
18  	6-1/2	DSR-18#0	DSR-18#2	DSR-18#4	35.28

# SILVERSMITHS' (SWISS PATTERN) RIFFLERS











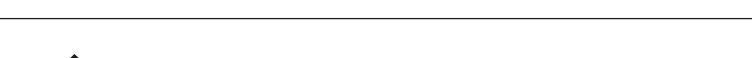

FT-26

ICS USA

SPECIAL PURPOSE

CHISEL CUT

Silversmiths' Rifflers are specially designed for making glass molding dies. They are longer than Die Sinkers' Rifflers and have wider cutting ends with a safe (uncut) middle section for handling. Many different cross-sectional shapes are available.

	DESCRIPTION	LENGTH INCH	CUT #0	CUT #2	PRICE EACH
			ITEM NO.	ITEM NO.	
1		7-1/2	SSR-01#0	SSR-01#2	48.22
2		7-1/2	SSR-02#0	SSR-02#2	48.22
3		7-1/2	SSR-03#0	SSR-03#2	48.22
4		7-1/2	SSR-04#0	SSR-04#2	48.22
5		7-1/2	SSR-05#0	SSR-05#2	48.22
6		7-1/2	SSR-06#0	SSR-06#2	48.22
7		7-1/2	SSR-07#0	SSR-07#2	48.22
8		7-1/2	SSR-08#0	SSR-08#2	48.22
9		7-1/2	SSR-09#0	SSR-09#2	48.22
10		7-1/2	SSR-10#0	SSR-10#2	48.22
11		7-1/2	SSR-11#0	SSR-11#2	48.22
12		7-1/2	SSR-12#0	SSR-12#2	48.22

# SOLID CARBIDE NF BURS

ICS USA

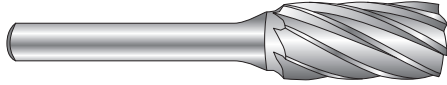
SPECIAL PURPOSE

CNC GROUND

Solid Carbide NF Burs are designed with a milling cutter relief style of flute grind for fast stock removal and easy chip flow with minimum loading. For use on non-ferrous metals, aluminum, reinforced plastics, and other soft, sticky materials.

Zirconium Nitride Coated Solid Carbide NF Burs are the ideal choice for maximizing bur life in long production runs, especially aluminum. As an investment, they cost about 14% more, and produce an average 300% improvement over uncoated tools when machining above materials.

## CYLINDER SHAPE



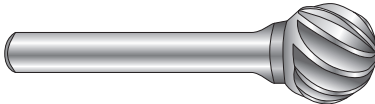
SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			SOLID CARBIDE SCBNF	ZrN COATED SCBNFZ	
1/4	3/4	1/4	24.50	28.98	SA-1
3/8	3/4	1/4	32.80	38.72	SA-3
1/2	1	1/4	48.08	54.00	SA-5
5/8	1	1/4	73.18	83.78	SA-6
3/4	1	1/4	100.54	112.76	SA-7

## CYLINDER SHAPE - RADIUS END



SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			SOLID CARBIDE SCBNF	ZrN COATED SCBNFZ	
1/4	3/4	1/4	24.50	28.98	SC-1
3/8	3/4	1/4	32.80	38.72	SC-3
1/2	1	1/4	48.08	54.00	SC-5
5/8	1	1/4	73.18	83.78	SC-6
3/4	1	1/4	100.54	112.76	SC-7

## BALL SHAPE



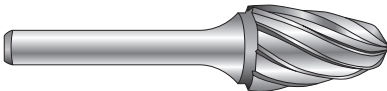
SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			SOLID CARBIDE SCBNF	ZrN COATED SCBNFZ	
1/4	3/16	1/4	24.22	28.72	SD-1
3/8	5/16	1/4	27.02	32.94	SD-2
1/2	7/16	1/4	36.84	44.60	SD-5
5/8	9/16	1/4	66.56	80.48	SD-6
3/4	11/16	1/4	112.52	130.38	SD-7

## OVAL SHAPE



SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			SOLID CARBIDE SCBNF	ZrN COATED SCBNFZ	
3/8	5/8	1/4	35.54	41.46	SE-3
1/2	7/8	1/4	43.76	49.70	SE-5
5/8	1	1/4	78.78	89.36	SE-6
3/4	1	1/4	104.98	117.18	SE-7
3/4	1	1/4	108.92	-	SE-7A

## TREE SHAPE - RADIUS END



SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			SOLID CARBIDE SCBNF	ZrN COATED SCBNFZ	
1/4	3/4	1/4	24.50	28.98	SF-1
3/8	3/4	1/4	34.74	40.66	SF-3
1/2	1	1/4	48.70	48.70	SF-5
5/8	1	1/4	70.02	80.60	SF-6
3/4	1-1/4	1/4	96.38	108.58	SF-714

## 14° TAPER - RADIUS END



SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			SOLID CARBIDE SCBNF	ZrN COATED SCBNFZ	
3/8	1-1/16	1/4	44.46	50.40	SL-3
1/2	1-1/8	1/4	61.30	67.22	SL-4
5/8	1-3/16	1/4	98.48	109.06	SL-5
5/8	1-5/16	1/4	111.58	122.16	SL-6
3/4	1-1/2	1/4	130.84	143.04	SL-7

TO ORDER  
 SPECIFY ITEM NO. COMBINATION  
 EXAMPLE: SCBNF-SA-1 is a 1/4 Cylinder Shape NF Bur

Unless otherwise specified, all burs are Double Cut.  
 Plain Cut and Chipbreaker are also available at the same price as Double Cut.

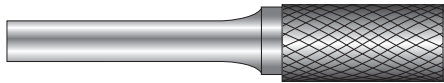
# SOLID CARBIDE BURS

ICS USA

SPECIAL PURPOSE

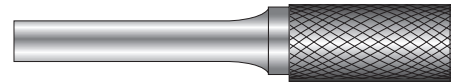
CNC GROUND

## CYLINDER SHAPE - (SA) BURS



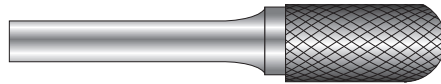
SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			DOUBLE CUT	TIN COATED	
			SCB	SCBT	
1/16	1/4	1/8	8.36	10.72	SA#41
3/32	7/16	1/8	8.36	10.72	SA#42
1/8	9/16	1/8	8.36	10.72	SA#43
1/4	1/2	1/8	13.70	16.72	SA#51
5/32	1/2	1/8	20.08	23.08	SA#52
1/16	1/4	3/32	9.56	11.92	SA#61
3/32	3/8	3/32	9.56	11.92	SA#63
3/16	1/2	3/16	14.96	18.52	SA#81
1/8	1/2	1/4	14.26	17.84	SA-011
1/8	5/8	1/4	14.26	17.84	SA-012
5/32	5/8	1/4	14.26	17.84	SA-013
3/16	5/8	1/4	14.26	17.84	SA-014
1/4	5/8	1/4	14.26	17.84	SA-1
1/4	1	1/4	20.64	24.22	SA-1L
5/16	3/4	1/4	18.62	22.20	SA-2
3/8	3/4	1/4	20.08	23.66	SA-3
3/8	1	1/4	23.82	28.56	SA-3L
3/8	1-1/2	1/4	26.18	30.92	SA-3X
7/16	1	1/4	29.00	33.78	SA-4
1/2	1	1/4	31.28	36.02	SA-5
5/8	1	1/4	39.38	47.86	SA-6
3/4	1	1/4	58.64	68.38	SA-7
3/4	1/2	1/4	53.30	63.06	SA-715
3/4	3/4	1/4	58.64	68.38	SA-716
7/8	1	1/4	73.76	85.04	SA-8
1	1	1/4	96.60	93.20	SA-9

## CYLINDER SHAPE END CUT - (SB) BURS



SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			DOUBLE CUT	TIN COATED	
			SCB	SCBT	
1/16	1/4	1/8	8.36	10.72	SB#41
3/32	7/16	1/8	8.36	10.72	SB#42
1/8	9/16	1/8	8.36	16.72	SB#43
1/4	3/16	1/8	13.70	16.72	SB#51
1/8	1/2	1/4	15.46	19.06	SB-011
1/8	5/8	1/4	15.46	19.06	SB-012
5/32	5/8	1/4	15.46	19.06	SB-013
3/16	5/8	1/4	15.46	19.06	SB-014
1/4	5/8	1/4	15.46	19.06	SB-1
1/4	1	1/4	22.84	26.44	SB-1L
5/16	3/4	1/4	20.52	24.10	SB-2
3/8	3/4	1/4	22.06	25.62	SB-3
3/8	1	1/4	26.22	30.96	SB-3L
3/8	1-1/2	1/4	28.76	33.50	SB-3X
7/16	1	1/4	32.06	535.04	SB-4
1/2	1	1/4	34.38	39.12	SB-5
5/8	1	1/4	43.24	51.70	SB-6
3/4	1	1/4	64.52	74.26	SB-7
3/4	1/2	1/4	58.64	68.38	SB-715
3/4	3/4	1/4	64.52	74.26	SB-716
7/8	1	1/4	81.24	92.50	SB-8
1	1	1/4	90.22	101.50	SB-9

## CYLINDER SHAPE RADIUS END - (SC) BURS



SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			DOUBLE CUT	TIN COATED	
			SCB	SCBT	
3/32	7/16	1/8	8.36	10.72	SC#41
1/8	9/16	1/8	8.36	10.72	SC#42
1/4	1/2	1/8	13.70	16.72	SC#51
5/32	1/2	1/8	20.08	23.08	SC#52
3/16	1/2	1/8	20.08	23.08	SC#53
3/32	3/8	3/32	9.56	11.92	SC#61
3/16	1/2	3/16	14.96	18.52	SC#81
1/8	1/2	1/4	16.60	20.16	SC-011
1/8	5/8	1/4	16.60	20.16	SC-012
5/32	5/8	1/4	16.60	20.16	SC-013
3/16	5/8	1/4	16.60	20.16	SC-014
1/4	5/8	1/4	16.60	20.16	SC-1

SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			DOUBLE CUT	TIN COATED	
			SCB	SCBT	
1/4	1	1/4	22.62	26.20	SC-1L
5/16	3/4	1/4	20.34	23.90	SC-2
3/8	3/4	1/4	22.30	25.88	SC-3
3/8	1	1/4	26.30	31.04	SC-3L
3/8	1-1/2	1/4	28.82	33.58	SC-3X
7/16	1	1/4	31.86	36.60	SC-4
1/2	1	1/4	35.08	39.84	SC-5
5/8	1	1/4	44.14	52.60	SC-6
3/4	1	1/4	63.30	73.06	SC-7
3/4	1/2	1/4	57.60	67.38	SC-715
3/4	3/4	1/4	63.30	73.06	SC-716
1	1	1/4	95.98	107.28	SC-9

Unless otherwise specified, all burs are Double Cut.  
Plain Cut and Chipbreaker are also available at the same price as Double Cut.

# SOLID CARBIDE BURS

ICS USA

SPECIAL PURPOSE

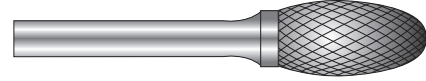
CNC GROUND

## BALL SHAPE - (SD) BURS



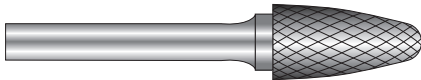
SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			DOUBLE CUT	TIN COATED	
			SCB	SCBT	
3/32	3/32	1/8	8.36	10.72	SD#41
1/8	1/8	1/8	8.36	10.72	SD#42
1/4	7/32	1/8	13.70	16.72	SD#51
5/32	5/32	1/8	20.08	23.08	SD#52
3/16	5/32	1/8	20.08	23.08	SD#53
3/32	3/32	3/32	9.56	11.92	SD#61
3/16	5/32	3/16	14.96	18.52	SD#81
1/8	3/32	1/4	15.28	18.86	SD-011
3/16	1/8	1/4	15.28	18.86	SD-014
1/4	7/32	1/4	15.28	18.86	SD-1
5/16	1/4	1/4	16.40	19.98	SD-2
3/8	5/16	1/4	18.32	21.88	SD-3
7/16	3/8	1/4	21.16	25.92	SD-4
1/2	7/16	1/4	24.70	29.46	SD-5
5/8	9/16	1/4	30.58	39.06	SD-6
3/4	11/16	1/4	48.58	52.00	SD-7
1	15/16	1/4	72.56	83.84	SD-9

## OVAL SHAPE - (SE) BURS



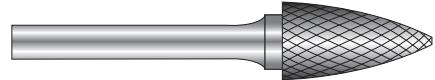
SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			DOUBLE CUT	TIN COATED	
			SCB	SCBT	
1/8	7/32	1/8	8.36	10.72	SE#41
1/4	3/8	1/8	13.70	16.72	SE#51
3/16	9/32	1/8	20.08	23.08	SE#53
3/32	1/8	3/32	9.56	11.92	SE#61
3/16	9/32	3/16	14.96	18.52	SE#81
3/16	5/16	1/4	18.62	22.20	SE-011
1/4	3/8	1/4	18.62	22.20	SE-1
3/8	5/8	1/4	22.30	25.88	SE-3
1/2	7/8	1/4	32.68	37.42	SE-5
5/8	1	1/4	60.90	53.84	SE-6
3/4	1	1/4	60.90	70.66	SE-7

## TREE SHAPE RADIUS END - (SF) BURS



SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			DOUBLE CUT	TIN COATED	
			SCB	SCBT	
1/8	1/4	1/8	8.36	10.72	SF#41
1/8	1/2	1/8	8.36	10.72	SF#42
1/4	1/2	1/8	13.70	16.72	SF#51
3/16	1/2	1/8	20.08	23.08	SF#53
3/32	1/4	3/32	9.56	11.92	SF#61
3/16	1/2	3/16	14.96	18.52	SF#81
1/8	1/2	1/4	17.30	20.88	SF-011
1/4	3/4	1/4	17.30	20.88	SF-1
3/8	3/4	1/4	21.84	25.42	SF-3
7/16	1	1/4	30.32	35.08	SF-4
1/2	1	1/4	32.30	37.02	SF-5
1/2	3/4	1/4	32.30	37.02	SF-513
5/8	1	1/4	44.58	53.06	SF-6
3/4	1	1/4	58.64	68.38	SF-7
3/4	1-1/4	1/4	73.76	83.50	SF-714
3/4	1-1/2	1/4	86.58	96.36	SF-715

## TREE SHAPE POINTED END - (SG) BURS



SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			DOUBLE CUT	TIN COATED	
			SCB	SCBT	
1/8	1/4	1/8	8.36	10.72	SG#41
1/8	5/16	1/8	8.36	10.72	SG#42
1/8	3/8	1/8	8.36	10.72	SG#43
1/8	1/2	1/8	8.36	10.72	SG#44
1/4	1/2	1/8	13.70	16.72	SG#51
3/16	1/2	1/8	20.08	23.08	SG#53
3/32	1/4	3/32	9.56	11.92	SG#61
3/16	1/2	3/16	14.96	18.52	SG#81
1/4	5/8	1/4	17.30	20.88	SG-1
5/16	3/4	1/4	21.04	24.62	SG-2
3/8	3/4	1/4	23.30	26.88	SG-3
1/2	1	1/4	31.68	36.42	SG-5
1/2	3/4	1/4	31.68	36.42	SG-513
5/8	1	1/4	44.06	52.52	SG-6
3/4	1	1/4	58.64	68.38	SG-7
3/4	1-1/2	1/4	86.58	96.36	SG-715

**NOTE:** Metric size burs are available upon request.

Unless otherwise specified, all burs are Double Cut.  
Plain Cut and Chipbreaker are also available at the same price as Double Cut.

# SOLID CARBIDE BURS

FT-30

ICS USA

SPECIAL PURPOSE

CNC GROUND

## FLAME SHAPE - (SH) BURS



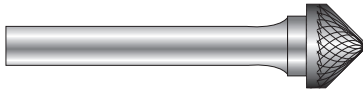
SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			DOUBLE CUT	TIN COATED	
			SCB	SCBT	
1/8	1/4	1/8	8.36	10.72	SH#43
3/16	3/8	1/8	20.08	23.08	SH#53
1/4	5/8	1/4	20.34	23.90	SH-1
5/16	3/4	1/4	22.92	26.50	SH-2
1/2	1-1/4	1/4	46.72	51.48	SH-5
5/8	1-7/16	1/4	64.52	72.98	SH-6
3/4	1-5/8	1/4	81.90	91.66	SH-7

## 60° CONE SHAPE - (SJ) BURS



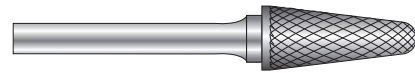
SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			DOUBLE CUT	TIN COATED	
			SCB	SCBT	
1/8	3/32	1/8	8.36	10.72	SJ#42
1/4	3/16	1/4	15.28	18.86	SJ-1
3/8	5/16	1/4	19.90	23.46	SJ-3
1/2	7/16	1/4	24.26	29.00	SJ-5
5/8	9/16	1/4	32.30	40.76	SJ-6
3/4	11/16	1/4	42.34	52.00	SJ-7
1	15/16	1/4	67.94	79.24	SJ-9

## 90° CONE SHAPE - (SK) BURS



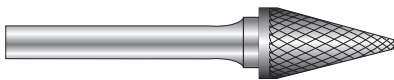
SIZE	FLUTE LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
			DOUBLE CUT	TIN COATED	
			SCB	SCBT	
1/8	1/16	1/8	8.36	10.72	SK#42
3/16	5/32	3/16	14.96	18.52	SK#81
1/4	1/8	1/4	15.28	18.86	SK-1
3/8	3/16	1/4	19.90	23.46	SK-3
1/2	1/4	1/4	24.26	29.00	SK-5
5/8	5/16	1/4	32.30	40.76	SK-6
3/4	3/8	1/4	42.34	52.10	SK-7
1	1/2	1/4	67.94	79.24	SK-9

## TAPER SHAPE RADIUS END - (SL) BURS



SIZE	FLUTE LENGTH	SHANK DIA.	TAPER ANGLE	PRICE		ITEM NO. SUFFIX
				DOUBLE CUT	TIN COATED	
				SCB	SCBT	
1/8	3/8	1/8	8°	8.36	10.72	SL#41
1/8	1/2	1/8	8°	8.36	10.72	SL#42
3/16	1/2	1/8	14°	20.08	23.08	SL#53
3/16	7/16	3/16	14°	14.96	18.52	SL#81
1/4	5/8	1/4	14°	17.74	21.32	SL-1
5/16	7/8	1/4	14°	23.26	26.82	SL-2
3/8	1-1/16	1/4	14°	27.88	31.44	SL-3
1/2	1-1/8	1/4	14°	34.06	38.82	SL-4
5/8	1-3/16	1/4	14°	60.84	69.30	SL-5
5/8	1-5/16	1/4	14°	67.04	75.52	SL-6
3/4	1-1/2	1/4	14°	88.44	98.18	SL-7

## CONE SHAPE - (SM) BURS



SIZE	FLUTE LENGTH	SHANK DIA.	TAPER ANGLE	PRICE		ITEM NO. SUFFIX
				DOUBLE CUT	TIN COATED	
				SCB	SCBT	
1/8	11/32	1/8	12°	8.36	10.72	SM#41
1/8	7/16	1/8	14°	8.36	10.72	SM#42
1/8	5/8	1/8	7°	8.36	10.72	SM#43
1/4	1/2	1/8	22°	13.70	16.72	SM#51
3/16	1/2	1/8	16°	20.08	23.08	SM#53
3/32	1/4	3/32	10°	9.56	11.92	SM#61
1/4	1/2	1/4	22°	16.78	20.36	SM-1
1/4	3/4	1/4	14°	17.74	21.32	SM-2
1/4	1	1/4	10°	18.94	22.52	SM-3
3/8	5/8	1/4	28°	27.94	32.68	SM-4
1/2	7/8	1/4	28°	35.02	39.76	SM-5
5/8	1	1/4	31°	46.72	55.20	SM-6

## INVERTED CONE SHAPE - (SN) BURS



SIZE	FLUTE LENGTH	SHANK DIA.	TAPER ANGLE	PRICE		ITEM NO. SUFFIX
				DOUBLE CUT	TIN COATED	
				SCB	SCBT	
3/32	1/8	1/8	10°	8.36	10.72	SN#41
1/8	3/16	1/8	10°	8.36	10.72	SN#42
1/4	1/4	1/8	10°	13.70	16.72	SN#51
3/16	1/4	1/8	10°	20.08	23.08	SN#53
3/32	1/8	3/32	10°	9.56	11.92	SN#61
3/16	1/4	3/16	10°	14.96	18.52	SN#81
1/4	5/16	1/4	10°	16.94	20.50	SN-1
3/8	3/8	1/4	13°	24.70	28.30	SN-2
1/2	1/2	1/4	28°	34.88	39.66	SN-4
5/8	3/4	1/4	18°	44.78	53.24	SN-6
3/4	5/8	1/4	30°	50.28	60.04	SN-7

Unless otherwise specified, all burs are Double Cut.  
Plain Cut and Chipbreaker are also available at the same price as Double Cut.

# SOLID CARBIDE BURS - EXTRA LONG (MINIATURE)

ICS USA

SPECIAL PURPOSE

CNC GROUND

CYLINDER SHAPE



SIZE	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
				DOUBLE CUT SCBXL	TIN COATED SCBXL	
1/16	1/4	2	1/8	11.54	13.88	SA#41L2
1/16	1/4	3	1/8	13.06	15.54	SA#41L3
3/32	7/16	2	1/8	11.54	13.88	SA#42L2
3/32	7/16	3	1/8	13.06	15.54	SA#42L3
1/8	9/16	2	1/8	11.54	13.88	SA#43L2
1/8	9/16	3	1/8	13.06	15.54	SA#43L3

CYLINDER SHAPE - END CUT



SIZE	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
				DOUBLE CUT SCBXL	TIN COATED SCBXL	
1/16	1/4	2	1/8	11.54	13.88	SB#41L2
1/16	1/4	3	1/8	13.06	15.54	SB#41L3
3/32	7/16	2	1/8	11.54	13.88	SB#42L2
3/32	7/16	3	1/8	13.06	15.54	SB#42L3
1/8	9/16	2	1/8	11.54	13.88	SB#43L2
1/8	9/16	3	1/8	13.06	15.54	SB#43L3

CYLINDER SHAPE - RADIUS END



SIZE	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
				DOUBLE CUT SCBXL	TIN COATED SCBXL	
1/8	9/16	2	1/8	11.54	13.88	SC#42L2
1/8	9/16	3	1/8	13.06	15.54	SC#42L3

BALL SHAPE



SIZE	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
				DOUBLE CUT SCBXL	TIN COATED SCBXL	
1/8	9/16	2	1/8	11.54	13.88	SD#42L2
1/8	9/16	3	1/8	13.06	15.54	SD#42L3

OVAL SHAPE



SIZE	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
				DOUBLE CUT SCBXL	TIN COATED SCBXL	
1/8	9/16	2	1/8	11.54	13.88	SE#41L2
1/8	9/16	3	1/8	13.06	15.54	SE#41L3

TREE SHAPE - RADIUS END



SIZE	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
				DOUBLE CUT SCBXL	TIN COATED SCBXL	
1/8	9/16	2	1/8	11.54	13.88	SF#42L2
1/8	9/16	3	1/8	13.06	15.54	SF#42L3

TREE SHAPE - POINTED END



SIZE	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
				DOUBLE CUT SCBXL	TIN COATED SCBXL	
1/8	9/16	2	1/8	11.54	13.88	SG#44L2
1/8	9/16	3	1/8	13.06	15.54	SG#44L3

FLAME SHAPE



SIZE	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	PRICE		ITEM NO. SUFFIX
				DOUBLE CUT SCBXL	TIN COATED SCBXL	
1/8	9/16	2	1/8	11.54	13.88	SH#41L2
1/8	9/16	3	1/8	13.06	15.54	SH#41L3

TAPER SHAPE - RADIUS END



SIZE	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	TAPER ANGLE	PRICE		ITEM NO. SUFFIX
					DOUBLE CUT SCBXL	TIN COATED SCBXL	
1/8	1/2	2	1/8	8°	11.54	13.88	SL#42L2
1/8	1/2	3	1/8	8°	13.06	15.54	SL#42L3

CONE SHAPE



SIZE	FLUTE LENGTH	OVERALL LENGTH	SHANK DIA.	TAPER ANGLE	PRICE		ITEM NO. SUFFIX
					DOUBLE CUT SCBXL	TIN COATED SCBXL	
1/8	1/2	2	1/8	8°	11.54	13.88	SM#42L2
1/8	1/2	3	1/8	8°	13.06	15.54	SM#42L3

Unless otherwise specified, all burs are Double Cut.  
Plain Cut and Chipbreaker are also available at the same price as Double Cut.

# SOLID CARBIDE BURS - 1/4" SHANK - 6" LENGTH

ICS USA

SPECIAL PURPOSE

CNC GROUND



CYLINDER SHAPE



SIZE	FLUTE LENGTH	SHANK	ITEM NO.	PRICE
1/4	1/2	1/4	SCBL-SA-1	22.50
3/8	3/4	1/4	SCBL-SA-3	31.74
1/2	1	1/4	SCBL-SA-5	49.50

CYLINDER SHAPE - RADIUS END



SIZE	FLUTE LENGTH	SHANK	ITEM NO.	PRICE
1/4	1/2	1/4	SCBL-SC-1	26.22
3/8	3/4	1/4	SCBL-SC-3	35.32
1/2	1	1/4	SCBL-SC-5	55.50

BALL SHAPE



SIZE	FLUTE LENGTH	SHANK	ITEM NO.	PRICE
1/4	3/16	1/4	SCBL-SD-1	24.22
3/8	5/16	1/4	SCBL-SD-3	29.04
1/2	7/16	1/4	SCBL-SD-5	39.10

OVAL SHAPE



SIZE	FLUTE LENGTH	SHANK	ITEM NO.	PRICE
1/4	3/8	1/4	SCBL-SE-1	29.16
3/8	5/8	1/4	SCBL-SE-3	35.32
1/2	7/8	1/4	SCBL-SE-5	51.70

TREE SHAPE - RADIUS END



SIZE	FLUTE LENGTH	SHANK	ITEM NO.	PRICE
1/4	1/2	1/4	SCBL-SF-1	27.36
3/8	3/4	1/4	SCBL-SF-3	34.60
1/2	1	1/4	SCBL-SF-5	51.00

TREE SHAPE - POINTED END



SIZE	FLUTE LENGTH	SHANK	ITEM NO.	PRICE
1/4	1/2	1/4	SCBL-SG-1	27.36
3/8	3/4	1/4	SCBL-SG-3	36.82
1/2	1	1/4	SCBL-SG-5	50.28

FLAME SHAPE



SIZE	FLUTE LENGTH	SHANK	ITEM NO.	PRICE
5/16	3/4	1/4	SCBL-SH-2	36.32
1/2	1-1/4	1/4	SCBL-SH-5	73.92

14° TAPER - RADIUS END



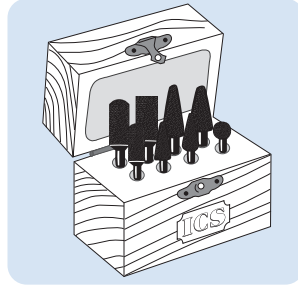
SIZE	FLUTE LENGTH	SHANK	ITEM NO.	PRICE
1/4	5/8	1/4	SCBL-SL-1	28.00
3/8	1-1/16	1/4	SCBL-SL-3	44.10
1/2	1-1/8	1/4	SCBL-SL-4	64.50

# SOLID CARBIDE BUR SETS

ICS USA

WOODEN BOXES

CNC GROUND



DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>8 PC BUR SETS</b>	Reg. Sizes-Solid Carbide	1/4	Double	<b>SCBSW-SCB-8</b>	312.22
	Reg. Sizes-Solid Carbide-TiN Coated	1/4	Double	<b>SCBSW-SCBT-8</b>	-
<b>SIZES OF BURS IN SETS</b>					
1/4" SHANK	SA-5, SC-3, SC-5, SD-5, SF-3, SF-5, SG-3, SL-4				

DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>8 PC NF BUR SETS</b>	Reg. Sizes-NF Solid Carbide	1/4	NF	<b>SCBSW-NF-8</b>	385.64
	Reg. Sizes-NF Solid Carbide-ZrN Coated	1/4	NF	<b>SCBSW-NFZ-8</b>	430.22
<b>SIZES OF BURS IN SETS</b>					
1/4" SHANK	SA-5, SC-3, SC-5, SD-5, SF-3, SF-5, SE-5, SL-4				

DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>16 PC BUR SETS</b>	Reg. Sizes-Solid Carbide	1/4	Double	<b>SCBSW-SCB-16</b>	449.54
	Reg. Sizes-Solid Carbide-TiN Coated	1/4	Double	<b>SCBSW-SCBT-16</b>	490.62
<b>SIZES OF BURS IN SETS</b>					
1/4" SHANK	SA-1, SA-3, SA-5, SC-1, SC-3, SC-5, SD-3, SD-5, SE-3, SF-1, SF-3, SF-5, SG-1, SG-3, SL-3, SL-4				

DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>8 PC BUR SETS</b>	#81 Sizes-Solid Carbide	3/16	Double	<b>SCBSW #81-8</b>	139.06
	#81 Sizes-Solid Carbide-TiN Coated	3/16	Double	<b>SCBSW #81T-8</b>	167.66
<b>SIZES OF BURS IN SETS</b>					
3/16" SHANK	SA #81, SC #81, SD #81, SE #81, SF #81, SG #81, SL #81, SN #81				

DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>9 PC BUR SETS</b>	#51 Sizes-Solid Carbide	1/8	Double	<b>SCBSW #51-9</b>	142.60
	#51 Sizes-Solid Carbide-TiN Coated	1/8	Double	<b>SCBSW #51T-9</b>	169.68
<b>SIZES OF BURS IN SETS</b>					
1/8" SHANK	SA #51, SB #51, SC #51, SD #51, SE #51, SF #51, SG #51, SM #51, SN #51				

DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>12 PC BUR SETS</b>	#52/#53 Sizes-Solid Carbide	1/8	Double	<b>SCBSW #52-12</b>	260.02
	#52/#53 Sizes-Solid Carbide-TiN Coated	1/8	Double	<b>SCBSW #52T-12</b>	296.14
<b>SIZES OF BURS IN SETS</b>					
1/8" SHANK	SA #52, SA #53, SC #52, SC #53, SD #53, SE #53, SF #53, SG #53, SH #53, SL #53, SM #53, SN #53				

DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>12 PC BUR SETS</b>	#41-#43 Sizes-Solid Carbide	1/8	Double	<b>SCBSW #41-12</b>	119.64
	#41-#43 Sizes-Solid Carbide-TiN Coated	1/8	Double	<b>SCBSW #41T-12</b>	147.86
<b>SIZES OF BURS IN SETS</b>					
1/8" SHANK	SA #42, SA #43, SC #41, SC #42, SD #42, SE #41, SF #42, SG #43, SH #41, SL #42, SM #42, SN #42				

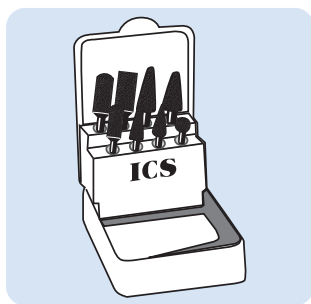
DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>9 PC BUR SETS</b>	#61-#63 Sizes-Solid Carbide	3/32	Double	<b>SCBSW #61-9</b>	105.52
	#61-#63 Sizes-Solid Carbide-TiN Coated	3/32	Double	<b>SCBSW #61T-9</b>	126.70
<b>SIZES OF BURS IN SETS</b>					
3/32" SHANK	SA #61, SA #63, SC #61, SD #61, SE #61, SF #61, SG #61, SM #61, SN #61				

# SOLID CARBIDE BUR SETS

**ICS USA**

**METAL INDEXES**

**CNC GROUND**



DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>8 PC BUR SETS</b>	Reg. Sizes-Solid Carbide	1/4	Double	<b>SCBS-SCB-8</b>	235.38
	Reg. Sizes-Solid Carbide-TiN Coated	1/4	Double	<b>SCBS-SCBT-8</b>	442.24
<b>SIZES OF BURS IN SETS</b>					
1/4" SHANK	SA-5, SC-3, SC-5, SD-5, SF-3, SF-5, SG-3, SL-4				
DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>8 PC NF BUR SETS</b>	Reg. Sizes-NF Solid Carbide	1/4	Double	<b>SCBS-SCBNF-8</b>	370.72
	Reg. Sizes-NF Solid Carbide-TiN Coated	1/4	Double	<b>SCBS-SCBNFZ-8</b>	418.14
<b>SIZES OF BURS IN SETS</b>					
1/4" SHANK	SA-5, SC-3, SC-5, SD-5, SE-5, SF-3, SF-5, SL-4				
DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>11 PC BUR SETS</b>	Reg. Sizes-Solid Carbide	1/4	Double	<b>SCBS-SCB-11</b>	300.60
	Reg. Sizes-Solid Carbide-TiN Coated	1/4	Double	<b>SCBS-SCBT-11</b>	345.82
<b>SIZES OF BURS IN SETS</b>					
1/4" SHANK	SA-3, SA-5, SC-3, SC-5, SD-3, SD-5, SE-3, SF-3, SF-5, SL-3, SL-4				
DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>9 PC BUR SETS</b>	#51 Sizes-Solid Carbide	1/8	Double	<b>SCBS #51-9</b>	138.26
	#51 Sizes-Solid Carbide-TiN Coated	1/8	Double	<b>SCBS #51T-9</b>	165.36
<b>SIZES OF BURS IN SETS</b>					
1/8" SHANK	SA #51, SB #51, SC #51, SD #51, SE #51, SF #51, SG #51, SM #51, SN #51				
DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>13 PC BUR SETS</b>	#52-#53 Sizes-Solid Carbide	1/8	Double	<b>SCBS #52-13</b>	275.88
	#52-#53 Sizes-Solid Carbide-TiN Coated	1/8	Double	<b>SCBS #52T-13</b>	315.02
<b>SIZES OF BURS IN SETS</b>					
1/8" SHANK	SA #52, SA #53, SC #52, SC #53, SD #52, SD #53, SE #53, SF #53, SG #53, SH #53, SL #53, SM #53, SN #53				
DESCRIPTION	SIZE / TYPE OF BUR	SHANK	CUT	ITEM NO.	PRICE
<b>13 PC BUR SETS</b>	#41-#43 Sizes-Solid Carbide	1/8	Double	<b>SCBS #41-13</b>	123.62
	#41-#43 Sizes-Solid Carbide-TiN Coated	1/8	Double	<b>SCBS #41T-13</b>	154.18
<b>SIZES OF BURS IN SETS</b>					
1/8" SHANK	SA #42, SA #43, SC #41, SC #42, SD #42, SE #41, SF #42, SG #43, SH #41, SJ #42, SL #53, SM #53, SN #53				

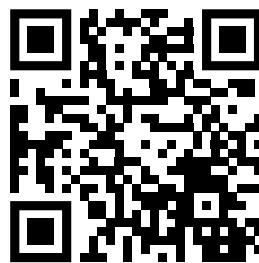
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