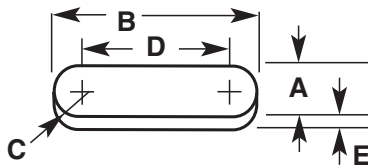




Hardware & Equipment

Freeman Lok-In Pattern Letters

Freeman Lok-In Pattern Letters are widely used in the foundry industry for the fast changing of letters and numbers used for date code, serial number, and alloy identification. The holder and letters are made with a dovetail design to secure the characters firmly in place while permitting their easy removal and replacement. They are made of high quality investment cast steel.



Letter Holder Size	3 Letter				4 Letter				5 Letter		6 Letter		7 Letter		8 Letter		9 Letter	
	A	C	E	B	D	B	D	B	D	B	D	B	D	B	D	B	D	
1/4"	1/2	3/8	3/16	1 1/16	1 9/16	1 31/32	1 15/32	2 1/4	1 3/4	2 17/32	2 1/32	2 19/16	2 5/16	3 3/32	2 19/32	3 13/32	2 29/32	
3/8"	3/4	3/8	3/16	2 11/32	1 19/32	2 13/16	2 1/16	3 1/4	2 1/2	3 11/16	2 15/16	4 3/16	3 7/16	4 19/32	3 27/32	5 1/16	4 9/32	
1/2"	1 5/16	1 9/32	3/16	3 1/16	2 1/8	3 21/32	2 23/32	4 9/32	3 11/32	4 31/32	4 1/32	5 9/16	4 5/8	6 7/32	5 9/32	6 7/8	5 15/16	
3/4"	1 1/8	9/16	3/16	3 19/32	2 15/32	4 11/32	3 7/32	5 1/8	4	5 27/32	4 23/32	6 23/32	5 19/32	7 3/8	6 1/4	8 1/8	7	

Freeman Lok-In Pattern Letters

Letter	Catalog Numbers				
	1/4"	3/8"	1/2"	3/4"	1/4" Recessed
A	124410A	124430A	124450A	124470A	124490A
B	124410B	124430B	124450B	124470B	124490B
C	124410C	124430C	124450C	124470C	124490C
D	124410D	124430D	124450D	124470D	124490D
E	124410E	124430E	124450E	124470E	124490E
F	124410F	124430F	124450F	124470F	124490F
G	124410G	124430G	124450G	124470G	124490G
H	124410H	124430H	124450H	124470H	124490H
I	124410I	124430I	124450I	124470I	124490I
J	124410J	124430J	124450J	124470J	124490J
K	124410K	124430K	124450K	124470K	124490K
L	124410L	124430L	124450L	124470L	124490L
M	124410M	124430M	124450M	124470M	124490M
O*	124400	124420	124440	124460	124480
N	124410N	124430N	124450N	124470N	124490N
P	124410P	124430P	124450P	124470P	124490P
Q	124410Q	124430Q	124450Q	124470Q	124490Q
R	124410R	124430R	124450R	124470R	124490R
S	124410S	124430S	124450S	124470S	124490S
T	124410T	124430T	124450T	124470T	124490T
U	124410U	124430U	124450U	124470U	124490U
V	124410V	124430V	124450V	124470V	124490V
W	124410W	124430W	124450W	124470W	124490W
X	124410X	124430X	124450X	124470X	124490X
Y	124410Y	124430Y	124450Y	124470Y	124490Y
Z	124410Z	124430Z	124450Z	124470Z	124490Z

Please note that the number nine is ordered as a six and the letter O is ordered as a zero.

Freeman Lok-In Pattern Numbers

Number	Catalog Numbers				
	1/4"	3/8"	1/2"	3/4"	1/4" Recessed
0	124400	124420	124440	124460	124480
1	124401	124421	124441	124461	124481
2	124402	124422	124442	124462	124482
3	124403	124423	124443	124463	124483
4	124404	124424	124444	124464	124484
5	124405	124425	124445	124465	124485
6	124406	124426	124446	124466	124486
7	124407	124427	124447	124467	124487
8	124408	124428	124448	124468	124488
9*	124406	124426	124446	124466	124486
Blank	124411	124431	124451	124471	
Dash	124412	124432	124452	124472	124491

Please note that the number nine is ordered as a six and the letter O is ordered as a zero.

End Plates/Holders/Screws

Description	Catalog Number			
	1/4"	3/8"	1/2"	3/4"
Lok-In End Plates (incl. screw)	124285	124295	124300	124305
3 Letter Holder	124045	124125	124165	124205
4 Letter Holder	124050	124130	124170	124210
5 Letter Holder	124055	124135	124175	124215
6 Letter Holder	124060	124140	124180	124220
7 Letter Holder	124065	124145	124185	124225
8 Letter Holder	124070	124150	124190	124230
9 Letter Holder	124075	124155	124195	124235
Replacement Screws	124320			

NOTE: Lok-In End Plates are sold separately from Letter Holders.

Freeman Standard Pattern Letters

Freeman Pattern Letters and Figures are utilized for a wide range of applications throughout the pattern and foundry industries. Generally applied to the pattern or corebox, these letters enable identifications such as company name, part number, and date code to be permanently cast into the finished product.

Measurements are outside-to-outside of face or center-to-center of face, depending on style. Overall height greater because of draft.

Most styles available drilled for mounting purposes (additional charges apply). Please see product description for availability.

Ordering Information

When placing an order, please locate the catalog number from the lists provided for the desired style and size you would like. When providing this part number, add the number, symbol or letter you wish to order to the end of the catalog number and include the quantities you desire. Please note that the number nine is ordered as a six and the letter O is ordered as a zero.

Example: $\frac{3}{4}$ " Sharp-Face Gothic White Metal '#6' would be 121048#6
 $\frac{3}{4}$ " Sharp-Face Gothic White Metal 'A' would be 121048A

FMSC 1902

Sharp-Face Gothic – White Metal

Catalog Number	Height	Thickness	Width	Drilling Availability
121032	1/8"	1/16"	0.162	No
121034	3/16"	1/16"	0.200	No
121036	1/4"	1/16"	0.262	No
121038	5/16"	1/16"	0.325	Yes
121040	3/8"	1/16"	0.375	Yes
121042	7/16"	1/16"	0.500	Yes
121044	1/2"	1/16"	0.555	Yes
121046	5/8"	1/8"	0.700	Yes
121048	3/4"	1/8"	0.725	Yes
121050	7/8"	5/32"	0.850	Yes
121052	1"	5/32"	0.950	Yes
121054	1 1/4"	3/16"	1.150	Yes
121056	1 1/2"	1/4"	1.400	Yes
121060	2"	1/4"	1.850	Yes
121602	2 1/2"	5/16"	2.300	Yes
121604	3"	3/8"	2.750	Yes

02M7 2001

Sharp-Face Gothic Reverse – White Metal

Catalog Number	Height	Thickness	Width	Drilling Availability
121084	3/16"	1/16"	0.200	No
121086	1/4"	1/16"	0.262	No
121088	5/16"	1/16"	0.325	Yes
121090	3/8"	1/16"	0.375	Yes
121092	1/2"	3/32"	0.555	Yes
121094	5/8"	1/8"	0.700	Yes
121096	3/4"	1/8"	0.725	Yes
121098	1"	5/32"	0.950	Yes
121100	1 1/4"	13/64"	1.150	Yes
121102	1 1/2"	15/64"	1.400	Yes
121104	2"	13/64"	1.850	Yes

FMSC 1902

Flat-Face Gothic – White Metal

Catalog Number	Height	Thickness	Width	Drilling Availability
121194	3/16"	1/32"	0.200	No
121196	1/4"	1/16"	0.331	No
121198	5/16"	1/16"	0.400	Yes
121200	3/8"	1/16"	0.450	Yes
121202	1/2"	1/16"	0.575	Yes
121204	5/8"	1/64"	0.675	Yes
121206	3/4"	3/32"	0.775	Yes
121208	7/8"	3/32"	0.900	Yes
121210	1"	1/8"	1.000	Yes
121212	1 1/4"	9/64"	1.200	Yes
121214	1 1/2"	5/32"	1.450	Yes
121216	2"	3/16"	1.900	Yes
121218	2 1/2"	3/16"	2.350	Yes

FMSC 1902

Heavy Hairline – White Metal

Catalog Number	Height	Thickness	Width	Drilling Availability
121124	1/8"	1/32"	0.143	No
121126	3/16"	1/32"	0.200	No
121128	1/4"	1/32"	0.250	No
121130	5/16"	1/16"	0.300	No
121132	3/8"	1/16"	0.350	No
121134	1/2"	1/16"	0.462	No
121136	5/8"	1/16"	0.537	No
121138	3/4"	1/16"	0.637	No
121140	1"	1/8"	0.875	No

FSMC 1902

Light Hairline – White Metal

Catalog Number	Height	Thickness	Width	Drilling Availability
121156	1/8"	1/32"	0.125	No
121158	3/16"	1/32"	0.175	No
121160	1/4"	1/32"	0.231	No
121162	5/16"	1/32"	0.275	No
121164	3/8"	1/32"	0.318	No
121166	1/2"	1/16"	0.437	No
121168	3/4"	1/16"	0.625	No

SEE ALSO:

Product
F-Bond CA Adhesives for affixing

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Freeman Standard Pattern Letters [CONT'D.]

FMSC 1902

Round-Face Gothic – White Metal

Catalog Number	Height	Thickness	Width	Drilling Availability
121340	3/8"	3/32"	0.400	Yes
121342	1/2"	3/32"	0.537	Yes
121344	5/8"	1/8"	0.637	Yes
121346	3/4"	1/8"	0.725	Yes
121348	1"	3/16"	0.950	Yes
121350	1 1/4"	3/16"	1.175	Yes
121352	1 1/2"	3/16"	1.425	Yes

FMSC 1902

Deep Block – White Metal

Catalog Number	Height	Thickness	Width	Drilling Availability
121238	1/4"	1/8"	0.375	No
121240	3/8"	1/8"	0.475	Yes
121242	1/2"	1/8"	0.575	Yes
121244	5/8"	1/8"	0.662	Yes
121246	3/4"	1/8"	0.762	Yes
121248	7/8"	3/16"	0.862	Yes
121250	1"	3/16"	0.950	Yes
121252	1 1/4"	3/16"	1.175	Yes
121254	1 1/2"	1/4"	1.350	Yes
121256	2"	1/4"	1.825	Yes

FMSC 1902

Tablet – White Metal

Catalog Number	Height	Thickness	Width	Drilling Availability
121522	1/4"	3/32"	0.350	No
121526	3/8"	3/32"	0.425	Yes
121528	1/2"	3/32"	0.525	Yes
121530	5/8"	3/32"	0.625	Yes
121532	3/4"	3/32"	0.700	Yes
121534	1"	3/32"	0.900	Yes
121536	1 1/4"	1/8"	1.062	Yes
121538	1 1/2"	1/8"	1.250	Yes
121542	2"	1/8"	1.700	Yes

Customized Logos

Special letters, figures, monograms, and logos can be made either from existing patterns or a drawing.

Customized Logos are available for order in White Metal. There is a 100 piece minimum for each order.



Please provide the following for a quote:

1. Dimensions (Length x Width x Thickness)
2. To-Scale Drawing of Logo

We will respond with a price for the logos and the amount of the one-time set up charge for the mold. A mold will then be created and a sample will be sent for approval.

Fax all diagrams to: Freeman Manufacturing & Supply Co.
 Inside Sales Department
 (440) 934-7200
 contactus@freemansupply.com

Freeman Pattern Letter Cabinet

Our Pattern Letter Cabinet is an ideal metal cabinet for pattern letter storage. Each drawer has a curved bottom so that letters can be easily removed and the dividers fit tightly to the drawer bottom so letters cannot slide from one compartment to the next. Enough drawer dividers are included to convert each



drawer to 12 compartments. The cabinet is made up of two drawers and any number of two drawer units may be stacked one on top of the other. Interlocking tabs on the cabinet units hold stacked units firmly in place.

Specifications:

- Standard unit size – 3 1/4" height x 11" length x 11" width
- Drawer size – 1 5/8" height x 11" length x 11" width
- Number of compartments – 12
- Average number of letters per drawer (SFG White Metal) – 300 (1/2"); 90 (3/4"); 40 (1")

Catalog Number	Description
027435	Pattern Letter Cabinet
027436	Additional Cabinet Dividers

SEE ALSO:

Product

F-Bond Instant CA Adhesives for affixing

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Tapes and Embossers



Image above is at actual size.

Roovers Embossing Press

Primarily used in the pattern and foundry industries for numbering patterns and core boxes. Other applications include numbering bins, parts, machines, storage areas, lockers, etc.



Known for their rugged construction and simple operation, these embossing presses are furnished with deep strike type characters.

Reverse styles of characters are available; information upon request.

Catalog Number	Description	Mfg. No.
019370	Roovers Embossing Press – 1/4" Letter Size, 1/2" Wide Tape	T-10A
019372	Roovers Embossing Press – 3/8" Letter Size, 7/8" Wide Tape	T-20

Parts available upon request.

Embossing Tapes

We offer Zinc, Aluminum, Brass, and Steel Embossing Tapes for use with Roovers or any other embossing presses.

Please note that Brass and Steel Tapes must be purchased in box quantities and have extended lead times. All other tapes are sold individually.

Catalog Number	Description	Letter Size	Thickness	Roll Width	Roll Length	Rolls/Box
035075	Aluminum Embossing Tape	1/4"	.015	1/2"	85'	10
035070	Aluminum Embossing Tape	1/4"	.012	1/2"	120'	10
035090	Aluminum Embossing Tape	5/16"	.018	3/4"	80'	7
035100	Aluminum Embossing Tape	3/8"	.018	7/8"	80'	6
035110	Aluminum Embossing Tape	3/4"	.022	1 1/4"	65'	4
035120	Aluminum Embossing Tape	3/4"	.022	1 1/2"	65'	4
035015	Zinc Embossing Tape	1/4"	.015	1/2"	120'	10
035025	Zinc Embossing Tape	5/16"	.018	3/4"	80'	7
035030	Zinc Embossing Tape	3/8"	.020	7/8"	105'	6
035035	Zinc Embossing Tape	1/2"	.022	1 1/8"	95'	5
035045	Zinc Embossing Tape	3/4"	.022	1 1/2"	65'	4
035124	Brass Embossing Tape	1/4"	.005	1/2"	85'	10
035125	Brass Embossing Tape	3/8"	.020	7/8"	125'	6
035076	Cold Roll Steel Embossing Tape	1/4"	.015	1/2"	85'	10
035078	Cold Roll Steel Embossing Tape	3/8"	.015	7/8"	85'	6

Dymo Tapewriter

A portable tapewriter to use for almost any type of identification work. Will emboss letters and numbers on colored pressure sensitive vinyl tape or on metal tape without adhesive. Letters will mold in fine sand.

The Embosser includes one (1) standard wheel and one (1) reverse wheel.



Catalog Number	Description	Tape Width
019374	Dymo-Mite Hand Embosser – 3/16" Letter Size	1/2"
035195	Aluminum Metal Tape without Adhesive	1/2"



Abrasives

Types of Abrasives Offered:

Garnet – A reddish brown, natural mineral, that features a medium hardness and good cutting edges that have a tendency to break or fracture when used, thus creating new cutting edges. Garnet is used primarily for fine finishing of wood.

Aluminum Oxide – A synthetic, gray-brown mineral that is tough and durable. This widely used abrasive is ideal for both woodworking and metalworking.

Silicon Carbide – A very hard, shiny, synthetic, black colored mineral that has a brittle quality permitting it to fracture into sharp, sliver-like wedges as it works. Silicon carbide is used for sanding a wide range of metals, plastics, or glass.

Types of Backings Offered:

Paper – Used mainly with garnet abrasive. Paper sheets are available in weights A, C, and D (A being the lightest).

Cloth – Produces a durable and flexible backing, and is mainly used with aluminum oxide abrasive.

Waterproof Paper – Used mainly with silicon carbide abrasive.

Other weights & grits are available by special order.
Please contact Customer Service for complete details.

Abrasive Sheets (9" x 11")

An extensive selection of garnet, aluminum oxide, and silicon carbide abrasive sheets with paper or cloth backing. These sheets are sold in full package quantities.



Garnet Paper Sheets

These 3M™ abrasives are open coat—where the abrasive granules cover 50-70% of the backing and are set at a pre-determined spacing to reduce loading or clogging.

Catalog Number	Weight	Grit	Style No.	Shts/Pkg
132005	A	80	110N	50
132010	A	100	110N	100
132015	A	120	110N	100
132020	A	150	110N	100
132025	A	180	110N	100
132030	A	220	110N	100
132071	C	100	130N	100
132076	C	120	130N	100
132081	C	150	130N	100
132052*	D	40	–	50
132056	D	50	140N	50
132061	D	60	140N	50
132066	D	80	140N	50

*Not manufactured by 3M

Aluminum-Oxide Cloth Sheets

These 3M abrasive products are made with aluminum oxide uniformly applied to light, J weight cloth sheets. They are primarily used for metalworking but may also be used for woodworking.

Catalog Number	Weight	Grit	Style No.	Shts/Pkg
132095	J	80	211K	50
132100	J	100	211K	50
132105	J	120	211K	50

Silicon Carbide Wetordry™ Paper Sheets

These sheet are made by coating a waterproof paper backing with silicon carbide.

The flexible A weight paper is designed primarily for automotive applications where wet sanding is required. The sturdy C weight paper is designed for general industrial applications where greater backing strength is required. Good for metal, wood or glass.

Catalog Number	Weight	Grit	Style No.	Shts/Pkg
132130	A	180	431Q	50
132150	A	220	413Q	50
132165	A	600	413Q	50
132145	C	80	431Q	50
132135	C	100	431Q	50
132142	C	150	431Q	50
132155	C	320	431Q	50
132160	C	400	431Q	50

Silicon Carbide Coated Abrasive Mesh

Commonly referred to as “drywall sandpaper” or “sanding screen”, this abrasive is made with a silicon carbide mineral that is coated on a durable screen cloth mesh with waterproof bond. Ideal for plaster and other substrates that would load conventional abrasives.

Catalog Number	Grit	Style No.	Shts/Pkg
132170	80	483W	25
132175	100	483W	25

Abrasives [CONT'D.]



Disc Sanders Abrasives

12" to 36" diameter abrasive discs for State, Master and other large disc sanders. Available in aluminum-oxide resin bond cloth and garnet paper.

3M™ Aluminum-Oxide PSA Cloth Discs

These 3M discs are the premium in our line, featuring aluminum-oxide abrasive resin-bonded to a durable X weight cloth backing. These discs feature factory-applied adhesive on the backing to enable quick and easy installation to the machine. Primarily used for sanding metal.

Catalog Number	Diameter	Grit	Disc/Unit**
131455	12"	40	10
131465	15"	36	10
131460	15"	40	10
131457	15"	60	10
131475	16"	36	10
131470	16"	40	10
131468	16"	60	10
131480	18"	40	10
131495	20"	36	10
131490	20"	40	10
131488	20"	50	10
131487	20"	60	10
131486	20"	80	10
131515	24"	36	10
131505	24"	40	10
131510	24"	50	10
131511	24"	60	10
131530	30"	36	10
131525	30"	40	10

**These discs are sold individually. Unit quantities are listed for pricing and packaging reference only.

3M Aluminum-Oxide Plain-Back Cloth Discs

This product features aluminum oxide abrasive resin-bonded to a cloth backing for superior life when sanding metal. Freeman Latex Disc Cement must be used to apply these discs to the machine.

Catalog Number	Diameter	Grit	Disc/Pkg.**
131590	20"	40	25
131610	24"	36	10
131605	24"	40	10
131615	30"	40	10

**These discs are sold individually. Unit quantities are listed for pricing and packaging reference only.

Garnet Resin Bond Paper Discs

Garnet is a natural mineral that, when used as an abrasive, provides excellent results for the sanding of wood. This sharp abrasive covers 100% of the disc (closed coat) for smooth stock removal and is resin-bonded for a long service life. Freeman Latex Disc Cement must be used to apply these discs to the machine.

Catalog Number	Diameter	Grit	Disc/Pkg.**
131115	12"	40	100
131135	15"	40	100
131155	16"	40	100
131165	18"	40	100
131175	20"	40	25
131195*	24"	40	20
131201	24"	40	20
131215	30"	40	20
131223	36"	40	20

*These discs are manufactured with a 1" diameter center hole.

**These discs are sold individually. Unit quantities are listed for pricing and packaging reference only.

Freeman Latex Disc Cement

Specifically formulated for securing paper and cloth-backed abrasives to any disc sanding machine. Freeman Latex Disc Cement is fast drying and easy to use.



6 Easy Steps For Application:

1. Clean both surfaces to be bonded and make sure steel disc is free of grease.
2. Brush Freeman Latex Disc Cement onto both the abrasive backing and steel disc.
3. Allow Freeman Latex Disc Cement to dry (10-30 min.) before applying abrasive.
4. Align edges of abrasive disc to steel disc and apply carefully.
5. Roll down abrasive disc from the center outward.
6. Trim the excess abrasive from the outside diameter of the disc.

Catalog Number	Description	Availability
025505	Freeman Latex Disc Cement	Quart

Freeman Abrasive Cleaner Bar

The Abrasive Cleaner Bar is easy to use – just hold the bar securely and carefully push against the



rotating abrasive disc until the majority of loaded particles are removed.

By using the abrasive cleaner bar you will realize 3 to 4 times more abrasive disc and belt life. You will also prevent burning, chatter marks and machine vibration caused by loaded abrasives.

Catalog Number	Description	Availability
136850	Abrasive Cleaner Bar	1 5/8" x 1 5/8" x 8 1/4"



Abrasives [CONT'D.]

Spindle Sanders Abrasives

Our abrasive sleeves and expanding rubber drums are designed for oscillating spindle sanders including State, Master, and other makes and models. These abrasive sleeves are constructed to give dependable service and excellent surface finishes.



Garnet Sleeves

Garnet is a natural mineral that, when used as an abrasive, provides excellent results for the sanding of wood.

For State Spindle Sanders*

Catalog Number	Diameter	Length	Grit
133004	1/4"	5"	60
133009	1/4"	6"	60
133014	3/8"	6"	60
133019	1/2"	6"	60
133027	1/2"	9"	60
133029	5/8"	6"	60
133034	5/8"	9"	60
133039	3/4"	9"	60
133048	1"	9"	60
133054	1"	11"	60
133060	1 1/4"	9"	40
133070	1 1/2"	9"	40
133080	2"	9"	40
133090	2 1/2"	9"	40
133095	3"	9"	40
133105	4"	9"	40

For Master Spindle Sanders*

Catalog Number	Diameter	Length	Grit
133065	1 1/4"	11"	40
133075	1 1/2"	11"	40
133085	2"	11"	40
133100	3"	11"	40
133110	4"	11"	40

*State and Master brands are listed for reference purposes. For other sander models please refer to diameter and length dimensions when choosing appropriate sleeves.

Aluminum-Oxide Sleeves

Made with Aluminum-Oxide, a synthetic, grey-brown colored mineral that is tough and durable, these resin-bonded, cloth-backed abrasive sleeves are used primarily in metalworking and plastic applications.

For State Spindle Sanders*

Catalog Number	Diameter	Length	Grit
133115	1/4"	5"	60
133116	1/4"	5"	80
133125	3/8"	6"	50
133126	3/8"	6"	60
133127	3/8"	6"	80
133130	1/2"	6"	50
133131	1/2"	6"	60
133132	1/2"	6"	80
133140	5/8"	6"	50
133141	5/8"	6"	60
133142	5/8"	6"	80
133150	3/4"	9"	50
133151	3/4"	9"	60
133155	1"	9"	50
133156	1"	9"	60
133165	1 1/4"	9"	40
133170	1 1/2"	9"	40
133171	1 1/2"	9"	60
133172	1 1/2"	9"	80
133185	2"	9"	40
133186	2"	9"	60
133187	2"	9"	80
133195	3"	9"	40
133196	3"	9"	60
133197	3"	9"	80
133205	4"	9"	36
133206	4"	9"	60
133207	4"	9"	80

For Master Spindle Sanders*

Catalog Number	Diameter	Length	Grit
133120	1/4"	6"	60
133135	1/2"	9"	50
133145	5/8"	9"	50
133160	1"	11"	50
133175	1 1/4"	11"	40
133180	1 1/2"	11"	40
133190	2"	11"	40
133200	3"	11"	40
133210	4"	11"	36

*State and Master brands are listed for reference purposes. For other sander models please refer to diameter and length dimensions when choosing appropriate sleeves.

Expandable Rubber Drums

These Expandable Rubber Drums are made of a rubber compounded for proper resiliency. For uniform compression and expansion, each drum is supplied with two steel washers appropriately sized to each drum. Each drum is 9" long and is sized to fit a 3/4" diameter spindle.



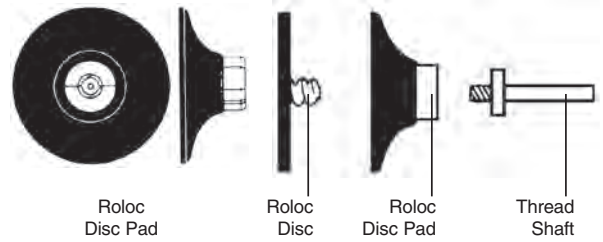
Catalog Number	Description	Drum Outside Diameter
133220	Expandable Rubber Drum	1"
133225	Expandable Rubber Drum	1 1/4"
133230	Expandable Rubber Drum	1 1/2"
133235	Expandable Rubber Drum	2"
133242	Expandable Rubber Drum	2 1/2"
133245	Expandable Rubber Drum	3"
133250	Expandable Rubber Drum	4"

Abrasives [CONTD.]

3M™ Roloc™ Discs and Holders

Used with grinders or electric drills, these abrasive discs are designed for grinding and polishing wood, metal, or plastic.

The exclusive 3M Roloc system locks the disc securely in place with just a half twist and unlocks just as easily. Available with aluminum-oxide or Scotch-Brite abrasive.



3M Roloc Aluminum Oxide Discs

3M Roloc style TR (plastic button) discs are resin-bonded, aluminum oxide discs that are offered in a variety of pad hardnesses. They provide an extremely effective means of deburring and finishing wood or metal surfaces. The discs are sold in full packages as listed and the disc holders are sold separately and individually.

Catalog Number	Pad Diameter	Color	Grit	Discs/Pkg
135265	1"	Brown	36	50
135255	1"	Green	50	50
135250	1"	Orange	60	50
135245	1"	Yellow	80	50
135240	1"	Blue	100	50
135235	1"	White	120	50
135300	1½"	Brown	36	50
135290	1½"	Green	50	50
135285	1½"	Orange	60	50
135280	1½"	Yellow	80	50
135275	1½"	Blue	100	50
135273	1½"	White	120	50
135345	2"	Black	24	50
135340	2"	Brown	36	50
135330	2"	Green	50	50
135325	2"	Orange	60	50
135320	2"	Yellow	80	50
135315	2"	Blue	100	50
135310	2"	White	120	50
135375	3"	Black	24	50
135371	3"	Brown	36	50
135365	3"	Green	50	50
135360	3"	Orange	60	50
135355	3"	Yellow	80	50
135350	3"	Blue	100	50
135348	3"	White	120	50
135405	4"	Brown	36	25
135390	4"	Orange	60	25
135385	4"	Yellow	80	25

3M Roloc Scotch-Brite Discs

These 3M Roloc discs are made with a premium Scotch-Brite surface conditioning non-woven web to provide a burr-free finish. Removes grind marks, rust, and coatings. They are sold in full packages as listed and disc holders are sold separately.

Catalog Number	Pad Diameter	Color	Grit	Discs/Pkg
136871	1½"	Brown	coarse	50
136872	1½"	Maroon	medium	50
136873	1½"	Blue	very fine	50
136874	2"	Brown	coarse	50
136875	2"	Maroon	medium	50
136876	2"	Blue	very fine	50
136877	3"	Brown	coarse	25
136878	3"	Maroon	medium	25
136879	3"	Blue	very fine	25

3M Roloc Disc Holders

These 3M Roloc Disc Holders are used exclusively with 3M Roloc Discs. Uniquely designed for fast and easy changing of the abrasive. Threaded in the center of the holder, a ½ twist installs or removes the disc. This holder is used with aluminum oxide or Scotch Brite discs. Shaft is threaded ¼" – 20". The pad hardness is rated as medium. These disc holders are sold individually.

Catalog Number	Description	Pad Diameter
135440	Disc Pad & Shaft Complete	1"
135445	Disc Pad & Shaft Complete	1½"
135450	Disc Pad & Shaft Complete	2"
135455	Disc Pad & Shaft Complete	3"
135460	Disc Pad & Shaft Complete	4"
135477	¼" – 20 UNC Threaded Shaft Only	



Abrasives [CONT'D.]

Adhesive Backed (PSA) Discs and Holders

Used with grinders or electric drills, these abrasive discs are designed for grinding and polishing wood, metal, or plastic.

Adhesive Backed (PSA) Resin-Bond Cloth Discs

These aluminum-oxide discs are excellent for grinding and finishing applications. They are resin-bonded for added durability and adhesive-backed for quick and easy disc change. The flexible rubber holder (sold separately) assures pad contact with most contours.



Catalog Number	Diameter	Grit
135480	1/2"	50
135481	1/2"	60
135482	1/2"	80
135483	1/2"	100
135486	3/4"	40
135487	3/4"	50
135488	3/4"	60
135489	3/4"	80
135490	3/4"	100
135493	1"	40
135494	1"	50
135495	1"	60
135496	1"	80
135497	1"	100
135501	1 1/2"	40
135502	1 1/2"	50
135503	1 1/2"	60
135504	1 1/2"	80
135508	2"	36
135509	2"	40
135510	2"	50
135512	2"	80
135513	2"	100
135514	2"	120
135515	3"	36
135516	3"	40
135517	3"	50
135518	3"	60
135519	3"	80
135523	4"	36
135524	4"	40
135525	4"	60
135526	4"	80
135527	4"	100
135528	5"	36
135529	5"	50

Disc Holders for Adhesive Backed Discs

A durable rubber pad that is stiff enough to hold its shape but flexible enough to prevent gouging, this product is great for use with the adhesive backed discs. All holders have a 1/4" shank to fit most hand grinders.



Catalog Number	Disc Diameter
135200	1/2"
135205	3/4"
135210	1"
135215	1 1/2"
135220	2"
135225	3"
135230	4"

Scotch Brite® Industrial Hand Pads (6" x 9")

Scotch-Brite Heavy Duty Hand Pad—Most durable and aggressive pad for quick stock removal.

Scotch Brite Blending Pads—Slightly finer abrasive than the heavy duty pad. Excellent for removing scratches on metal, wood, or synthetic surfaces.

Scotch-Brite General Purpose Hand Pad—This is the most popular Scotch Brite abrasive because it is coarse enough for cleaning and finishing but fine enough to produce good surface finishes.

Scotch-Brite Ultra-Fine Hand Pad—Fine textured for ultra-fine finishing or metal, wood, plastics, and composites.

Scotch-Brite Light Duty Hand Pad—A very mild abrasive for gentle, yet through cleaning. Commonly used with liquid detergent.



Catalog Number	Description	Color	Pads/Box	Mfg. No.
136800	Heavy Duty	Tan	10	7440
136802	Blending	Gray	10	7446
136805	General Purpose	Maroon	20	7447
136810	Ultra Fine	Light Gray	20	7448
136801	Light Duty	White	20	7445

Abrasives [CONT'D.]

Cartridge Rolls

These products are designed for finish sanding of concave surfaces of metal, wood, or plastics. Made from resin bonded aluminum oxide cloth for long life, these products work well with air or electric grinders. A steel mandrel must be used to secure the abrasive to the tool.



Catalog Number	Outside Diameter	Length	Pilot Diameter	Grit	Matched Mandrel (1/8" Shank / 1/4" Shank)
134436	1/8"	1"	5/64"	100	801 /
134437	1/8"	1"	5/64"	120	801 /
134441	1/8"	1"	5/64"	80	801 /
134435	3/16"	1"	3/32"	80	/ 805
134440	3/16"	1"	5/64"	100	/ 805
134445	3/16"	1"	5/64"	140	/ 805
134447	3/16"	1"	3/32"	240	/ 805
134454	1/4"	1"	1/8"	50	809 / 810
134455	1/4"	1"	1/8"	60	809 / 810
134460	1/4"	1"	1/8"	80	809 / 810
134465	1/4"	1"	1/8"	100	809 / 810
134470	1/4"	1"	1/8"	120	809 / 810
134475	1/4"	1"	1/8"	240	809 / 810
134480	1/4"	1 1/2"	1/8"	50	803 / 820
134485	1/4"	1 1/2"	1/8"	60	803 / 820
134490	1/4"	1 1/2"	1/8"	80	803 / 820
134495	1/4"	1 1/2"	1/8"	100	803 / 820
134500	1/4"	1 1/2"	1/8"	120	803 / 820
134505	1/4"	2"	1/8"	60	804 / 825
134510	1/4"	2"	1/8"	80	804 / 825
134511	5/16"	1 1/2"	1/8"	60	803 / 820
134515	5/16"	1 1/2"	1/8"	80	803 / 820
134520	5/16"	1 1/2"	1/8"	100	803 / 820
134525	5/16"	1 1/2"	1/8"	120	803 / 820
134526	5/16"	1 1/2"	1/8"	150	803 / 820
134530	3/8"	1"	1/8"	60	809 / 810
134535	3/8"	1"	1/8"	80	809 / 810
134540	3/8"	1"	1/8"	100	809 / 810
134545	3/8"	1"	1/8"	120	809 / 810
134550	3/8"	1 1/2"	1/8"	50	803 / 820
134555	3/8"	1 1/2"	1/8"	60	803 / 820
134560	3/8"	1 1/2"	1/8"	80	803 / 820
134565	3/8"	1 1/2"	1/8"	100	803 / 820
134570	3/8"	1 1/2"	1/8"	120	803 / 820
134575	3/8"	1 1/2"	1/8"	150	803 / 820
134579	3/8"	2"	1/8"	50	804 / 825
134580	3/8"	2"	1/8"	60	804 / 825
134585	3/8"	2"	1/8"	80	804 / 825
134590	3/8"	2"	1/8"	100	804 / 825
134586	3/8"	2"	1/8"	120	804 / 825

Cartridge Rolls [Contd.]

Catalog Number	Outside Diameter	Length	Pilot Diameter	Grit	Matched Mandrel (1/8" Shank / 1/4" Shank)
134589	1/2"	1"	1/8"	50	809 / 810
134591	1/2"	1"	1/8"	60	809 / 810
134592	1/2"	1"	1/8"	80	809 / 810
134594	1/2"	1"	1/8"	120	809 / 810
134588	1/2"	1"	1/8"	240	809 / 810
134595	1/2"	1 1/2"	1/8"	40	803 / 820
134600	1/2"	1 1/2"	1/8"	50	803 / 820
134605	1/2"	1 1/2"	1/8"	60	803 / 820
134610	1/2"	1 1/2"	1/8"	80	803 / 820
134615	1/2"	1 1/2"	1/8"	100	803 / 820
134620	1/2"	1 1/2"	1/8"	120	803 / 820
134621	1/2"	1 1/2"	1/8"	150	803 / 820
134630	1/2"	2"	1/8"	40	804 / 825
134640	1/2"	2"	1/8"	60	804 / 825
134645	1/2"	2"	1/8"	80	804 / 825
134650	1/2"	2"	1/8"	100	804 / 825
134710	5/8"	1 1/2"	3/16"	50	804 / 825
134715	5/8"	1 1/2"	3/16"	60	/ 831
134720	5/8"	1 1/2"	3/16"	80	/ 831
134721	5/8"	1 1/2"	3/16"	100	/ 831
134775	1"	1 1/2"	1/4"	40	/ 835
134785	1"	2"	1/4"	60	/ 840
134790	1"	2"	1/4"	80	/ 840

Other sizes are available by special order. Minimums will apply. Contact customer service for details.

Mandrels for Cartridge Rolls

This steel adaptor is used to secure and hold both tapered and parallel sided cartridge rolls to air grinders or electric drills. This holder is used by sliding the cartridge roll onto the mandrel pilot until the bottom of the abrasive touches the threaded steel area. Simply screw the cartridge roll onto the threads to secure.

Your mandrel should be at least 1/4" shorter than your cartridge roll.



Mandrels with 1/8" Shank Diameter

Pilot Diameter	Pilot Length			
	1/2"	3/4"	1"	1 1/2"
5/64"	134801			
3/32"			134802	
1/8"		134809	134803	134804

Mandrels with 1/4" Shank Diameter

Pilot Diameter	Pilot Length				
	1/2"	3/4"	1"	1 1/2"	2"
3/32"	134807	134805	134806		
1/8"	134808	134810	134820	134825	134826
3/16"	134830		134831	134832	
1/4"	134834		134835	134840	134841



Fasteners

Wood Screws

Professional quality, zinc-plated wood screws from Freeman are made from high grade wire steel.

They are available in phillips head (industrial pack only) and slotted head styles and are manufactured to provide "sure grip" turning torque while resisting the stripping of the slots – a problem typical of the lesser quality wood screws.



Industrial Pack Wood Screws

Length	Qty per Box	Gage			
		8	10	12	14
1"	1000	034210P	034235P	034265	
		034210	034235		
1 1/4"	1000	034215P	034240P		034305
		034215	034240		
1 1/2"	1000	034220P	034245P	034275P	034310P
		034220	034245	034275	034310
1 3/4"	1000	034225	034250	034280P	034315
				034280	
2"	1000	034230P	034255P	034285P	034320P
		034230		034285	034320
2 1/4"	1000	034231	034256	034286	034325
2 1/2"	1000	034232	034260P	034290P	034330P
			034260	034290	034330
2 3/4"	1000		034262		034335
3"	1000		034261P	034300P	034340P
			034261	034300	034340
3 1/2"	775			034302	034345P
					034345
4"	500				034350P
					034350
4 1/2"	450				034355P
					034355
5"	400				034360P
					034360
6"	250				034364

A 'P' at the end of the product number denotes a phillips head.

Standard Pack Wood Screws

A standard package includes 100 screws per box.

Length	Gage				
	6	8	10	12	14
3/4"	034034	034036	034037		
1"	034053	035055	034056		034058
1 1/4"		034066	034067		034069
1 1/2"		034074	034076	034077	034078
1 3/4"		034083	034084	034085	
2"		034091		034093	034094
2 1/4"			034103		034105
2 1/2"		034112	034113	034114	034115
2 3/4"					034124
3"			034132	034133	034134
3 1/2"				034153	034154
4"					034164
4 1/2"					034172
5"					034181
6"					034191

Steel Pinch Dogs

Made of forged tool-steel. Sold individually.



Catalog Number	Description	Length
044400	Steel Pinch Dogs	3/4"
044405	Steel Pinch Dogs	1"
044410	Steel Pinch Dogs	1 1/4"
044415	Steel Pinch Dogs	1 1/2"
044420	Steel Pinch Dogs	2"
044425	Steel Pinch Dogs	2 1/2"
044430	Steel Pinch Dogs	3"
044435	Steel Pinch Dogs	3 1/2"

Solid Brass Escutcheon Pins

Sold in one pound boxes.



Catalog Number	Description	L	Head Diameter	Gauge	Shaft Diameter
033580	Brass Escutcheon Pins	1/4"	0.165	14	0.083
033581	Brass Escutcheon Pins	3/8"	0.130	16	0.065
033582	Brass Escutcheon Pins	1/2"	0.165	14	0.083
033583	Brass Escutcheon Pins	5/8"	0.130	16	0.065
033584	Brass Escutcheon Pins	3/4"	0.165	14	0.083
033585	Brass Escutcheon Pins	7/8"	0.130	16	0.065
033587	Brass Escutcheon Pins	1"	0.165	14	0.083
033588	Brass Escutcheon Pins	3/4"	0.130	16	0.065
033589	Brass Escutcheon Pins	3/4"	0.092	18	0.048
033590	Brass Escutcheon Pins	1"	0.165	14	0.083
033591	Brass Escutcheon Pins	1"	0.130	16	0.065

Wire Brads

Sold in one pound boxes.



Catalog Number	Description	Length	Gauge
033501	Wire Brads – Gauge	1/2"	20
033504	Wire Brads – Gauge	3/4"	16
033505	Wire Brads – Gauge	3/4"	17
033506	Wire Brads – Gauge	3/4"	18
033512	Wire Brads – Gauge	3/4"	20
033508	Wire Brads – Gauge	1"	16
033509	Wire Brads – Gauge	1"	17
033510	Wire Brads – Gauge	1"	18
033514	Wire Brads – Gauge	1 1/4"	15
033515	Wire Brads – Gauge	1 1/4"	16
033516	Wire Brads – Gauge	1 1/4"	17
033517	Wire Brads – Gauge	1 1/4"	18
033518	Wire Brads – Gauge	1 1/2"	15
033519	Wire Brads – Gauge	1 1/2"	16
033521	Wire Brads – Gauge	1 1/2"	18

Fasteners (CONT'D.)



Flat Head Wire Nails

Sold in one pound boxes.

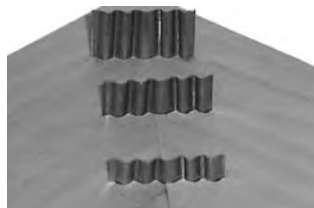
Catalog Number	Description	Length	Gauge
033541	Flat Head Wire Nails	1/2"	18
033543	Flat Head Wire Nails	1/2"	20
033545	Flat Head Wire Nails	5/8"	18
033547	Flat Head Wire Nails	3/4"	16
033548	Flat Head Wire Nails	3/4"	17
033549	Flat Head Wire Nails	3/4"	18
033551	Flat Head Wire Nails	3/4"	20
033554	Flat Head Wire Nails	1"	16
033555	Flat Head Wire Nails	1"	17
033556	Flat Head Wire Nails	1"	18
033557	Flat Head Wire Nails	1 1/4"	16
033558	Flat Head Wire Nails	1 1/4"	17
033559	Flat Head Wire Nails	1 1/4"	18
033560	Flat Head Wire Nails	1 1/2"	16
033562	Flat Head Wire Nails	1 1/2"	18



Drywall Screws

Self-tapping, coarse threaded drywall screws which may be used for numerous fastening applications. All of our drywall screws feature a phillips-style head.

Catalog Number	Description	Length	Gauge	Screws Per Box
034381	Drywall Screws	1"	6	10,000
034383	Drywall Screws	1 1/4"	6	8,000
034384	Drywall Screws	1 5/8"	6	5,000
034385	Drywall Screws	2"	6	3,500
034386	Drywall Screws	2 1/2"	8	2,500
034387	Drywall Screws	3"	8	2,000



Corrugated Fasteners

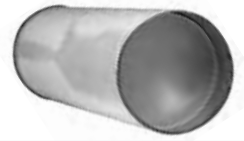
Sold by the box (100 per box).

Catalog Number	Description	Depth	Corrugations
033572	Corrugated Fasteners	1/2"	5
033574	Corrugated Fasteners	5/8"	5

Band Saw Accessories

Matchless Grease Stick

Wax based band saw blade lubricant packaged in a 2 1/2" by 10" tube. 24 per case. Sold individually.



Catalog Number	Description	Availability
027725	Matchless Grease Stick	1 1/4 Lb.

Castrol Stick Wax Lubricant

Light yellow wax that is used for the lubrication of metal cutting band saw blades and cutting tools. It is packaged in a cardboard tube for ease of use. Net weight is 15 ounces. Sold by the full case of 24 tubes.



Catalog Number	Description	Diameter	Length
027886	Castrol Stick Wax	2"	11"

Band Saw Tire Cement

A contact adhesive for gluing band saw tires onto band saw wheels.



Usage Instructions:

- Remove old tire & clean wheel completely
- Without adhesive, stretch the tire onto the wheel
- Using small wedges, create a space between the tire & the wheel
- Apply band saw tire cement to both tire & wheel
- Using an air hose, dry the adhesive completely
- Repeat with another coat of adhesive and dry again
- Apply a third application, if necessary, to build up thickness
- Dry completely
- Remove wedges and press tire firmly to wheel
- Ready for use in one hour

Catalog Number	Description	Availability
031550	Band Saw Tire Cement	Pint

Band Saw Replacement Tires

All tires are 3/16" thick and each tire diameter before attachment is approximately 20% less than the wheel diameter.



Catalog Number	Description	Wheel Diameter	Tire Width
031500	Band Saw Tire	12"	1 1/16"
031505	Band Saw Tire	14"	1 1/16"
031510	Band Saw Tire	16"	1 5/16"
031512	Band Saw Tire	18"	1 1/2"
031515	Band Saw Tire	20"	1 5/8"
031520	Band Saw Tire	26"	2"
031522	Band Saw Tire	28"	2"
031525	Band Saw Tire	30"	2"
031530	Band Saw Tire	32"	2"
031532	Band Saw Tire	34"	2 1/8"
031535	Band Saw Tire	36"	2 1/8"
031540	Band Saw Tire	38"	2 1/4"



Degassing & Mixing Equipment

Gas Vac II Industrial Vacuum Degassing Unit

Efficiently deaerates urethane elastomers and silicone rubbers resulting in casts that are virtually void-free in quality. Gas Vac II is designed for simplified and dependable operation.



Gas Vac II features:

- Large, 14" diameter x 17" deep vacuum chamber.
- ½ hp, two stage, direct drive pump that displaces up to 6 CFM. Thermal protected, capacitor start. 20 micron factory rating.
- Heavy gage, clear acrylic lid permits viewing of degassing operation while maintaining a complete seal.
- Heavy gage steel support stand mounted on swivel casters for versatility.

Specifications — 28"W x 25"D x 31"H, 115V, 60 Hz Motor.

Catalog Number	Description	Net Wt. (Lbs.)
054300	Gas Vac II Vacuum Degassing Unit	185
054302	Vacuum Pump Oil – Quart	
054303	Gas Vac II Seal	

Oil and Seal are included with purchase of degassing unit. They are also sold separately.

Jiffy Mixer

This all-purpose mixer is designed and manufactured to thoroughly mix epoxies, resins, plastics, chemicals, paints and many other materials at 100 to 750 RPM without:

- Sucking air into material.
- Splashing material outside container.



Catalog Number	Description	Shaft Length	Container Size	Top Dia.	Bottom Dia.	Depth of Head	Shaft Dia.	Model No.
054220	Jiffy Mixer	10¼"	Pint	1¼"	1¼"	1¾"	¼"	LM
054215	Jiffy Mixer	10¼"	Gallon	2¾"	2¾"	2¾"	¼"	HS-1
054210	Jiffy Mixer	20½"	5-10 Gallon	4¾"	5½"	5"	½"	PS-1

Plunge Industrial Mixers

The heavy-duty Plunge Mixer has a rugged mixing head that is manufactured from a durable zinc-aluminum alloy casting and mounted with a set screw to a steel shaft. This product features smooth-bottom teeth that can thoroughly mix resins containing high density fillers much faster and more effectively than standard drill-driven paint mixers. The tumble finish on the mixing head allows for quick clean up of resins and paints.



Catalog Number	Description	Size	Length	Shaft Dia.	Head Dia.	Model No.
054190	Plunge Mixer	Quart	13¼"	5/16"	2¼"	002
054195	Plunge Mixer	Gallon	17"	5/16"	3¼"	003
054200	Plunge Mixer	5 Gallon	24"	½"	5¾"	006

Red Devil Mixer

Heavy duty, clamp design, electric mixer for effective mixing of Freeman's line of Repro Fast Cast urethanes, paint, or any other low to medium viscosity liquid.



The Red Devil 1400-00 Features:

- Heavy-duty, twin arm design for mixing – six pints, four quarts, two gallons
- New safety covers that cover the mixer arms
- Available with bench mount or pedestal mount.
- 15-minute dial timer
- 110 volt, 1/3 HP, 60 Hz, heavy guard.

Model 1400-00 Specifications

Height	31"
Width	41"
Depth	29"
Weight (lbs.)	191

No. 5153 Counter Base with coil spring suspension

21" x 19" x 2"

No. 5151 Pedestal Base

20" x 18" x 29"

Catalog Number	Description	HP	Volts	HZ
054312	Red Devil Mixer	1/3	110	60
054313	Counter Base			
054314	Pedestal Base			

Dispensing Equipment

Michael Meter-Mix Machines

Super E

This bench top meter-mix machine is designed for quick, accurate, and precise dispensing of two component urethanes and epoxies. Air-powered abrasive resistant pumps deliver each component to the static mix tube in separate hoses, eliminating time consuming clean up after every use. The Super E can dispense 3-4 pounds of product per minute with mix ratios between 100:6 and 100:100. Overall size is 24" wide, 17" deep, and 18" high.



Pro Meter

This meter-mix machine is a larger version of the Super E and can dispense up to 10 pounds of mixed resin per minute. The Pro Meter is also air-powered, has abrasive resistant pumps that deliver each component to the static mix tube in separate hoses, and is fully adjustable for mix ratios from 100:6 to 100:100. Overall size is 40" wide, 26" deep, and 30" high.

Catalog Number	Description
054340	Michaels Super E Meter Mix Machine
054343	Michaels Pro Meter Mix Machine

Static mixers and replacement parts are available upon request. Please contact customer service for information.

Gel Coat Mini Sprayer

This spray gun uses a 32 ounce cup to hold the desired product for fast and easy clean up. This lightweight, gravity fed spray gun is used for applying gel coats, paints, adhesives, or parting films. Included with the gun are one 32 oz. plastic cup, two 32 oz. untreated disposable cups, one mil gauge, one solvent resistant lid, and 6 different nozzles for different viscosity fluids.



Catalog Number	Description
300406	Gel Coat Mini-Sprayer

Miapoxy 100 Hand Pumps

Miapoxy 100 Hand Pumps are specifically designed for fast and accurate dispensing of the Miapoxy 100 Resin and Hardener (pg. 34). Each pump is clearly marked with a blue sticker for resin and a red sticker for hardener. Use one stroke of the hardener pump for every stroke of the resin pump to obtain the correct mix ratio. Kit Size 1/2 includes 1 resin pump for quarts and gallons and 2 hardener pumps – one for pints and one for quarts and gallons. Kit Size 3 includes 1 resin pump for 5-gallons and one hardener pump for quarts and gallons.



Catalog Number	Description	Size
406650	Miapoxy 100 Hand Pump	1/2
406655	Miapoxy 100 Hand Pump	3

Scales & Balances

Ohaus Triple-Beam Balance

The Ohaus No. 760 Triple Beam Balance is an invaluable accessory because of the precise proportioning required in the mixing and blending of most epoxies and other multi-component adhesives and coating systems. It provides all the convenience of a top load scale plus the durability of larger models. A few of the outstanding features are:



- Magnetic dampening.
- Die cast aluminum boxed end beam.
- 6" diameter stainless steel plate with 225 gr. tare.
- Three notched and tiered beams, (10 x 0.1 gr.), (500 x 100 gr.) and (100 x 10g.) with center reading, sliding poises.
- Metric weight attachment of one (1) 500 gr. and two (2) 1000 gr. weights.

Number	Description	Mfg. No.
054240	Ohaus Triple Beam Balance	760
054240W	Ohaus Metric Weight Set	707

Balance and weight set sold separately.

Ohaus Digital Bench Scale "Champ II"

This heavy duty scale features a 30 pound capacity, 2 gram resolution, a 12" x 14" stainless steel weighing platform, and a 14" high stainless steel indicator column with backlit LCD. AC power adaptor included.



Catalog Number	Description	Mfg. No.
054244	Ohaus Champ II Scale	CH 15R11

Ohaus Compact Electronic Scale

This scale is useful in a wide variety of applications. It offers ease of operation, long battery life, and great performance. Three AA alkaline batteries are included for operation.



Catalog Number	Description	Mfg. No.
054239	Ohaus Compact Electronic Scale	CS5000

Plastic Resin Portion Scale

This scale was designed and engineered specifically for weighing plastics, chemicals, and plasters. Face dial markings are graduated in 1/2 ounces up to 80 ounces. The adjustable dial permits weighing up to 80 ounces without figuring or allowing for the container weight.



Catalog Number	Description
054235	Plastic Resin Portion Scale



Assorted Cutters and Bits

Multi-Spur Wood Boring Drill Bits

These high speed steel wood boring bits are ideal for fast cutting of larger holes. Spurs cut clean holes while the center point provides precise location. Designed for wood only.



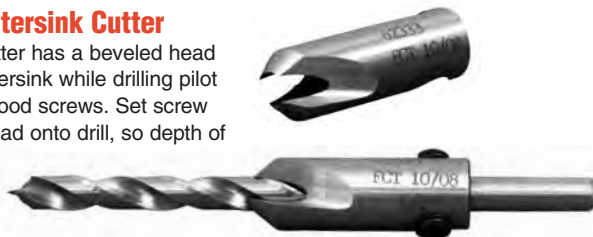
Catalog Number	Description	Bit Diameter	Shank Diameter
043518	Multi-Spur Drill Bits	9/16"	1/2"
043524	Multi-Spur Drill Bits	3/4"	1/2"
043526	Multi-Spur Drill Bits	13/16"	1/2"
043528	Multi-Spur Drill Bits	7/8"	1/2"
043530	Multi-Spur Drill Bits	15/16"	1/2"
043532	Multi-Spur Drill Bits	1"	1/2"
043534	Multi-Spur Drill Bits	1 1/16"	1/2"
043536	Multi-Spur Drill Bits	1 1/8"	1/2"
043538	Multi-Spur Drill Bits	1 1/4"	1/2"
043540	Multi-Spur Drill Bits	1 1/2"	1/2"
043542	Multi-Spur Drill Bits	1 5/8"	1/2"
043544	Multi-Spur Drill Bits	1 3/4"	1/2"
043546	Multi-Spur Drill Bits	1 7/8"	1/2"
043548	Multi-Spur Drill Bits	1 15/16"	1/2"
043550	Multi-Spur Drill Bits	1 1/2"	1/2"
043552	Multi-Spur Drill Bits	1 5/8"	1/2"
043554	Multi-Spur Drill Bits	1 3/4"	1/2"
043556	Multi-Spur Drill Bits	1 7/8"	1/2"
043558	Multi-Spur Drill Bits	2"	1/2"
043560	Multi-Spur Drill Bits	2 1/8"	1/2"
043562	Multi-Spur Drill Bits	2 1/4"	1/2"
043564	Multi-Spur Drill Bits	2 3/8"	1/2"
043566	Multi-Spur Drill Bits	2 1/2"	1/2"
043570	Multi-Spur Drill Bits	2 3/4"	1/2"
043572	Multi-Spur Drill Bits	2 7/8"	1/2"
043574	Multi-Spur Drill Bits	3"	1/2"
043576	Multi-Spur Drill Bits	3 1/4"	3/4"
043578	Multi-Spur Drill Bits	3 1/2"	3/4"
043580	Multi-Spur Drill Bits	3 3/4"	3/4"
043582	Multi-Spur Drill Bits	4"	3/4"

Adjustable Countersink Cutter

The Countersink Cutter has a beveled head and is used to countersink while drilling pilot holes for flat head wood screws. Set screw holds countersink head onto drill, so depth of drill and countersink is adjustable.

The Countersink Cutter can be used

on any one of four drill sizes: 1/8", 3/16", 7/32" and 1/4".



Catalog Number	Description	Countersink Diameter	Drill Size
041996	Adjustable Countersink Cutter	1/2"	1/8"
043820	Adjustable Countersink Cutter	1/2"	3/16"
043822	Adjustable Countersink Cutter	1/2"	7/32"
043824	Adjustable Countersink Cutter	1/2"	1/4"

Rotary Surfacer

Surfacing cutter designed to be used in a drill press to machine and plane wood and plastic. Features two diameters and silicon carbide cutters for long cutter life.



Catalog Number	Description	Diameter
043900	Rotary Surfacer	1 1/2"
043902	Rotary Surfacer	3"
043904	Blade Only	1 1/2"
043906	Blade Only	3"

Wagner Safe-T-Planer

A precision, heavy-duty tool designed to perform professional planing, rabbeting, tenoning, panel raising, molding and staving operations without grabbing or kickback. Adaptable to 1/2" drill presses, this planer consists of a balanced, die-cast aluminum body with three removable, high-speed steel blades and a 1/2" shaft for mounting onto a drill press.



Specifications:

- 3 1/8" Diameter Cut
- 1/4" Deep
- 6000 rpm maximum

Catalog Number	Description
048030	Wagner Safe-T-Planer
048035	One Set of (3) Cutters
048036	One Set of (3) Centering Screws
048037	Grinding Wheel
048038	Arbor for Grinding Wheel

Assorted Cutters and Bits [CONT'D.]

Karbide Kutzall® Rotary Burrs

Karbide Kutzall Rotary Burrs are ideal for wood, fiberglass, plastic, rubber, soft stone and composites. They feature patented SSG structured carbide teeth. These tungsten-carbide teeth are very free-cutting and can be dressed to produce very smooth finishes. ALWAYS WEAR SAFETY GLASSES when working with these Rotary Burrs.



Catalog Number	Description	Head Diameter	Head Width	Shank Diameter	Mfg. No.
043840	Taper Head Shape	1/4"	1 1/4"	1/4"	T-14
043842	Taper Head Shape	1/2"	3/4"	1/4"	T-12
043844	Taper Head Shape	3/4"	1 1/4"	1/4"	T-34
043850	Ball Nose Head Shape	1/4"	1 1/4"	1/4"	BN-14
043852	Ball Nose Head Shape	1/2"	3/4"	1/4"	BN-12
043854	Ball Nose Head Shape	3/4"	1"	1/4"	BN-34
043860	Cylinder Head Shape	1/4"	1 1/4"	1/4"	C-14
043862	Cylinder Head Shape	1/2"	3/4"	1/4"	C-12
043864	Cylinder Head Shape	3/4"	1 1/4"	1/4"	C-34

Brad Point Wood Boring Drill Bits

This high speed steel drill bit features a sharp center point for precise hole location and the outside diameter is



designed to score the hole before stock removal. These two features combine to create a clean and accurate hole without chipping. Ideal for dowel pin installation. For use with wood only.

Catalog Number	Description	Bit Diameter	Shank Diameter	Flute Length	Overall Length
043280	Brad Point Drill Bit	1/8"	1/8"		3"
043284	Brad Point Drill Bit	3/16"	3/16"		3 1/2"
043288	Brad Point Drill Bit	1/4"	1/4"		4"
043292	Brad Point Drill Bit	5/16"	5/16"		4 1/2"
043294	Brad Point Drill Bit	3/8"	3/8"		5"
043296	Brad Point Drill Bit	7/16"	7/16"		5 1/2"
043300	Brad Point Drill Bit	1/2"	1/2"		6"
043302	Brad Point Drill Bit	9/16"	1/2"	4"	6"
043304	Brad Point Drill Bit	5/8"	1/2"	4"	6"
043306	Brad Point Drill Bit	1 1/16"	1/2"	4"	6"
043308	Brad Point Drill Bit	3/4"	1/2"	4"	6"
043312	Brad Point Drill Bit	7/8"	1/2"	4"	6"

Shears for Carbon, Kevlar, and Fiberglass

Airtech Shop Shears

These high quality shears are constructed from heavy gage stainless steel to provide years of service in cutting fiberglass and carbon cloth. Other features include:



- Thicker blades for heavy duty cutting
- Blades are hardened throughout – not case hardened
- Soft Santoprene inserts to cushion the handles

Heritage Spring Action Snip

These are hot forged, chrome plated snips for cutting aramid, carbon, and fiberglass fabric. Other features include:

- Spring action self opening reduces fatigue during use
- Micro-serrated blades for effective cutting of aramid fabric
- Cushion handle grips for user comfort

Airtech Techshears

These shears are the highest quality that Airtech offers. Techshears are designed with a cantilever action that reduces cutting effort significantly. Other features include:

- Titanium nitride coated replaceable blades for a super sharp, long lasting edge
- Side adjustment screws that permits the cutting force to be adjusted to the thickness of the material
- Micro-serrated blades are available for cutting aramid fabric
- Designed for both left and right hand use

Airtech Airshears

These are high quality, lightweight shears for the efficient cutting of aramid, carbon, and fiberglass fabric. Other features include:

- Made from high carbon stainless steel
- Micro-serrated cutting edge for effective cutting of aramid fabric
- Spring opening action for ease of use

Catalog Number	Description	Length
402368	Airtech Shop Shears	10"
048040	Spring Action Snip	6.5"
402375	Airtech TechShears	10.5"
402360	Airtech Techshears Micro-Serrated Replacement Blades	4.5"
402370	Airtech Techshears Standards Replacement Blades	4.5"
402403	Airtech Airshears 2400	9.1"
402405	Airtech Airshears AS-1800	7.1"

Pattern Knives

These knives have adjustable handles that are made of solid brass castings with rosewood inserts. Each handle is



sanded, polished, and buffed to a high luster. The blades are made of 17 gauge chrome vanadium steel which is ground, polished, and honed to a fine edge. The handles and blades are sold separately.

Catalog Number	Description	Width	Length
046030	Pattern Knife Handle – Standard		4 1/8"
046035	Pattern Knife Blade – Standard	1/2"	6"
046036	Pattern Knife Handle – Long		4 3/8"
046037	Pattern Knife Blade – Long	5/8"	9"