



# Foundry Tools & Supplies

## Freeman-Palmer Pattern Plates

Our pattern plates are available in aluminum or magnesium (Downmetal) for automatic molding machines, non-automatic molding machines, and insert plate applications. The downmetal plates are about 1/3 lighter in weight than aluminum.

### Cast Aluminum Chainlock Plates for Automatic Machines

Produced using permanent mold casting methods for maximum hardness, minimum deflection, maximum wear resistance and longer life, these plates feature:

- Only certified aluminum used on all plates.
- Flat, parallel and uniform thickness.
- Uniform density for maximum machinability.
- Chainlock segments are 5/8" wide at the base and located 1/4" inside the flask line, providing maximum usable area while still maintaining good anti-shift properties.



### Cast Aluminum Chainlock Plates for Beardsley & Piper Machines

Catalog Number	Description	Thickness	Flask Width	Flask Length	Overall Width	Overall Length
257110	B&P 2016	1/2"	16"	20"	18 1/2"	22 3/8"
257110H	B&P 2016 – Drilled	1/2"	16"	20"	18 1/2"	22 3/8"
258111	B&P 2016	5/8"	16"	20"	18 1/2"	22 3/8"
258111H	B&P 2016 – Drilled	5/8"	16"	20"	18 1/2"	22 3/8"
259112	B&P 2016	5/8"	16"	20"	18 1/2"	22 3/8"
259115	B&P 2620	3/4"	20"	26"	22 3/4"	30"
259115H	B&P 2620 – Drilled	3/4"	20"	26"	22 3/4"	30"



### Cast Aluminum Chainlock Plates for Hunter Machines

Catalog Number	Description	Thickness	Flask Width	Flask Length	Overall Width	Overall Length
257102	Hunter 10	1/2"	14"	19"	17 1/2"	26"
257102H	Hunter 10 – Drilled	1/2"	14"	19"	17 1/2"	26"
257102S	Hunter 10 – Short	1/2"	14"	19"	16 1/2"	22"
257102SH	Hunter 10 – Short, Drilled	1/2"	14"	19"	16 1/2"	22"
257102B	Hunter 10 – Ends Only	1/2"	14"	19"	17 1/2"	26"
257102EH	Hunter 10 – No Chainlock, Drilled	1/2"	14"	19"	17 1/2"	26"
258103	Hunter 10	5/8"	14"	19"	17 1/2"	26"
258103H	Hunter 10 – Drilled	5/8"	14"	19"	17 1/2"	26"
258103A	Hunter 10 – Sides Only	5/8"	14"	19"	17 1/2"	26"
259105	Hunter 10	3/4"	14"	19"	17 1/2"	26"
259105H	Hunter 10 – Drilled	3/4"	14"	19"	17 1/2"	26"
257118	Hunter 18 (HMP18)	1/2"	18"	20"	21 1/4"	23 1/4"
258107	Hunter 20	5/8"	20"	24"	23 1/8"	27 1/8"
258107H	Hunter 20 – Drilled	5/8"	20"	24"	23 1/8"	27 1/8"
258107E	Hunter 20 – No Chainlock	5/8"	20"	24"	23 1/8"	27 1/8"
258107A	Hunter 20 – Sides Only	5/8"	20"	24"	23 1/8"	27 1/8"
259108	Hunter 20	3/4"	20"	24"	23 1/8"	27 1/8"
259108H	Hunter 20 – Drilled	3/4"	20"	24"	23 1/8"	27 1/8"
260109	Hunter 32	1"	30"	32"	34 1/8"	36 1/8"
260109H	Hunter 32 – Drilled	1"	30"	32"	34 1/8"	36 1/8"



### Cast Aluminum Chainlock Plates for Roberts Sinto Machines

Catalog Number	Description	Thickness	Flask Width	Flask Length	Overall Width	Overall Length
257150	Roberts Sinto FBM-I	1/2"	14"	19"	17"	22"
258151	Roberts Sinto FBM-I	5/8"	14"	19"	17"	22"
258152	Roberts Sinto FBN-2S	5/8"	20"	24"	23 1/4"	27 1/4"
259153	Roberts Sinto FBM-2T	3/4"	20"	24"	23 1/4"	27 1/4"
257154	Roberts Sinto FBO-II	1/2"	14"	19"	17 3/4"	27 1/2"
258155	Roberts Sinto FBO-II	5/8"	14"	19"	17 3/4"	27 1/2"
258156	Roberts Sinto FBO-II	5/8"	16"	20"	19 1/16"	27 1/2"
258157	Roberts Sinto FBO-III	5/8"	20"	24"	23"	26"
259158	Roberts Sinto FBO-III	3/4"	20"	24"	23"	26"

H = Drilled  
 S = Short  
 E = No Chain Lock  
 A = Chain Lock-Sides Only  
 B = Chain Lock-Ends Only

Plates can be special ordered with any of the above characteristics. Minimums apply. Contact customer service for details.

## Freeman-Palmer Pattern Plates [CONT'D.]

### Cast Aluminum Chainlock Plates for Non-Automatic Machines

Designed to fit most jolt and jolt squeeze machines, these plates are also cast in permanent molds to assure flatness, uniform thickness, and durability. Other thicknesses and sizes are available on request from 3/8" to 3/4" thickness and from 12" x 12" to 20" x 26". Please call customer service for pricing and availability.



Catalog Number	Description	Thickness	Flask Width	Flask Length	Overall Width	Overall Length
257501	Flask Size Chainlock	1/2"	12"	12"	14"	19"
257503	Flask Size Chainlock	1/2"	12"	14"	14"	21"
257505	Flask Size Chainlock	1/2"	12"	16"	14"	23"
257507	Flask Size Chainlock	1/2"	12"	18"	14"	25"
257527	Flask Size Chainlock	1/2"	14"	14"	16"	21"
257529	Flask Size Chainlock	1/2"	14"	16"	16"	23"
257531	Flask Size Chainlock	1/2"	14"	18"	16"	25"
257533	Flask Size Chainlock	1/2"	14"	20"	16"	27"
257550	Flask Size Chainlock	1/2"	16"	16"	18"	23"
257551	Flask Size Chainlock	1/2"	16"	18"	18"	25"
257553	Flask Size Chainlock	1/2"	16"	20"	18"	27"
257568	Flask Size Chainlock	1/2"	18"	18"	20"	25"
257594	Flask Size Chainlock	1/2"	20"	20"	22"	27"
258447	Flask Size Chainlock	5/8"	16"	20"	18"	27"
258505	Flask Size Chainlock	5/8"	12"	16"	14"	23"
259594	Flask Size Chainlock	3/4"	18"	20"	22"	27"

### Cast Aluminum Offset Plates

Produced using permanent mold casting methods for maximum hardness, minimum deflection, maximum wear resistance, and longer life. The Offset design provides a large area of sand registration for proper mold alignment.



Catalog Number	Description	Thickness	Flask Width	Flask Length	Overall Width	Overall Length	Offset
247120	BP 2016 – Drilled	1/2"	16"	20"	18 1/2"	22 3/8"	1/2"
247120H	BP 2016	1/2"	16"	20"	18 1/2"	22 3/8"	1/2"
249122	Hunter 20	3/4"	20"	24"	23 1/8"	27 1/8"	1"
249122H	Hunter 20 – Drilled	3/4"	20"	24"	23 1/8"	27 1/8"	1"
259109*	Hunter 20	3/4"	20"	24"	23 1/8"	27 1/8"	2"
249152C	Roberts Sinto	3/4"	20"	24"	23 1/4"	27 1/4"	1"

\*Catalog number 259109 – all surfaces are completely machined for superior accuracy.

### Flat Aluminum Plates

Freeman-Palmer Flat Aluminum Pattern Plates are available in 3/8", 1/2", 5/8", and 3/4" thicknesses in popular flask sizes. These plates are available for automatic and non-automatic molding machines or may be cut into rectangular shapes for Cope & Drag plates or Insert plates.



Call for availability.

### Match-Lok Magnesium (Dowmetal) Plates

A Freeman exclusive, Freeman-Palmer Match-Lok Pattern Plates are manufactured from magnesium for light handling weight and unsurpassed accuracy. These plates also feature integrated urethane mold locks for positive mold registration.



Catalog Number	Description	Thickness	Flask Width	Flask Length	Overall Width	Overall Length
297700	Hunter 10	1/2"	14"	19"	16 1/2"	22"
297702	Hunter 10	1/2"	14"	19"	17 1/2"	26"
298703	Hunter 20	5/8"	20"	24"	23 1/8"	27 1/8"
299703	Hunter 20	3/4"	20"	24"	23 1/8"	27 1/8"
300704	Hunter 32	1"	30"	32"	34 1/8"	36 1/8"

### Flat Magnesium (Dowmetal) Plates

Freeman-Palmer Flat Magnesium Plates are available in 3/8", 1/2", 5/8", 3/4" and 1" thicknesses in popular flask sizes. These plates are manufactured from AZ31B magnesium that is 1/3 lighter in weight than aluminum. These plates are available for automatic and non-automatic molding machines or may be cut into rectangular shapes for Cope & Drag plates or Insert plates.



Call for availability.

Other styles of pattern plates are available upon request. If you do not see the type or size of plate listed please call our customer service at 800-321-8511 for more details.



## Mold Alignment Hardware

### Freeman Concentric Mold-Lock Buttons

Freeman Concentric Mold-Lock Buttons will provide you with the easiest and most economical means of reducing scrap rate of castings due to mold shift. These buttons feature:

- One-piece construction for easy installation –  
(1) drill hole in plate  
(2) glue button in place.
- Exceptional heat and wear resistance.
- Concentric design to prevent button misalignment.



Catalog Number	Description	Plate Thickness	Hole Diameter
165200	Small Mold-Lock Buttons	1/2"	1 1/2"
165202	Small Mold-Lock Buttons	5/8"	1 1/2"
165204	Small Mold-Lock Buttons	3/4"	1 1/2"
165206	Small Mold-Lock Buttons	1"	1 1/2"
165208	Large Mold-Lock Buttons	1/2"	2"
165210	Large Mold-Lock Buttons	5/8"	2"
165212	Large Mold-Lock Buttons	3/4"	2"
165214	Large Mold-Lock Buttons	1"	2"

### Freeman Match-Lok Buttons

Freeman Match-Lok Buttons are a simple and economical way for eliminating mold shift on flat metal pattern plates. They are precision machined from aluminum, which assures accurate and positive matching between cope and drag halves.



#### Installation Instructions:

- Drill the hole through the plate.
- Ream the hole.
- Counterbore the hole using the correct diameter cutter.
- Select the proper rivet length for the thickness of the plate.
- Place the rivet through the button and the reamed hole, with the head of the rivet on top of the button.
- Using the staking tool,peen the portion of the rivet that extends into the counterbored area to secure it in place.

Catalog Number	Description	Diameter	Height	Qty/Bx
165005	Match-Lok Buttons	1"	0.254"	100
165010	Match-Lok Buttons	1 1/2"	0.254"	50
165013	Match-Lok Buttons	2"	0.254"	1

#### Rivets

Catalog Number	Description	Plate Thickness	Diameter	Qty/Bx
165015	Rivets	3/8"	1 3/32"	100
165020	Rivets	1/2"	1 7/32"	100
165025	Rivets	5/8"	2 1/32"	100
165030	Rivets	3/4"	2 5/32"	100
165035	Rivets	1"	1 1/32"	100

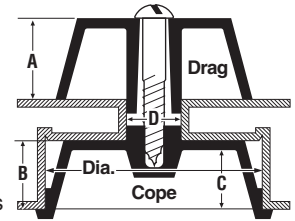
#### Installation Tools

Catalog Number	Description
165040	Drill – 1/64"
165045	Reamer – 5/16"
165050	Staking Tool
165055	Counterbore for 1" Buttons
165060	Counterbore for 1 1/2" Buttons
165065	Counterbore for 2" Buttons
165070	Pilot for Counterbores (Replacement)

### Adolf Cope and Drag Inserts

#### Style "A"

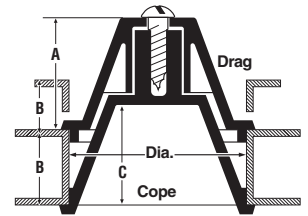
Adolf style "A" cope and drag inserts provide a quick and simple method to ensure accurate alignment of mold halves. This style consists of two parts, one drag and one cope half. They may be installed on matchboards one above the other or separated on cope and drag plates or molding boxes. Constructed from ABS plastic, they are available in diameters from 1 1/2" to 3 1/2".



Catalog Number	Diameter	Dimensions (inches)				Mfg. No.
		A	B	C	D	
165150	1.5	0.50	0.50	0.437	0.375	1.5A
165151	2	0.75	0.625	0.531	0.50	2A
165152	2.5	1.25	0.625	0.531	0.50	2.5AA
165153	2.5	1.25	1	0.906	0.50	2.5A
165154	3.5	1.25	1	0.906	0.50	3.5A

#### Style "B"

Adolf style "B" inserts are specifically designed to provide accurate alignment for matchplates and matchboards, including automatic molding machines. Constructed from a non-sticking, acid resistant plastic, the two halves telescope together and interlock at the parting lines of the plate. Because of the telescoping design, they are able to be installed in plates of various thicknesses. Available in four different diameters from 1 1/8" to 2 1/2".



Catalog Number	Diameter	Dimensions (inches)			Mfg. No.
		A	B	C	
165156	1.50"	0.875	0.5-1.125	0.75	1.5B
165157	1.75"	1.125	0.625-1.125	1	1.75B
165158	2.50"	1.125	0.75-1.125	1	2.5B

#### Style "B" Inserts Zero Tolerance

Adolf style "B" zero tolerance cope and drag inserts are specifically designed for accurate alignment of matchplates that are used with green sand only. These buttons feature zero clearance on the diameter to ensure perfect cope and drag alignment. Easily identified by their gray color, these buttons are available in diameters from 1 1/2" to 2 1/2".

Catalog Number	Diameter	Dimensions (inches)			Mfg. No.
		A	B	C	
165159	1.50"	0.875	0.5-1.125	0.75	1.5BOT
165160	1.75"	1.125	0.625-1.125	1	1.75BOT
165161	2.50"	1.125	0.75-1.125	1	2.5BOT

#### Installation Tools for Adolf Cope and Drag Inserts

Adolf installation tools for the Style "A" and "B" cope and drag inserts are specially designed for quick, easy and precise cutting of the required holes necessary to install these buttons. Available in diameters from 1 1/2" to 3 1/2".

Catalog Number	Description	Diameter	Mfg. No.
165162	Cutter for use w/standard 3/8" Drill	1 1/2"	1.5CU
165163	Cutter Holder with 1/2" Pilot & 3/4" Shank (Blade Not Included)	3/4"	0.75CH
165164	Blade	1 1/2"	1.5CB
165165	Blade	1 3/4"	1.75CB
165166	Blade	2"	2CB
165167	Blade	2 1/2"	2.5CB
165168	Blade	3 1/2"	3.5CB

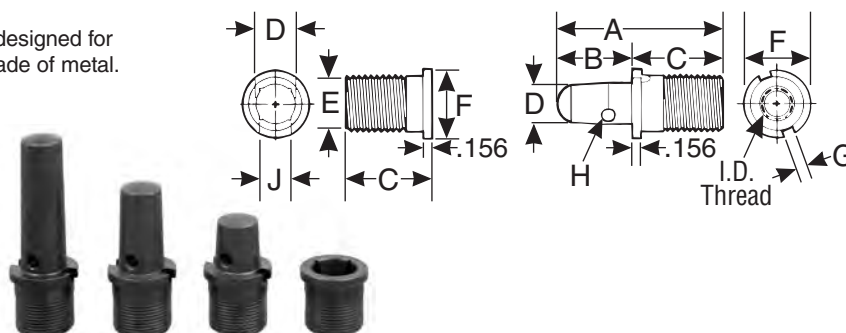
## Freeman Alignment Dowels

### Freeman Husky Dowels

This extra heavy duty steel dowel system is specifically designed for the foundry industry to properly align core box halves made of metal.

Exclusive to Freeman, the Husky dowel and bushing is:

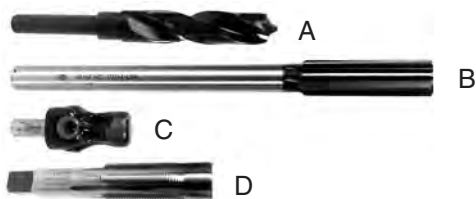
- Threaded for easy installation and removal.
- Precisely machined for accuracy.
- Hardened for long life.
- Black oxide treated to prevent rust.



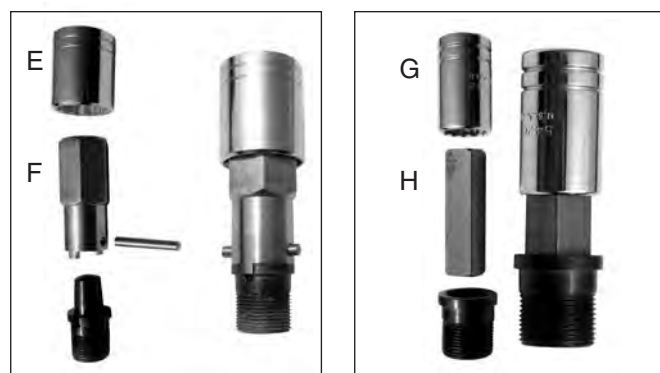
Catalog Number	Description	Dowel Dimensions (In Inches)										Threads I.D.	Threads O.D.
		A	B	C	D	E	F	G	H	J			
164020	Male Pin Standard	1 3/4	1 3/16	5/16	5/8	-	15/16	3/16	3/16	-	1/2"-13	1 3/16"-20	
164025	Male Pin Long	2 1/4	1 5/16	5/16	5/8	-	15/16	3/16	3/16	-	1/2"-13	1 3/16"-20	
164030	Male Pin Extra Long	3	2 1/16	5/16	5/8	-	15/16	3/16	3/16	-	1/2"-13	1 3/16"-20	
164035	Female Bushing	-	-	5/16	5/8	1 3/16	1 5/16	-	-	1/2	-	1 3/16"-20	

### Husky Dowels Installation Tools

Installation tools – special items are designed specifically for installing Freeman Husky Dowels:



164525	(A) Drill 3/4" diameter
164530	(B) Reamer 49/64" diameter
164515	(C) Counterbore**
164520	(D) Tap with pilot 1 3/16" - 20**



164545	(E) 1" socket 1/2" drive
164510	(F) Pin wrench with cross pin**
164560	Cross Pin For Wrench
164540	(G) Socket 5/8" X 12-Point Socket, 1/2" Drive
164535	(H) Square Drive Bit**
164550	Socket Wrench Handle - 10 5/8" Long, 1/2" Drive (not shown)

\*\*Items specifically designed and manufactured exclusively for the installation of Freeman Husky Dowels.

### Dowel Installation Guide (all types)

**Step One: Drilling** – Using the appropriate sized drill bit, drill a hole deep enough to allow the pin and pilot of the tap (step four) to reach its proper depth (the exact depth will vary depending on which size dowel you are installing).

**Step Two: Reaming** – Use the appropriate reamer to make the previously drilled hole smooth and precise in dimension.

**Step Three: Counterboring** – Next you must counterbore the hole. This tool is designed with a pilot end to perfectly align itself in the center of the reamed hole before boring a perfect concentric bevel or shoulder. In order to prevent boring too deep, the counterbore has a cam on the side, allowing you to manually set the depth of your counterbore.

**NOTE:** Each style of dowel has its own counterbore to accommodate the differences in how the dowel sets underneath the surface. Both Husky dowels and True-Line dowels have square shoulders while the Square-Head dowels have beveled shoulders. If you are using a CNC machine, the cam should be unnecessary.

**Step Four: Tapping** – This tap is also designed with a pilot end to precisely cut the threads in the hole. With a tap wrench attached, you can manually turn the tap to create the threads.

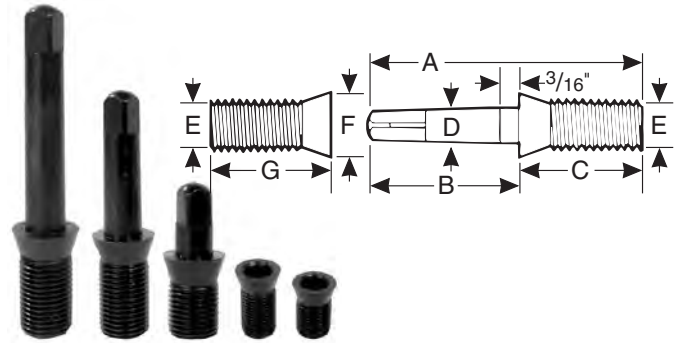
**Step Five: Install Pin and Bushing** – You now have an accurate, precise hole ready for installation of the dowel pin or bushing. Each style of dowel requires its own specially designed set of wrenches or sockets for easy installation.

## Freeman Alignment Dowels [CONT'D.]

### Freeman Square-Head Steel Dowels

This heavy duty steel dowel system is specifically designed for the foundry industry to properly align core box halves made of metal. Available in four sizes from 1/4" to 1/2" pin diameters, these dowels are ideal for small to medium size jobs. Freeman Square Head Steel Dowels are:

- Threaded for easy installation and removal.
- Precisely machined for accuracy.
- Hardened for long life.
- Black oxide treated to prevent rust.
- Square head design for easy installation and removal.



	Catalog Number			Size	Dowel Dimensions (In Inches)								Drill	Tap
	Dowel Complete	Male Pin	Female Bushing		A	B	C	D	E	F	G			
<b>Regular</b>	161005 (50/box)	161025	161045	1	1 1/4	17/32	23/32	1/4	3/8	1/2	23/32	19/64"	3/8"-24	
	161010 (50/box)	161030	161050	2	1 1/2	5/8	23/32	5/16	7/16	9/16	23/32	1 1/32"	7/16"-20	
	161015 (50/box)	161035	161055	3	1 1/2	11/16	13/16	3/8	1/2	5/8	13/16	13/32"	1/2"-20	
	161020 (50/box)	161040	161060	4	1 19/32	25/32	13/16	1/2	5/8	3/4	13/16	17/32"	5/8"-18	
<b>Long</b>		161065	161085	1	2 1/4	1 1/4	1	1/4	3/8	1/2	31/32	19/64"	3/8"-24	
		161070	161090	2	2 1/4	1 1/4	1	5/16	7/16	9/16	1	1 1/32"	7/16"-20	
		161075	161095	3	2 1/4	1 1/4	1	3/8	1/2	5/8	1	13/32"	1/2"-20	
		161080	161100	4	2 1/4	1 1/4	1	1/2	5/8	3/4	1	17/32"	5/8"-18	
<b>*Extra Long</b>		161110	*	3	3	2	1	3/8	1/2			13/32"	1/2"-20	
		161115	*	4	3	2	1	1/2	5/8			17/32"	5/8"-18	

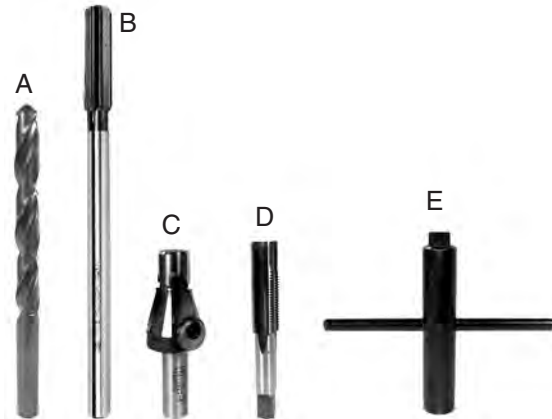
\*Standard or long bushings can be used.

*Pins and bushings sold individually; or together in box quantities (number of sets per box noted above).*

### Square Head Steel Dowels Installation Tools

Square Head steel dowel wrenches have been made to fit snugly over the male pin and into the female bushing for proper installation. Our drills, reamers, counterbores, and taps are top quality tools made of high-grade tool steel for long lasting performance and proper dowel installation.

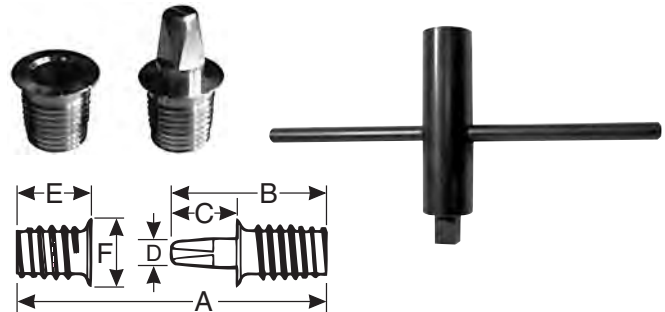
Description	Catalog No./Dowel Size			
	#1	#2	#3	#4
Drill Bit (A)	163620	163625	163630	163635
Reamer (B)	163560	163565	163570	163575
Counterbore (C)	163580	163585	163590	163595
Tap (D)	163600	163605	163610	163615
Wrench (E)	163540	163545	163550	163555



### Freeman Square-Head Brass Dowels

This dowel system is machined from solid brass and is specifically designed for the pattern and foundry industry to properly align core box halves, split patterns, and loose pieces made from wood. Available in 7 sizes from 1 1/64" to 13/16" pin diameters, these dowels are ideal for small to medium size jobs. Freeman Square Head Brass Dowels feature:

- Coarse, sharp threads for easy and secure installation.
- Precisely machined for accuracy.
- Solid brass to prevent rust.
- Square head design for easy installation and removal.



Dowel Complete	Catalog Number			Size	Dowel Dimensions (In Inches)						Drill Bit Size
	Male Pin	Female Bushing	Wrench Used		A	B	C	D	E	F	
162005 (100/box)	162040	162075	163505	1	1 1/16	9/8	9/32	1 1/64	1 1/32	9/32	3/16"
162010 (100/box)	162045	162080	163510	2	27/32	49/64	11/32	3/16	27/64	23/64	1/4"
162015 (100/box)	162050	162085	163515	3	1 1/32	15/16	27/64	7/32	33/64	27/64	5/16"
162020 (50/box)	162055	162090	163520	4	17/32	19/64	17/32	19/64	39/64	39/64	7/16"
162025 (50/box)	162060	162095	163525	5	17/16	13/8	21/32	13/32	23/32	47/64	9/16"
162030 (50/box)	162065	162100	163530	6	1 7/8	147/64	51/64	39/64	15/16	1	3/4"
162035 (20/box)	162070	162105	*	7	23/8	21/8	15/16	13/16	13/16	15/16	1"

\*To install the Size 7 Pin use a standard 5/16" hex wrench. To install the Size 7 Bushing use PCN 163536. This is a 9/16" square drive bit requiring a 9/16" 12 point socket for installation (not included).

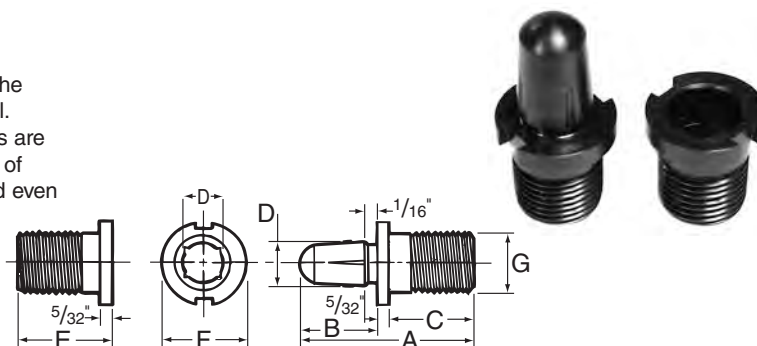
*Pins and bushings sold individually; or together in box quantities (number of sets per box noted above).*

## Freeman Alignment Dowels [CONT'D.]

### Freeman True-Line Steel Dowels

This heavy duty steel dowel system is specifically designed for the foundry industry to properly align core box halves made of metal. Available in four sizes from 1/4" to 1/2" pin diameters, these dowels are ideal for small to medium size jobs. Designed with two methods of installation and removal, the body of the dowel may be extracted even if the pin itself is broken. Freeman True Line Dowels feature:

- Threaded for easy installation and removal.
- Precisely machined for accuracy.
- Hardened for long life.
- Black oxide treated to prevent rust.



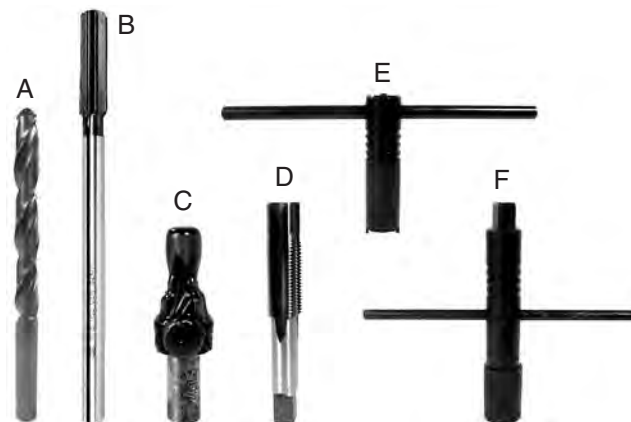
Catalog Number				Dowel Dimensions (In Inches)								
Dowel Complete	Male Pin	Female Bushing	Size	A	B	C	D	E	F	G	Threads	
161120 (50/box)	161140	161160	1	1 1/4	17/32	9/16	1/4	23/32	9/16	3/8	3/8"-24	
161125 (50/box)	161145	161165	2	1 11/32	5/8	9/16	5/16	23/32	5/8	7/16	17/16"-20	
161130 (50/box)	161150	161170	3	1 1/2	1 1/16	2 1/32	3/8	1 3/16	1 1/16	1/2	1 1/2"-20	
161135 (50/box)	161155	161175	4	1 19/32	2 1/32	2 5/32	1/2	1 3/16	1 3/16	5/8	5/8"-18	

*Pins and bushings sold individually; or together in box quantities (number of sets per box noted above).*

### True-Line Steel Dowels Installation Tools

True-Line Steel Dowels are broached and flange-slotted, which means that the bushing and pin can be removed with wrenches that are either flange-slotted or broached even if the pin is broken. Our drills, reamers, counterbores, and taps are top quality tools made of high-grade tool steel for long lasting performance and proper dowel installation.

Description	Catalog No./Dowel Size			
	#1	#2	#3	#4
Drill Bit (A)	163620	163625	163630	163635
Reamer (B)	163560	163565	163570	163575
Counterbore (C)	163761	163766	163771	163776
Tap (D)	163600	163605	163610	163615
Slotted Wrench (E)	163740	163745	163750	163755
Milled Wrench (F)	163720	163725	163730	163735



## Other Alignment Dowels

### Malleable Iron Dowels

These dowels are most commonly used to properly align very large core box halves, split patterns and loose pieces made from wood. Available in three sizes from 1/2" to 1" in diameter.



Catalog Number	Description	Pin Diameter	Base Diameter
026210	Malleable Iron Dowel Pin	1/2"	2"
026220	Malleable Iron Dowel Pin	3/4"	2 1/2"
026230	Malleable Iron Dowel Pin	1"	2 7/8"
026205	Malleable Iron Dowel Bushing	1/2"	2"
026215	Malleable Iron Dowel Bushing	3/4"	2 1/2"
026225	Malleable Iron Dowel Bushing	1"	2 7/8"

### Wood Dowels

Freeman Wood Dowels are made of the highest grade birch and finished round and smooth from straight grained wood. Manufactured to exacting diameters, these high quality dowels have a standard length of 36".

Catalog Number	Description	Diameter
033805P	Wood Dowel	1/8"
033810P	Wood Dowel	3/16"
033815P	Wood Dowel	1/4"
033820P	Wood Dowel	5/16"
033825P	Wood Dowel	3/8"
033830P	Wood Dowel	7/16"
033835P	Wood Dowel	1/2"
033845P	Wood Dowel	5/8"
033850P	Wood Dowel	3/4"
033855P	Wood Dowel	7/8"
033860P	Wood Dowel	1"
033865P	Wood Dowel	1 1/8"
033870P	Wood Dowel	1 1/4"
033875P	Wood Dowel	1 1/2"
033880P	Wood Dowel	1 3/4"
033885P	Wood Dowel	2"



## Premium Core Box Air Release Vents

### Ventistamp Core Vents

Ventistamp Core Vents are very high-quality investment cast core vents designed for maximum durability and performance. These vents were developed to be used in high-production applications where standard slotted vents would traditionally be used.

#### Features and benefits:

- **One piece construction** – No screens or foils to break
- **Extremely flat head surface** – Less imperfection in the core
- **Tapered slots** – Less likely to clog with sand and binders.
- **Outside diameter is .005" oversized in the middle of the vent** – Provides tight installation to prevent movement.
- **Outside diameter at the top of the vent is .003" undersized** – Prevents deformation of the slots.

### Zanatta Vents

Zanatta Vents are manufactured with a 0.012" (0.3mm) slot that is tapered 20 degrees on the back side to prevent sand clogging. These vents are made from a brass alloy (SAE 430-B) for high wear resistance and are designed to be used with sand that has an AFS fineness of 70 to 90.



Catalog Number	Description	Diameter	Total Height	Slot Width
034576	Ventistamp Zanatta Vents	3/16"	5/16"	0.012
034577	Ventistamp Zanatta Vents	1/4"	5/16"	0.012
034578	Ventistamp Zanatta Vents	5/16"	5/16"	0.012
034579	Ventistamp Zanatta Vents	3/8"	5/16"	0.012
034580	Ventistamp Zanatta Vents	7/16"	5/16"	0.012
034581	Ventistamp Zanatta Vents	1/2"	5/16"	0.012
034582	Ventistamp Zanatta Vents	9/16"	5/16"	0.012
034583	Ventistamp Zanatta Vents	5/8"	5/16"	0.012
034584	Ventistamp Zanatta Vents	3/4"	5/16"	0.012
034585	Ventistamp Zanatta Vents	7/8"	5/16"	0.012
034586	Ventistamp Zanatta Vents	1"	5/16"	0.012

### Maxvents

Maxvents are manufactured with a 0.012" (0.3mm) slot that is tapered 30 degrees on the back side to prevent sand clogging. These vents are made from a brass alloy (SAE 430-B) for high wear resistance and are designed to be used with sand that has an AFS fineness of 60 to 80.



Catalog Number	Description	Diameter	Total Height	Slot Width
034526	Maxvents	6mm	8mm	0.012
034528	Maxvents	8mm	8mm	0.012
034530	Maxvents	10mm	8mm	0.012
034531	Maxvents	12mm	8mm	0.012
034533	Maxvents	14mm	8mm	0.012
034535	Maxvents	16mm	8mm	0.012
034536	Maxvents	18mm	8mm	0.012
034537	Maxvents	20mm	8mm	0.012
034541	Maxvents	30mm	8mm	0.012

### Meltvents FS

Meltvent FS vents are manufactured with 35° tapered slots. Made from stainless steel, these vents are very resistant to wear from foundry sand and can be used with all types of binder systems such as Cold Box, Hot Box, and the Shell Molding System.



Catalog Number	Description	Diameter	Total Height	Slot Width
034706	Ventistamp Meltvent FS	6 mm	8 mm	0.45
034707	Ventistamp Meltvent FS	8 mm	8 mm	0.45
034708	Ventistamp Meltvent FS	10 mm	8 mm	0.45
034409	Ventistamp Meltvent FS	12 mm	8 mm	0.45

Ventistamp vents are also available in other fractional or metric diameters, additional slot widths, and curved or inclined head designs. Please call customer service at 800-321-8511 for more details.

### Shalco Core Vents

#### Shalco Super Vents Core Vents

Shalco Super Vents are self-cleaning and feature an opening rate of more than 43%. Using these vents will solve the problem of clogging which can affect the continuous operation of a core molding machine during no-bake molding. The 43% opening rate (compared to an average of 13% for slotted vents and 30% for screen vents) results in more effective and efficient venting. Sold in bags of 100 vents.



Catalog Number	Description	Diameter	Total Height	Slot Width
033700	Shalco Super Vents	1/4"	1/4"	0.010
033708	Shalco Super Vents	1/4"	5/16"	0.010
033701	Shalco Super Vents	5/16"	1/4"	0.010
033709	Shalco Super Vents	5/16"	5/16"	0.010
033702	Shalco Super Vents	3/8"	1/4"	0.010
033710	Shalco Super Vents	3/8"	5/16"	0.010
033703	Shalco Super Vents	7/16"	1/4"	0.010
033711	Shalco Super Vents	7/16"	5/16"	0.010
033704	Shalco Super Vents	1/2"	5/16"	0.010
033712*	Shalco Super Vents	1/2"	5/16"	0.010
033705	Shalco Super Vents	9/16"	5/16"	0.010
033706	Shalco Super Vents	5/8"	5/16"	0.010
033713*	Shalco Super Vents	5/8"	5/16"	0.010
033707	Shalco Super Vents	3/4"	5/16"	0.010
033714*	Shalco Super Vents	3/4"	5/16"	0.010
033906	Shalco Super Vents	1"	5/16"	0.010
033722	Shalco Super Vents	5mm	6mm	0.010

\*With support bar.

## Standard Core Box Air Release Vents

### Standard Core Vent Selection Guidelines

#### #1 – Type of Metal/Material:

- Brass is a softer metal which makes it easier to contour, remove from the core box, and clean.
- Steel vents offer greater wear and temperature resistance, and provide uniform heating and cooling with steel core boxes.
- Aluminum vents are popular for Styrofoam molding applications.

#### #2 – Style of Vent:

- Slotted Vents offer the ability to be machined to contour with the surface of the core box. The “opening rate” (amount of space provided) for these vents average about 13%
- Screen Vents are primarily used in the flat areas of core box construction. The “opening rate” for these vents average about 30%.

#### #3 – Slot Width/Screen Mesh:

When choosing a standard slotted or screen vent, the width of the slot or the size of the mesh required is determined by the size of the sand (mesh) being used in your core making process. The slot width or mesh opening of your vent must not be greater than the sand mesh in order to hold the sand in the core box while permitting the air to escape.

#### #4 – Dimensions:

- Diameter – is determined by the size of the area requiring venting and the number of vents preferred in the particular location on the core box.
- Height – is based on the depth of the shoulder created by the step drill (insert drill).
- Head Thickness – affects the ability to contour the vent to the tool surface. The thicker the head the more contouring can be done and the thinner the head the less likely it is to clog with binders.

These guidelines do not include Shalco Super Vents or Ventistamp vents, both of which offer unique advantages superior to most standard brass and steel vents.



### Type K, Screen – Brass Body Core Vents

This brass body vent offers a high venting area with a monel (corrosion resistant, nickel-copper alloy) screen.

Sizes ½" diameter and larger have supporting bars. Available in 24, 35, 40 and 50 mesh. Other lengths are available upon request. Sold in bags of 100 vents.

Catalog Number	Diameter	Total Height	Mesh
033037	¾"	¼"	35
033768	¾"	½"	35
033203	¼"	¼"	24
033038	¼"	¼"	35
033746	¼"	⅝"	50
033769	¼"	½"	35
033204	⅝"	¼"	24
033039	⅝"	¼"	35
033193	⅝"	¼"	50
033770	⅝"	½"	35
033205	⅝"	¼"	24
033040	⅝"	¼"	35
033229	⅝"	¼"	40
033194	⅝"	¼"	50
033733	⅝"	⅝"	24
033771	⅝"	½"	35
033041	⅞"	¼"	35
033207	½"	¼"	24
033042	½"	¼"	35
033208	⅝"	⅝"	24
033044	⅝"	⅝"	35
033209	¾"	⅝"	24
033045*	¾"	⅝"	35
033046	⅞"	⅝"	35
033047	1"	⅝"	35

\*With 2-bar support.

Steel bodies and additional sizes available by special order.

### Standard Screen Core Vents

#### Type LM, Lectromesh – Brass Body Core Vents

This vent is constructed using a thin, flat screen to prevent clogging. Available in 25 and 40 mesh. Sizes ½" diameter and larger have supporting bars. Sold in bags of 100 vents.



Catalog Number	Diameter	Total Height	Mesh
033001	¾"	¼"	25
033236	¾"	¼"	40
033002	¼"	¼"	25
033003	⅝"	¼"	25
033004	⅝"	¼"	25
033006	½"	¼"	25

Additional sizes available by special order.

#### Type G, Screen – Brass Body Core Vents

This vent is made with a fine 60 x 70 mesh screen. Sizes ½" and over also feature a 14 mesh screen and supporting bars underneath. Sold in bags of 100 vents.



Catalog Number	Diameter	Total Height	Mesh
033014	¼"	¼"	60 x 70
033015	⅝"	¼"	60 x 70
033016	⅝"	¼"	60 x 70
033018	½"	¼"	60 x 70
033021	¾"	⅝"	60 x 70
033023	1"	⅝"	60 x 70

Additional sizes available by special order.

#### Type 150 L, Lectromesh – Brass Body Core Vents

Extremely fine (150 mesh) screen is placed over 25 mesh Type LM (Lectromesh). Excellent vent for flat surfaces and finer sands. Sizes ½" and over have supporting bars. Sold in bags of 100 vents.



Catalog Number	Diameter	Total Height	Mesh
033028	⅝"	¼"	150
033030	½"	¼"	150

Additional sizes available by special order.



## Standard Core Box Air Release Vents [CONT'D.]

### Standard Slotted Core Vents

#### Type D, Slotted – Brass Body Core Vents

This slotted-style vent is machined from solid brass and is available with a .093" head thickness for flat and contour surfaces. Sold in bags of 100 vents.



Catalog Number	Diameter	Total Height	Slot Width	Head Thickness
033048	1/8"	1/4"	0.014	0.093
033253	3/16"	1/4"	0.010	0.093
033049	3/16"	1/4"	0.014	0.093
033254	1/4"	5/16"	0.010	0.093
033050	1/4"	5/16"	0.014	0.093
033051	5/16"	5/16"	0.014	0.093
033256	3/8"	5/16"	0.010	0.093
033052	3/8"	5/16"	0.014	0.093
033053	7/16"	5/16"	0.014	0.093
033258	1/2"	5/16"	0.010	0.093
033054	1/2"	5/16"	0.014	0.093
033055	5/8"	5/16"	0.014	0.093
033260	3/4"	5/16"	0.010	0.093
033056	3/4"	5/16"	0.014	0.093
033058	1"	5/16"	0.014	0.093

Additional sizes available by special order.

#### Type C, Slotted – Steel Body Core Vents

This slotted-style vent is machined from steel and is used in flat and contour surfaces. Sold in bags of 100 vents.



Catalog Number	Diameter	Total Height	Slot Width	Head Thickness
033098	1/8"	1/4"	0.014	0.093
033099	3/16"	5/16"	0.014	0.093
033100	1/4"	5/16"	0.014	0.093
033285	5/16"	5/16"	0.010	0.093
033101	5/16"	5/16"	0.014	0.093
033102	3/8"	5/16"	0.014	0.093
033103	7/16"	5/16"	0.014	0.093
033287	1/2"	5/16"	0.010	0.093
033104	1/2"	5/16"	0.014	0.093
033105	5/8"	5/16"	0.014	0.093
033106	3/4"	5/16"	0.014	0.093
033108	1"	5/16"	0.014	0.093

Additional sizes available by special order.

#### Type T, Taper Slot – Brass Body Core Vents

This slotted-style vent features a self-cleaning tapered slot design. Slots on the surface of these vents are 0.012" wide, diverging towards the underface effectively preventing sand clogging. Sold in bags of 100 vents.



Catalog Number	Diameter	Total Height	Slot Width	Head Thickness
033122	1/8"	5/16"	0.012	0.080
033123	3/16"	5/16"	0.012	0.080
033124	1/4"	5/16"	0.012	0.080
033125	5/16"	5/16"	0.012	0.080
033126	3/8"	5/16"	0.012	0.080
033128	1/2"	5/16"	0.012	0.080
033130	5/8"	5/16"	0.012	0.080
033131	3/4"	5/16"	0.012	0.080
033127	7/16"	5/16"	0.012	0.080
033133	1"	5/16"	0.012	0.080

#### Type XD, Slotted – Brass & Steel Body Core Vents

This slotted-style vent features a .156" head thickness and is designed especially for mounting on very irregular surfaces where much of the vent head must be machined to fit the box contour. Sold in bags of 100 vents.



Catalog Number	Metal	Diameter	Total Height	Slot Width	Head Thickness
033059	Brass	1/8"	5/16"	0.014	0.156
033245	Brass	1/8"	3/8"	0.010	0.156
033249	Brass	3/16"	5/16"	0.010	0.156
033060	Brass	3/16"	5/16"	0.014	0.156
033159	Brass	1/4"	5/16"	0.010	0.156
033250	Brass	1/4"	3/8"	0.010	0.156
033061	Brass	1/4"	3/8"	0.014	0.156
033160	Brass	5/16"	3/8"	0.010	0.156
033062	Brass	5/16"	3/8"	0.014	0.156
033251	Brass	3/8"	3/8"	0.010	0.156
033063	Brass	3/8"	3/8"	0.014	0.156
033065	Brass	1/2"	3/8"	0.014	0.156
033066	Brass	5/8"	3/8"	0.014	0.156
033067	Brass	3/4"	3/8"	0.014	0.156
033247	Steel	1/2"	3/8"	0.014	0.156

Additional sizes available by special order.

#### Type AD, Slotted – Aluminum Core Vents

This slotted-style, aluminum vent is particularly well-suited for use in aluminum molds used in making patterns and styrofoam packaging. Also available with a non-stick coating. Please call us for details. Sold in bags of 100 vents.



Catalog Number	Diameter	Total Height	Slot Width	Head Thickness
033084	1/8"	1/4"	0.014	0.093
033767	1/4"	1/4"	0.010	0.093
033086	1/4"	1/4"	0.014	0.093
033083	1/4"	3/8"	0.010	0.156
033762	1/4"	3/8"	0.014	0.156
033089	1/2"	1/4"	0.014	0.093

Additional sizes available by special order.

## Core Vent Accessories

### Brass Vent Plugs

These vent plugs are designed to plug holes from relocated core vents. Sold in bags of 100.



Catalog Number	Metal	Diameter	Total Height
033294	Brass	1/4"	5/16"
033289	Brass	5/16"	5/16"
033295	Brass	3/8"	5/16"
033297	Brass	1/2"	5/16"
033296	Brass	5/8"	5/16"
033718	Brass	3/4"	5/16"

Aluminum and Steel bodies, as well as additional Brass body sizes, available by special order.

### Freeman Vent Cleaners

Freeman Slotted Vent Cleaners are made with a tapered spring steel blade and a durable injection molded plastic handle. These tools are ideal for cleaning sand and binder from slotted core vents used in the foundry process. Available in two styles: 3/4" long blade and a 7/16" shorter blade.

The Freeman Screen Vent Cleaner has steel wire bristles at each end and measures 1/4" in diameter by 8" long and contains 7/8" long steel wire bristles.



Catalog Number	Description	Overall Length
033325	Slotted Vent Cleaner – 1/4" Blade Only	3 3/4"
032997	Slotted Vent Cleaner with Plastic Handle – 3/4" Blade	6 1/2"
032996	Slotted Vent Cleaner with Plastic Handle – 7/16" Blade	6 1/4"
033330	Screen Vent Cleaner with Handle	8"

### Insert Drills for Core Box Air-Release Vents

Performs the operations necessary for quick vent installation. This tool rough drills, relief drills, and reams to correct depth with concentricity. Complete drill consists of drill bit and collar.



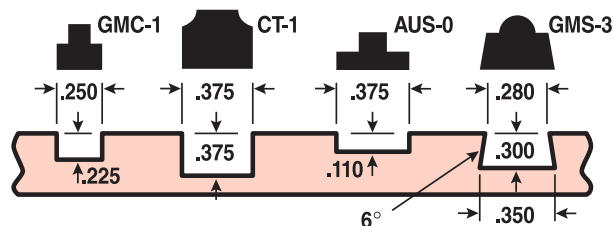
Catalog Number	Description	Shank Diameter	Drill Diameter
033301	Insert Drill	1/8"	1/8"
033302	Insert Drill	3/16"	3/16"
033303	Insert Drill	1/4"	1/4"
033304	Insert Drill	5/16"	5/16"
033305	Insert Drill	3/8"	3/8"
033306	Insert Drill	7/16"	7/16"
033307	Insert Drill	1/2"	1/2"
033308	Insert Drill	1/2"	9/16"
033309	Insert Drill	1/2"	5/8"
033310	Insert Drill	1/2"	3/4"
033311	Insert Drill	1/2"	7/8"
033312	Insert Drill	1/2"	1"

## Core Box Seals & Gaskets

### Dike-O-Seal Preform Strip

Dike-O-Seal Preform Seals provide an effective seal in foundry core boxes and gassing plates. It can be installed and secured without use of an adhesive in most cases. Corners can be machined at 45° to the intersecting grooves and this will allow the Dike-O-Seal Preform Seal to be set in the groove without cutting and bonding ends together. Available in two hardnesses of 20 and 40 Shore A.

Freeman F-Bond Adhesives are designed for bonding Dike-O-Seal preform seals into core box channels. These are very fast setting cyanoacrylate adhesives which allow the core box to be quickly put into production (pg. 64).



Catalog Number	Description	Hardness (Shore A)	Mfg No.	Length
177105	Preform Strip	20	GMC-1	50'
177115	Preform Strip	20	AUS-0	50'
177125	Preform Strip	20	GMS-3	50'
177140	Preform Strip	20	CT-1	50'
177110	Preform Strip	40	GMC-1	50'
177120	Preform Strip	40	AUS-0	50'
177130	Preform Strip	40	GMS-3	50'
177146	Preform Strip	40	CT-1	50'
177103	Preform Strip	40	GR-1	50'
177142	Preform Strip – 1/8" Round	20	1/8" R	50'
177143	Preform Strip – 1/4" Round	20	1/4" R	50'
177148	Cutter For GMS-3 Preform Strip			

### Shalco Blowplate Gasket

These high heat resistant silicone rubber gaskets are designed to be used for sealing shell-core and hot-box coremaking equipment. These seals, which are reinforced with 26 gauge perforated steel, provide a positive seal between the core box and the blowplate thus eliminating the escape of curing gases, air, and sand.

Catalog Number	Description	Thickness
177205	Blowplate Gasket – 24" x 24"	3/16"

### Striptube

Striptube is a round, 60A neoprene rubber gasket material used as an effective seal in foundry core boxes and gassing plates. Striptube is hollow to easily compress and is not affected by gasoline, naphtha, or kerosene.

Catalog Number	Description	Diameter	Length
033475	Round Striptube Seal	1/8"	10'
033482	Round Striptube Seal	3/16"	10'
033484	Round Striptube Seal	1/4"	10'
033486	Round Striptube Seal	5/16"	10'



## Freeman Core Vent Wax

Freeman Brown Core Vent Wax is used to vent oil sand cores of curved or irregular shape. The wax is placed in critical locations in the sand as the core is molded. The wax is dissipated when the core is baked, leaving a clean vent of high permeability.

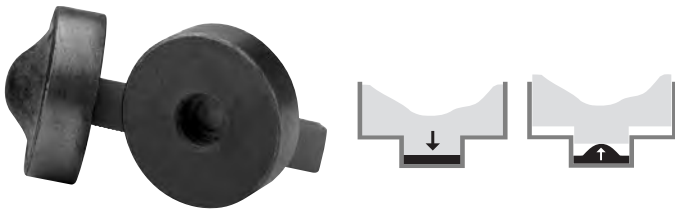
Available in full round and half round shapes.



Catalog Number	Description	Dia.	Height	Approx. Length	Net Wt. (Lbs.)
086001	Solid Core Vent Wax	1/32"		2300'	1/2
086002	Solid Core Vent Wax	1/16"		875'	1
086003	Solid Core Vent Wax	1/32"		325'	1
086004	Solid Core Vent Wax	1/8"		800'	4
086006	Solid Core Vent Wax	3/16"		350'	4
086008	Solid Core Vent Wax	1/4"		195'	4
086012	Solid Core Vent Wax	3/8"		85'	4
086016	Solid Core Vent Wax	1/2"		50'	4
086020	Solid Core Vent Wax	5/8"		30'	4
086117	Solid Core Vent Wax – Half Round	3/4"	3/8"	41'	4
086118	Solid Core Vent Wax – Half Round	5/8"	5/16"	75'	4
086119	Solid Core Vent Wax – Half Round	3/8"	3/16"	150'	4
086120	Solid Core Vent Wax – Half Round	1/4"	1/8"	340'	4
086121	Solid Core Vent Wax – Half Round	3/16"	1/8"	600'	4

## Dike-O-Lastic Ejector Buttons

These Ejector Buttons are ideal for contributing to clean draws on deep pockets or cavities on match-plates or core boxes.



Catalog Number	Description	Diameter
177150	Dike-O-Lastic Ejector Button	1/4"
177151	Dike-O-Lastic Ejector Button	3/8"
177152	Dike-O-Lastic Ejector Button	1/2"
177153	Dike-O-Lastic Ejector Button	5/8"
177154	Dike-O-Lastic Ejector Button	3/4"
177155	Dike-O-Lastic Ejector Button	1"
177156	Dike-O-Lastic Ejector Button	1 1/4"
177157	Dike-O-Lastic Ejector Button	1 1/2"
177158	Dike-O-Lastic Ejector Button	1 3/4"
177159	Dike-O-Lastic Ejector Button	2"
177160	Dike-O-Lastic Ejector Button	2 3/4"

## Leather Fillet & Accessories

Freeman Leather Fillets are manufactured with the highest grade leather and have multiple slits along the underside of the larger radius material for greater flexibility. This design also allows for faster fabrication and increased wear resistance. Freeman Fillet Cement or White or Gold Wood Glue may be used when applying leather fillets. Sold in full bundles only.

Freeman Fillet Cement is a waterproof cement for attaching leather fillet on wood or metal patterns. Any surplus can be readily removed with alcohol or fillet cement thinner.



Catalog Number	Description	Availability	Fillet No.	Radius	Feet Per Bundle
023105	Leather Fillets		1/2	1/32"	100 ft
023110	Leather Fillets		1	1/16"	100 ft
023115	Leather Fillets		1 1/2	3/32"	100 ft
023120	Leather Fillets		2	1/8"	100 ft
023125	Leather Fillets		2 1/2	5/32"	100 ft
023130	Leather Fillets		3	3/16"	100 ft
023135	Leather Fillets		4	1/4"	100 ft
023140	Leather Fillets		5	5/16"	100 ft
023145	Leather Fillets		6	3/8"	100 ft
023150	Leather Fillets		7	7/16"	100 ft
023155	Leather Fillets		8	1/2"	100 ft
023160	Leather Fillets		10	5/8"	100 ft
023165	Leather Fillets		12	3/4"	100 ft
023170	Leather Fillets		14	7/8"	50 ft
023175	Leather Fillets		16	1"	50 ft
023205	Fillet Cement	Quart			

## Core Box Clamps

### Peerless Core Box Clamps

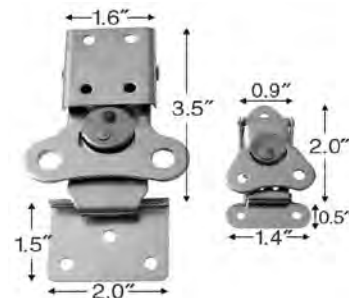
This 3-piece core box clamping system is simple and durable for effective clamping of wood or metal core boxes. Constructed from heavy gage steel for a long life, Peerless Core Box Clamps are composed of left and right halves that are mounted to each side of the core box with two screws each (not included). A tapered and dovetailed center section is firmly placed over the two halves to bring the core box parting line together and hold it securely during the molding process. All pieces are sold individually; one left, one right, and one center are required to make one complete set.



Catalog Number	Description	Mfg. No.
177500	Peerless Left Bracket 2"	CC2L
177502	Peerless Right Bracket 2"	CC2R
177504	Peerless Centerpiece 2"	CC2C

### Link-Lock Fasteners

Ideal for securing core box halves during molding operations. These fasteners feature positive locking, springless latching and heavy-duty construction. Both styles are designed to be compact and will close flat.

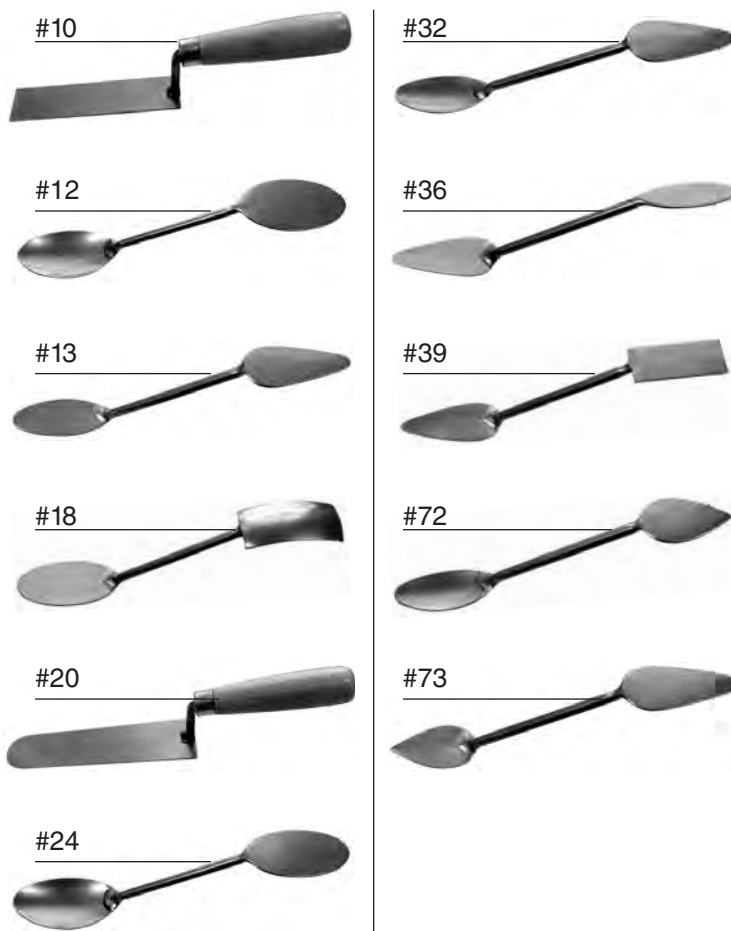


Catalog Number	Description	Mfg. No.
408255	Link Lock Fasteners (Light Duty)	3
408256	Link Lock Fasteners (Medium Duty)	2

## Slicks & Trowels

Slicks and trowels are hand-constructed of quality steel and designed for hand custom molding operations.

Catalog Number	Description	Style No.	Width	Blade Length
176102	Square Trowel	10	1 1/4"	5"
176104	Square Trowel	10	1 1/2"	6"
176106	Square Trowel	10	2"	7"
176118	Slick & Oval Spoon	12	3/4"	
176120	Slick & Oval Spoon	12	1"	
176122	Slick & Oval Spoon	12	1 1/4"	
176124	Slick & Oval Spoon	12	1 1/2"	
176126	Slick & Taper	13	1"	
176128	Slick & Square Spoon	18	3/4"	
176108	Finishing Trowel	20	1 1/4"	5"
176110	Finishing Trowel	20	1 1/4"	6"
176112	Finishing Trowel	20	1 1/2"	6"
176114	Finishing Trowel	20	1 1/2"	7"
176116	Finishing Trowel	20	2"	7"
176144	Spoon & Gate Cutter	24	1"	
176146	Spoon & Gate Cutter	24	1 1/4"	
176148	Spoon & Gate Cutter	24	1 1/2"	
176150	Taper & Spoon	32	1"	
176152	Taper & Leaf	36	1"	
176156	Taper & Square	39	1"	
176158	Heart & Spoon	72	1"	
176160	Heart & Taper	73	1"	





## Foundry Specialty Tools

### Mouth Spray Can

Mouth Spray Cans are used to spray liquid partings, light washes or similar materials. Any air nozzle can be used with these spray cans. The can is made of heavy brass and is available in pint and quart sizes.



Catalog Number	Description	Availability
176880	Mouth Spray Can	Pint
176885	Mouth Spray Can	Quart

### Hand Riddles

Freeman Hand Riddles are used for the fine sifting of foundry sand onto the mold surface. This ensures uniform coverage to prevent casting defects. These riddles are made from galvanized wire screen and heavy gauge plastic rims for long life. Each riddle is 18" in diameter. Please specify mesh.



Catalog Number	Description	Mesh	Wire Diameter	Size Opening
176849	Hand Riddles	#1	0.063	0.937
176820	Hand Riddles	#4	0.047	0.203
176838	Hand Riddles	#5	0.035	0.165
176839	Hand Riddles	#6	0.035	0.132
176830	Hand Riddles	#8	0.032	0.093
176831	Hand Riddles	#10	0.017	0.083
176832	Hand Riddles	#12	0.018	0.066
176833	Hand Riddles	#14	0.063	0.437
176834	Hand Riddles	#16	0.018	0.045

### Sprue Cutters

Constructed of heavy formed, tapered steel tubing with a well-rounded top. This product is excellent for cutting pouring sprues in green sand molds.



Catalog Number	Description	Length	Diameter
176745	Steel Sprue Cutter	8¼"	7/8"
176746	Steel Sprue Cutter	12¼"	1"
176747	Steel Sprue Cutter	12¼"	1¼"

### Paste Bulb

Durable container used to dispense glue in core bonding applications.



Catalog Number	Description	Size
176860	Paste Bulb (Complete)	14 oz.

### Lance Pyrometer

This Lance Pyrometer is designed to accurately measure the temperatures of non-ferrous molten metals to within 2%. It features an easily replaceable meter, 36" long immersion thermocouple, 8" Protected Marshall Tip and Fahrenheit-Centigrade analog meter read-out. The temperature range for this pyrometer is 0°F to 2,350°F.



Catalog Number	Description	Mfg. No
176721	Lance Pyrometer	MT 400
176723	Replacement Thermocouple with Tip	for MT 400

### Bench Rammer

This Bench Rammer is made of hard maple with an oil finish and designed with one end wedge shaped and the other cylindrical.



Catalog Number	Description	Length	Diameter
176754	Bench Rammer	14"	3½"

## Other Foundry Supplies

### Freeman Malleable-Iron Rapping Plates

Freeman Rapping Plates are cast malleable inserts that enable a foundryman to easily remove wooden patterns or loose pieces from the molding sand. Designed to be installed flush on the parting line, each plate has a threaded hole for inserting an eye bolt or a draw rod. Available in a variety of sizes and shapes.



Catalog Number	Description	Size	Dia.	Thickness	Width	Length
026005	Rapping Plates	1		5/8"		1 1/2"
026010	Rapping Plates	5		3/4"		1 5/8"
026015	Rapping Plates	6		3/4"		2 1/4"
026020	Rapping Plates	8		7/8"		2 1/4"
026025	Rapping Plates	9		1"		3"
026030	Rapping Plates	10		1"		3 1/2"
026035	Rapping Plates	11		2 1/4"		2 1/4"
026040	Rapping Plates	12		1 1/4"		3 3/4"
026045	Rapping Plates	14		1 1/4"		4 1/2"
026050	Rapping Plates	16		2 3/4"		2 3/4"
026055	Rapping Plates	17		3"		5 1/2"
026072	Round Rapping Plates	0	1"	5/16"		
026074	Round Rapping Plates	1	1 1/4"	3/8"		
026076	Round Rapping Plates	2	1 3/4"	1/2"		
026078	Round Rapping Plates	3	2 3/8"	9/16"		
026080	Round Rapping Plates	4	3"	5/8"		
026082	Round Rapping Plates	5	4"	1 1/16"		
026084	Round Rapping Plates	6	5"	3/4"		

### Cleveland Vibrators

Linear shock action vibration makes the SAEP the most powerful continuous-duty vibrator available for its size. Ideal for use on matchplates in jolt-squeeze operations.



#### Features include:

- Continuous-duty design
- Low air consumption
- Variable frequency

Catalog Number	Description	Piston Diameter	Mfg. No.	Vibrations Per Min. @ 60psi
176900	Cleveland Vibrator	1/2"	SAEP-1/2	16,000
176901	Cleveland Vibrator	5/8"	SAEP-5/8	14,100
176902	Cleveland Vibrator	3/4"	SAEP-3/4	12,700
176903	Cleveland Vibrator	1"	SAEP-1	11,000
176904	Cleveland Vibrator	1 1/4"	SAEP-1 1/4	7,600

### Sprayon Blue Layout Fluid

This is a fast-drying, non-flaking, non-etching, layout fluid that will not crack or peel. Smooth, non-glare finish allows for clear, precise scribe lines.



Catalog Number	Description	Availability
038082	Sprayon Blue Layout Fluid – Aerosol	16 oz.

### Brass Rod

Brass Rod manufactured in accurate fractional sizes for fast convenient pattern shop use. Sold in 36" lengths.

Catalog Number	Description	Diameter	Length
027645	Brass Rod	1/16"	36"
027650	Brass Rod	3/32"	36"
027655	Brass Rod	1/8"	36"
027665	Brass Rod	3/16"	36"
027675	Brass Rod	1/4"	36"
027680	Brass Rod	5/16"	36"
027685	Brass Rod	3/8"	36"
027695	Brass Rod	1/2"	36"
027700	Brass Rod	5/8"	36"
027705	Brass Rod	3/4"	36"
027710	Brass Rod	1"	36"

### Cast Urethane Gating Components

Made by Dike-O-Seal, these abrasion-resistant urethane products provide economical, long-lasting solutions for gating Hunter Automatic Molding Machines.

This product line features a wide variety of pouring basins, sprue pins, basin liners, vent pins, and runner bars. Made using Dike-O-Seal's exclusive ABRA-SHUN® polyurethane to resist abrasion, last longer, prevent downtime, and extend service life to produce better sand molds.

Due to the wide variety of gating components available, Freeman makes these items available by **Special Order Only**. Please call us at 800-321-8511 for more information.

### Dux-Bak Non-Silica Dry Parting and Parting Bags

Our Parting Bag is made of a special cloth for dusting Dux-Bak Non-Silica Dry Parting powder onto a pattern. The bag measures 6" x 11" in size. Dux-Bak Non-Silica Dry Parting is available in quantities of one pound up through and including a 500 pound drum size.

Catalog Number	Description	Availability
054400	Non-Silica Dry Parting	Pound
176870	Parting Bag	Each

### Disamatic Urethane Wipers & Brass Keepers

Replacement urethane wipers and brass keepers that are pre-drilled for the Mark IV Disamatic.

Catalog Number	Description
177211	Disa Urethane Wiper Blade – Mark IV
177212	Brass Keeper – Mark IV