

TRADITIONAL RAILING COMPONENTS

HANDRAIL MOULDINGS, FITTINGS AND CASTINGS



Private Residence Fabricator: Klahm & Sons, Inc., Ocala, FL

This section illustrates the numerous handrail mouldings, fittings, and ornamental railing components carried in stock in aluminum, bronze, nickel-silver, and stainless steel. Most can be used with the various railing systems described elsewhere in this catalog.

- **Aluminum** extrusions are of alloy 6063 which is preferred for its bright color, corrosion resistance, and ease of fabrication. It is suitable for anodizing, including most of the hard coat color finishes.

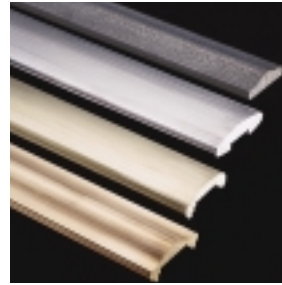
- **Bronze** extrusions are of alloy C38500, architectural bronze, preferred for its rich gold color and workability.

- **Nickel-Silver** extrusions are of alloy C79800. Sometimes referred to as white bronze, nickel-silver is a copper/nickel alloy. It is similar in color to stainless steel, with golden highlights.

- **Stainless Steel** components are of type 304, 18-8, chrome nickel alloy which has high resistance to corrosion.

- **Steel** handrails are hot-rolled carbon steel, C1010.

Cast aluminum fittings are produced from Almag 35, suitable for clear anodizing. Bronze castings are of alloy C86500 for a good color match with extruded bronze. Nickel-silver fittings are cast to match extrusions. All non-ferrous fittings are satin finished; bronze and nickel-silver fittings are protected with a clear lacquer. Fittings for use with steel handrail are cast from malleable iron which is weldable and bendable. It is important to be aware that due to the difference in tolerances



HANDRAIL MOULDINGS

A wide selection of handrail mouldings are available from stock in aluminum, bronze, nickel-silver, stainless steel and steel. Matching fittings are available for many handrail profiles.



POSTS AND ORNAMENTAL BALUSTER BARS

Ornamental baluster bars are available in 36" and 42" lengths. Posts are produced from solid stock. Baluster bars may be combined to meet 4" space requirements.



POST CAPS, COLLARS, FINIALS

A variety of post caps, collars, and finials are available in aluminum, bronze, nickel-silver, stainless steel, and steel to meet a variety of design applications.

between extruded handrail and cast fittings, butt joints usually require special attention to assure proper match.

All items are carried in stock in substantial quantities and are normally available for immediate shipment. Materials are produced and handled with great care. Items are thoroughly protected for shipment by wrapping and/or crating so as to assure a product well-suited for architectural finishing. For structural engineering data, see pages 123-130. For handrail brackets, see pages 86-95.

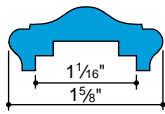
Americans with Disabilities Act (ADA): The Americans with Disabilities Act adopted by Congress in 1992 required handrails to be 1¼" minimum and 1½" maximum. However, the *ADAAG Manual—July 1998*, published by US Architecture and Transportation Barriers Compliance Accessibility Guidelines, has now clarified the intent of the dimensional requirements to be 1¼" minimum to a nominal 2" maximum. It is important to note that *Section 4.26.2 Size and Spacing of Grab Bars and Handrails of the ADAAG Manual* states in part, "Standard IPS pipe designated by 1¼" to 1½" is acceptable."

ADAAG also allows handrails which provide an equivalent gripping surface. ANSI117.1-98 defines this alternative: *equivalent gripping surfaces are permitted provided they have a perimeter dimension of 4" (100mm) minimum and 6¼" (16mm) maximum and provided their largest cross-section dimension is 2¼" (57mm) maximum.*

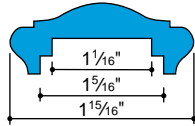
HANDRAIL MOULDINGS

Scale: 6" = 1'-0"

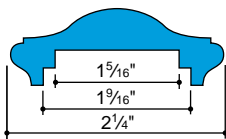
ALUMINUM Alloy 6063-T52, Mill Finish, 20' lengths



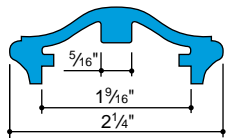
6931 Aluminum .615 lb/ft
Fittings: B-C-CC-CL-CR-E-GL-GR-L-N-S-T-V



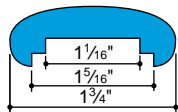
6934 Aluminum .804 lb/ft
Fittings: B-C-CC-CL-CR-E-GL-GR-L-N-S-T-V



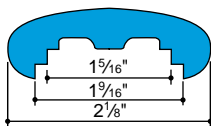
6930 Aluminum .936 lb/ft
Fittings: B-C-CC-CL-CR-E-GL-GR-L-N-S-T-V



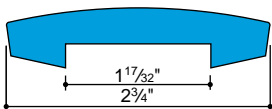
6929 Aluminum .670 lb/ft
Fittings: B-C-CC-CL-CR-E-GL-GR-L-N-S-T-V
Outside profile identical to 6930, for straight runs only



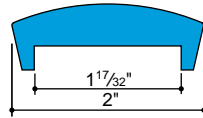
6933 Aluminum .770 lb/ft
Fittings: B-C-CC-CL-CR-GL-GR-N-S-V



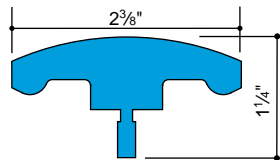
6935 Aluminum .980 lb/ft
Fittings: B-C-CC-CL-CR-E-GL-GR-N-S-T-V



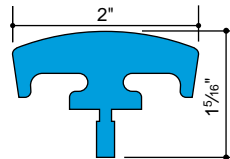
6984* Aluminum 1.301 lb/ft
Fittings: C-N
* Use 1 1/2" x 1/4" flat bar for splicing and for closing ends



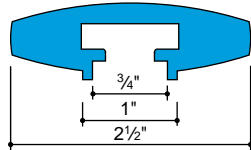
6985* Aluminum .977 lb/ft
Fittings: C-N
* Use 1 1/2" x 1/4" flat bar for splicing and for closing ends



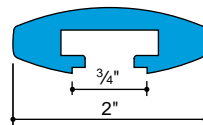
6402 Aluminum 1.51 lb/ft
Fittings: C-N (Use fittings for 6902)



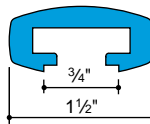
6405 Aluminum 1.39 lb/ft
Fittings: C-N (Use fittings for 6985)



6532 Aluminum 1.440 lb/ft
Fittings: C-N (see page 40).
Mouldings 6530, 6531 and 6532 are used with Carlsrail® self-aligning brackets on page 67. Clamping action eliminates drilling and tapping and helps in field alignment with posts and wall attachments. See page 66 for splices, support bar and end cap. Carlsrail® mouldings are designed for non-welded assembly.

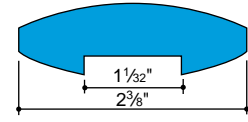


6530 Aluminum .900 lb/ft
Fittings: C-N (see page 40)



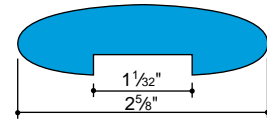
6531 Aluminum .600 lb/ft
Fittings: C-N (see page 40)

Note: Channel Corner bends and channel lateral scrolls are available in Aluminum and Malleable Iron.

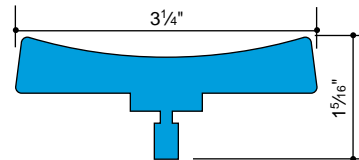


6902 Aluminum 1.464 lb/ft
Fittings: C-N

Mouldings 6901 and 6902 are specially designed for use with Carlstadt® aluminum self-aligning brackets 309, 312, 313 and 314 shown on pages 80 and 81. A 1" x 1/4" flat bar can be used for splicing and for closing the recess in the handrail moulding.

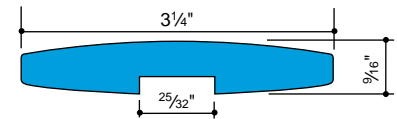


6901 Aluminum 1.661 lb/ft
Fittings: C-N

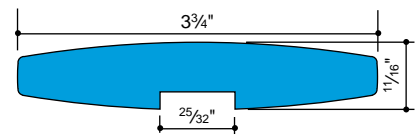


6407 Aluminum 2.00 lb/ft
Fittings: C-N (Use fittings for 6907)

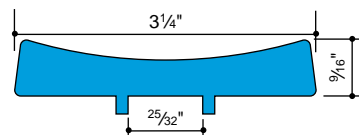
T-handrail mouldings 6402, 6405 and 6407 are used with Carlstadt® self-aligning brackets on pages 80-81. Clamping action eliminates drilling and tapping and helps in field alignment with posts and wall attachment.



6905 Aluminum 1.752 lb/ft
Fittings: C-N



6906 Aluminum 2.448 lb/ft
Fittings: C-N



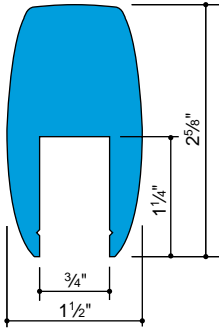
6907 Aluminum 1.776 lb/ft
Fittings: C-N

Mouldings 6905, 6906 and 6907 are specially designed for use with Carlstadt® self-aligning brackets shown on pages 80-81. A 3/4" x 3/16" flat bar may be used for closing the recess in the handrail moulding.

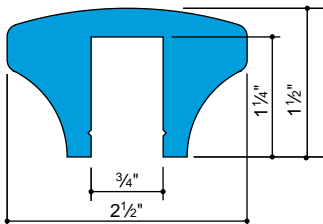
HANDRAIL MOULDINGS

Scale: 6" = 1'-0"

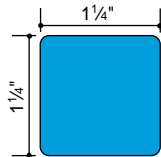
ALUMINUM Alloy 6063-T52, Mill Finish, 20' lengths



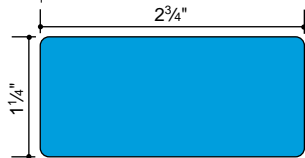
1133* Aluminum 3.02 lb/ft



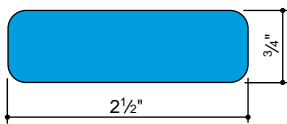
1134* Aluminum 2.40 lb/ft



6423* Aluminum 1.876 lb/ft



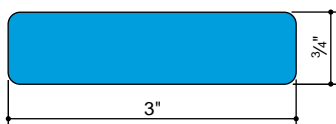
6424* Aluminum 4.124 lb/ft



6939* Aluminum 2.214 lb/ft

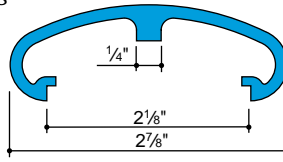


6988* Aluminum 1.138 lb/ft

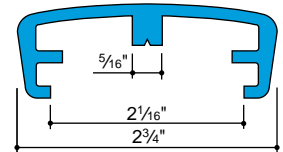


6986* Aluminum 2.684 lb/ft

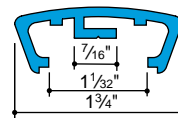
* No fittings available



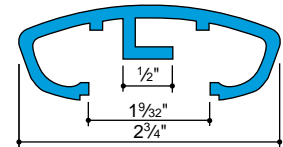
6932 Aluminum .852 lb/ft
Fittings: B-C-N-S-V



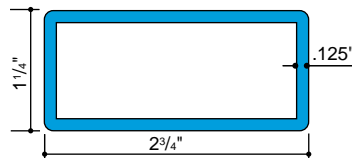
6987 Aluminum .858 lb/ft
Fittings: C-N



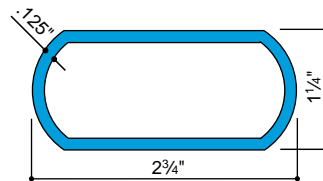
6903* Aluminum .446 lb/ft
Use with 1"x1/2"x1/8" channel



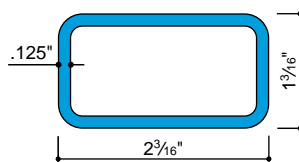
6904* Aluminum .858 lb/ft
Use with 1 1/4"x3/4"x1/8" channel



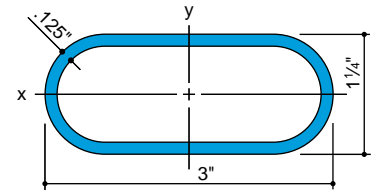
6434 Aluminum 6063-T6 1.123 lb/ft
Fittings: N (see page 79)



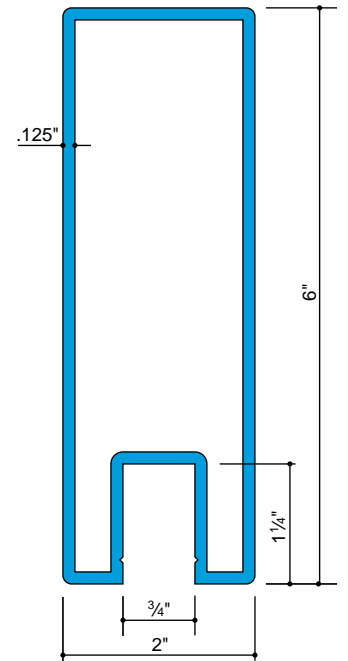
6435 Aluminum 6063-T6 1.075 lb/ft
Fittings: C-N (see pages 40 and 79)



6436 Aluminum .888 lb/ft
Fittings: N

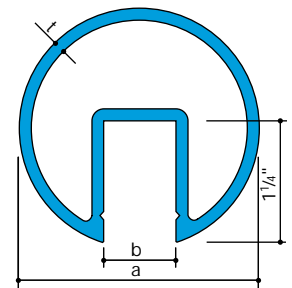


6437 Aluminum 1.057 lb/ft
Fittings: N



1136 Aluminum 2.70 lb/ft
Fittings: N

JB® GLASS HANDRAIL MOULDINGS



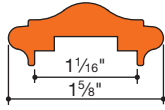
	a	b	t	lb/ft
1130	1.900"	3/4"	.109"	1.01
1132	2 1/2"	3/4"	.125"	1.52
1137	3"	3/4"	.125"	1.72
1154	3"	1"	.125"	1.73
1135	3 1/2"	3/4"	.125"	1.95
1155	3 1/2"	1"	.125"	1.97

Fittings: See page 8. Not to scale

● HANDRAIL MOULDINGS

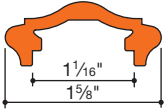
Scale: 6" = 1'-0"

● BRONZE Alloy C38500, Mill Finish, 20' lengths, except as noted

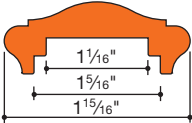


Suitable for bending

■ **4531** Bronze 1.93 lb/ft
Fittings: B-C-CC-CL-CR-E-GL-GR-L-N-S-U-V

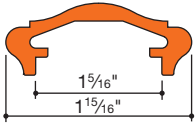


For straight runs only. Outside profile identical to **4531**
■ **4537** Bronze 1.28 lb/ft
Fittings: Same as for **4531**

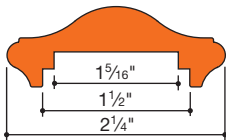


Suitable for bending.

■ **4534** Bronze 2.52 lb/ft
Fittings: B-C-CC-CL-CR-E-GL-GR-L-N-S-T-V

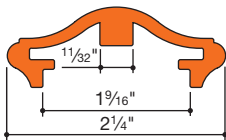


For straight runs only. Outside profile identical to **4534**
■ **4536** Bronze 1.83 lb/ft
Fittings: Same as for **4534**.

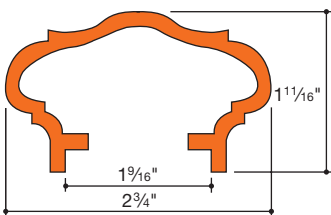


Suitable for bending.

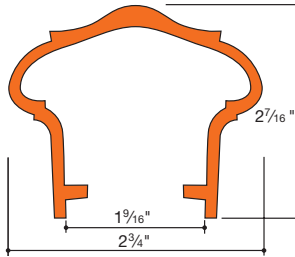
■ **4530** Bronze 2.91 lb/ft
Fittings: B-C-CC-CL-CR-E-GL-GR-L-N-S-T-V



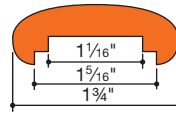
For straight runs only. Outside profile identical to **4530**
■ **4532** Bronze 2.15 lb/ft
Fittings: Same as for **4530**.



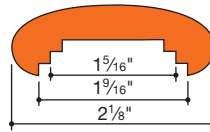
■ **4538** Bronze 3.10 lb/ft
Fittings: N



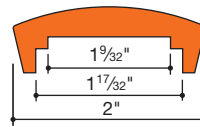
■ **4533** Bronze 3.66 lb/ft
No fittings



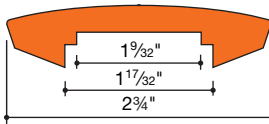
■ **4539** Bronze 2.66 lb/ft
Fittings: B-C-CC-CL-CR-GL-GR-N-S-V



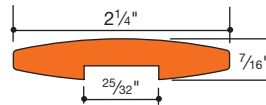
■ **4535** Bronze 3.16 lb/ft
Fittings: B-C-CC-CL-CR-GL-GR-N-S-T-V



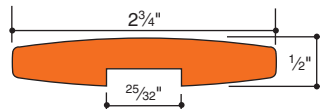
■ **4575** Bronze 2.64 lb/ft
Fittings: C-CC-N



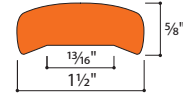
■ **4574** Bronze 3.71 lb/ft
Fittings: C-N



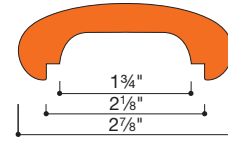
■ **4572** Bronze 2.50 lb/ft
Fittings: C-N



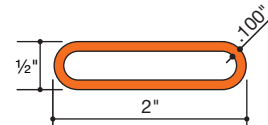
■ **4573** Bronze 4.05 lb/ft
Fittings: C-N



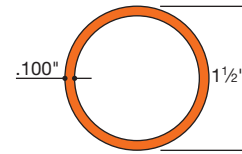
■ **4503** Bronze 2.75 lb/ft
Fittings: C-N



■ **4529** Bronze 4.87 lb/ft
Fittings: C-N

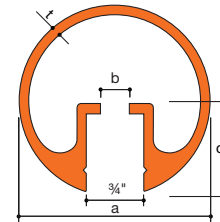


■ **6488*** Bronze 1.56 lb/ft
Fittings: N



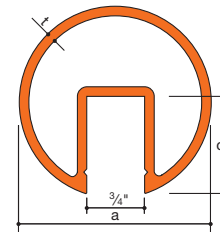
■ **6489** Bronze 1.75 lb/ft
Fittings: C-D-N

JB® GLASS HANDRAIL MOULDINGS



	a	b	c	t	lb/ft
■ 1230 Br.	1.900"	1/2"	1"	.100"	2.69
■ 1232* Br.	2 1/2"	3/8"	1"	.125"	4.51

Fittings: See page 8. Not to scale.



	a	c	t	lb/ft
■ 1233* Br.	3"	1 1/4"	.125"	5.87
■ 1235** Br.	3 1/2"	1 1/4"	.187"	8.70

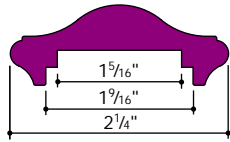
Fittings: See page 8. Not to scale.

* 16' lengths ** 12' lengths

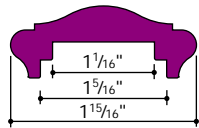
HANDRAIL MOULDINGS

Scale: 6" = 1'-0"

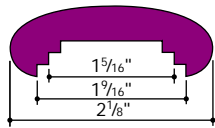
● NICKEL-SILVER Alloy C79800, Mill Finish, 20' lengths, except as noted



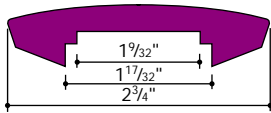
5530 ● Nickel-Silver 2.91 lb/ft
Fittings: B-C-CC-CL-CR-GL-GR-N-P-S-V



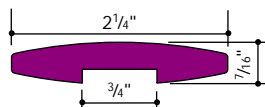
5534 ● Nickel-Silver 2.52 lb/ft
Fittings: B-C-CC-CL-CR-GL-GR-N-S-V



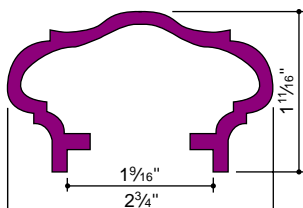
5235 ● Nickel-Silver 3.16 lb/ft
Fittings: B-C-CC-CL-CR-GL-GR-N-S-V



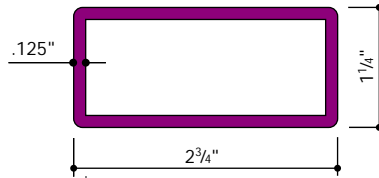
5274 ● Nickel-Silver 3.71 lb/ft
Fittings: C-N



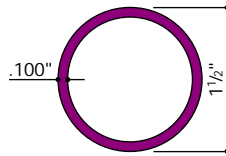
5572 ● Nickel-Silver 2.50 lb/ft
Fittings: C-N



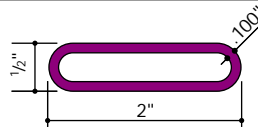
5538 ● Nickel-Silver 3.10 lb/ft
Fittings: N



1334* ● Nickel-Silver 3.40 lb/ft
Fittings: N (See page 79) * 16' lengths

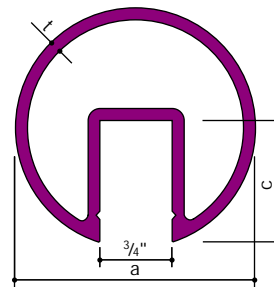


5289 ● Nickel-Silver 1.75 lb/ft
Fittings: N



5288 ● Nickel-Silver 1.56 lb/ft
Fittings: N

JB® GLASS HANDRAIL MOULDINGS



	a	c	t	lb/ft
1330 ● Nickel-Silver	1.900"	1"	.125"	2.74
1332* ● Nickel-Silver	2 1/2"	1 1/4"	.125"	4.43
1333* ● Nickel-Silver	3"	1 1/4"	.125"	5.28

Fittings: See page 8. Not to scale.

* 16' lengths

Note: Channel Corner Bends and Channel Lateral Scrolls are available in Nickel-Silver and Malleable Iron.





JuliusBlum&CoInc

- ALUMINUM
- ACRYLIC / WOOD

● ● HANDRAIL MOULDINGS

Scale: 6" = 1'-0"

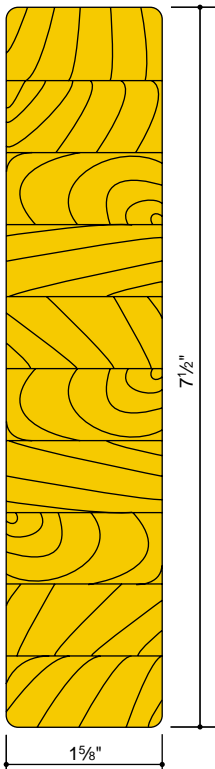
● **ACRYLIC/WOOD**

16' lengths

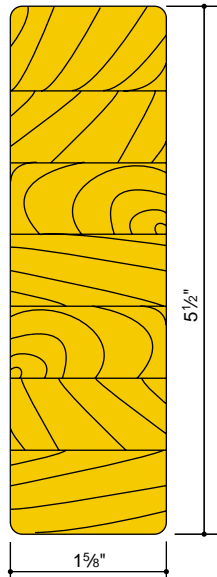
Acrylic/Wood rail is a prefinished composite material which retains all the beauty of natural hardwood—oak, walnut and ash—but is provided with a hard, lustrous acrylic surface. This is achieved by impregnating the wood with acrylic plastic and hardening it by irradiation. The composite has twice the resistance to indentation and several times the resistance to abrasion as the same hardwood finished conventionally. **Acrylic/Wood** is laminated from strips so as to obtain greater strength and continuous, uniform lengths.



Approximate color and grain configurations
Ash color may be substituted for maple or birch.

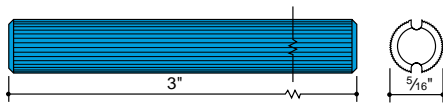


- 8561 ● Oak Acrylic/Wood 4.75 lb/ft
- 8562 ● Walnut Acrylic/Wood 4.75 lb/ft

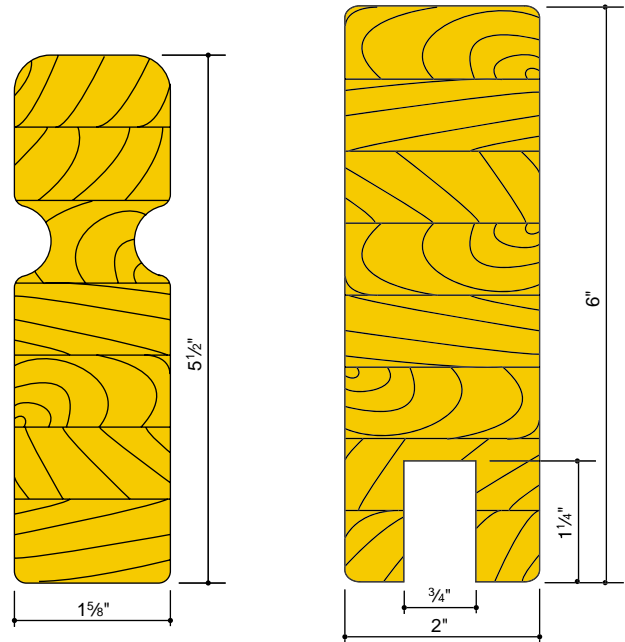


- 8521 ● Oak Acrylic/Wood 3.48 lb/ft
- 8522 ● Walnut Acrylic/Wood 3.48 lb/ft
- 8523 ● Ash Acrylic/Wood 3.48 lb/ft

DOWEL

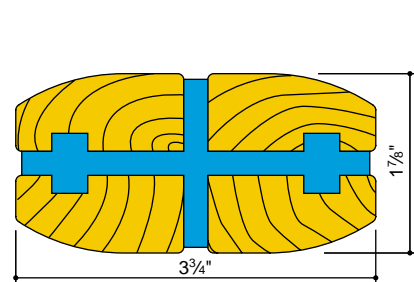


- 800 ● Aluminum For use with Acrylic/Wood handrail



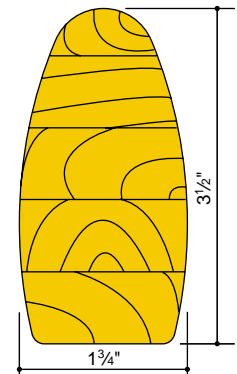
- 8591 ● Oak Acrylic/Wood 3.31 lb/ft

- 8662 ● Oak Acrylic/Wood 4.27 lb/ft
Fittings: N



- 8571 ● Oak Acrylic/Wood / Aluminum 3.34 lb/ft
Fittings: N (874)

Aluminum spine has a clear anodized finish. AA-M10-C22-A31 (204R1.)



- 8542 ● Walnut Acrylic/Wood 2.06 lb/ft

SCOTCH-WELD® EPOXY ADHESIVE
Catalog No. 3M EC-2216 B/A, Clear Amber

Recommended for splice joints using aluminum dowel.



Cans—1 qt. total Tubes—4 oz. total

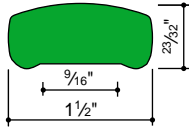
● STAINLESS

● STEEL

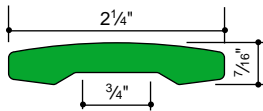
● ● HANDRAIL MOULDINGS

Scale: 6" = 1'-0"

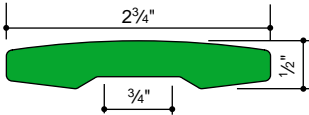
● **STAINLESS STEEL** Type 304 (18-8)
20' lengths, except as noted



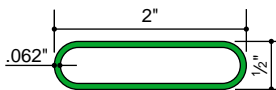
6503 ● Stainless 2.54 lb/ft
No fittings available. 16' lengths



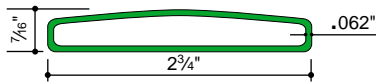
6502 ● Stainless 2.80 lb/ft
No fittings available. 16' lengths



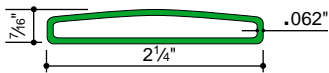
6501 ● Stainless 4.05 lb/ft
No fittings available. 16' lengths



4488 ● Stainless .944 lb/ft
Fittings: N Suitable for elevator cab handrails

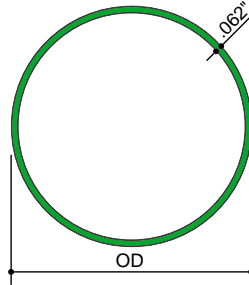


6511 ● Stainless 1.25 lb/ft
Fittings: N



6512 ● Stainless 1.00 lb/ft
Fittings: N

Round Tubing
Ornamental Grade

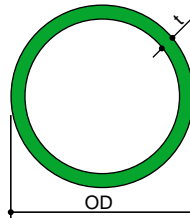


OD	ID	lb/ft
2 1/2"	2.375"	1.691
3"	2.875"	1.930
4"	3.875"	2.550

Fittings: See page 30.

Handrail Pipe
Ornamental Grade

No. 4, 180 grit, satin finish; paper-wrapped.

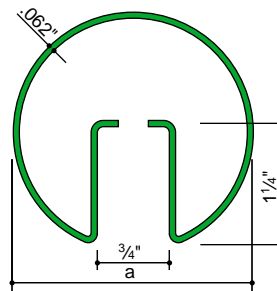


Nominal Pipe Size	Sched.	OD	t	lb/ft
3/4"	40	1.063"	.113"	1.200
1"	40	1.315"	.120"	1.460
1 1/4"	5	1.660"	.062"	1.110
1 1/4"	40	1.660"	.148"	2.150
1 1/4"	5*	1.900"	.062"	1.274
1 1/4"	40	1.900"	.148"	2.550

Fittings, see pages 14-29.

* Also available 2B mill finish

JB® GLASS HANDRAIL MOULDINGS

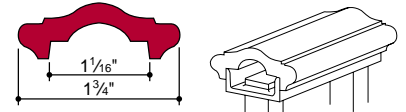


	a	lb/ft	Finish
1430*	1.900"	1.70	No. 2B
1432*	2 1/2"	1.96	No. 2B
1452**	2 1/2"	1.96	No. 4
1433*	3"	2.46	No. 2B
1453**	3"	2.46	No. 4
1472*	4"	3.17	No. 2B
1473**	4"	3.17	No. 4

Fittings, see page 8.

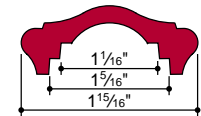
* Suitable for polishing ** 180 Grit

● **STEEL** C1010, 20' lengths
Steel mouldings are hot-rolled carbon steel, C1010. Fittings are cast in malleable iron, making them weldable and bendable.

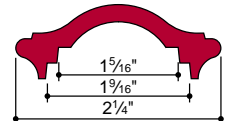


4429 used with 1" channel

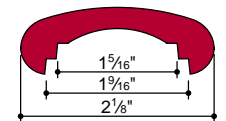
4429 ● Steel 1.40 lb/ft
Fittings: B-C-CC-CL-CR-E-F-GL-GR-JL-JR-L-N-S
SL-SR-T-U-UC-UL-V



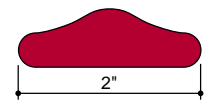
4428 ● Steel 2.25 lb/ft
Fittings: B-C-CC-CL-CR-E-GL-GR-L-N-S-V



4441 ● Steel 2.14 lb/ft
Fittings: B-C-CC-CL-CR-E-GL-GR-N-S-V



4435 ● Steel 2.65 lb/ft
Fittings: V



4416 ● Steel 3.15 lb/ft
No fittings available

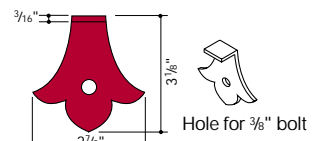
Loafer Rail



4445 ● Steel .688 lb/ft

Loafer rail fits over pipe or flat surface to discourage lounging or skating on fences, planters, railings, or storefronts.

Wall Flange



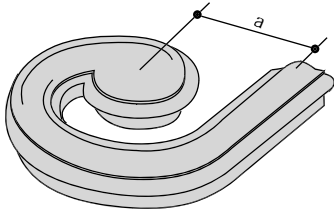
401 ● Steel

● ● ● ● **HANDRAIL FITTINGS**

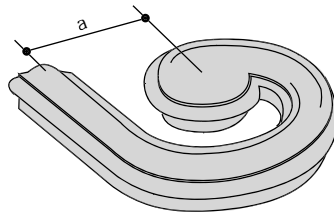
MOULDING LATERAL SCROLLS

Satin Finish, except as noted.

Moulding lateral scrolls may be bent to meet the pitch of stair railings. Cast channel and steel flat bar scrolls fit the underside of moulding lateral scrolls. They may be punched for round or square balusters. Malleable Iron produced in "As Cast" Finish.



GL/SL Left Lateral Scrolls



GR/SR Right Lateral Scrolls

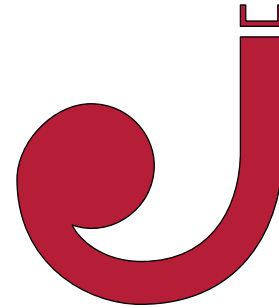
For Lateral Scroll size and availability, see chart below.



150P Flat Bar Lateral Scrolls

Flame cut from steel plate, matches:

- 4530GL/GR ● Bronze
- 5530GL/GR ● Nickel-Silver
- 4441GL/GR ● Malleable Iron



Junior Lateral Scrolls

Junior Lateral "a" Dimension 4 1/8"

- 4429SL ● Malleable Iron
- 4429SR ● Malleable Iron

Junior Channel Lateral Scrolls

JL Left Junior Channel Scroll

JR Right Junior Channel Scroll

		w	h	t
100JL	● Malleable Iron	1"	1/2"	1/8"
100JR	● Malleable Iron	1"	1/2"	1/8"

Fittings Availability Chart

Satin Finish, except as noted. Bronze and Nickel-Silver fittings are lacquered. **Be aware that due to the difference in tolerances between extruded handrail and cast fittings, butt joints usually require special attention to assure a proper match.**

Handrail Moulding	Bevel Lamb's Tongue (B)	Straight Lamb's Tongue (S)	Volute (V)	Terminal End Piece (E)	Corner Piece (L)
6929 ● Aluminum	6930B ● Aluminum	6930S ● Aluminum	6930V ● Aluminum	6930E ● Aluminum	6930L ● Aluminum
6930 ● Aluminum	6930B ● Aluminum	6930S ● Aluminum	6930V ● Aluminum	6930E ● Aluminum	6930L ● Aluminum
6931 ● Aluminum	6931B ● Aluminum	6931S ● Aluminum	6931V ● Aluminum	6931E ● Aluminum	6931L ● Aluminum
6932 ● Aluminum	6932B ● Aluminum	6932S ● Aluminum	6932V ● Aluminum	-	-
6933 ● Aluminum	6933B ● Aluminum	6933S ● Aluminum	6933V ● Aluminum	-	-
6934 ● Aluminum	6934B ● Aluminum	6934S ● Aluminum	6934V ● Aluminum	6934E ● Aluminum	6934L ● Aluminum
6935 ● Aluminum	6935B ● Aluminum	6935S ● Aluminum	6935V ● Aluminum	6935E ● Aluminum	-
4530 ● Bronze	4530B ● Bronze	4530S ● Bronze	4530V ● Bronze	4530E ● Bronze	4530L ● Bronze
4531 ● Bronze	4531B ● Bronze	4531S ● Bronze	4531V ● Bronze	4531E ● Bronze	4531L ● Bronze
4532 ● Bronze	4530B ● Bronze	4530S ● Bronze	4530V ● Bronze	4530E ● Bronze	4530L ● Bronze
4534 ● Bronze	4534B ● Bronze	4534S ● Bronze	4534V ● Bronze	4534E ● Bronze	4534L ● Bronze
4535 ● Bronze	4535B ● Bronze	4535S ● Bronze	4535V ● Bronze	-	-
4536 ● Bronze	4534B ● Bronze	4534S ● Bronze	4534V ● Bronze	4534E ● Bronze	4534L ● Bronze
4537 ● Bronze	4531B ● Bronze	4531S ● Bronze	4531V ● Bronze	4531E ● Bronze	4531L ● Bronze
4539 ● Bronze	4539B ● Bronze	4539S ● Bronze	4539V ● Bronze	-	-
4428* ● Steel	4428B ● Malleable Iron	4428S ● Malleable Iron	4428V ● Malleable Iron	4428E ● Mal. Iron	4428L ● Mal. Iron
4429* ● Steel	4429B ● Malleable Iron	4429S ● Malleable Iron	4429V ● Malleable Iron	4429E ● Mal. Iron	4429L ● Mal. Iron
4435* ● Steel	-	-	4435V ● Malleable Iron	-	-
4441* ● Steel	4441B ● Malleable Iron	4441S ● Malleable Iron	4441V ● Malleable Iron	4441E ● Mal. Iron	-
5235 ● Nickel-Silver	5235B ● Nickel-Silver	5235S ● Nickel-Silver	5235V ● Nickel-Silver	-	-
5530 ● Nickel-Silver	5530B ● Nickel-Silver	5530S ● Nickel-Silver	5530V ● Nickel-Silver	-	-
5534 ● Nickel-Silver	5534B ● Nickel-Silver	5534S ● Nickel-Silver	5534V ● Nickel-Silver	-	-

* All steel fittings are produced in Malleable Iron in an "As Cast" Finish.

● ● ● ● **HANDRAIL FITTINGS**

CHANNEL LATERAL SCROLLS

Malleable Iron, Bronze, and Aluminum (Nickel-Silver not shown).



Channel corner bends are also available in aluminum, bronze, nickel-silver, and malleable iron.

		w	h	t		w	h	t		w	h	t		
600CL/CR	● Aluminum	1"	1/2"	1/8"	615CL/CR	● Aluminum	1 1/4"	1/2"	1/8"	650CL/CR	● Aluminum	1 1/2"	1/2"	1/8"
400CL/CR	● Bronze	1"	1/2"	1/8"	425CL/CR	● Bronze	1 1/4"	1/2"	1/8"	450CL/CR	● Bronze	1 1/2"	1/2"	1/8"
100CL/CR	● Malleable Iron	1"	1/2"	1/8"	1315CL/CR	● Nickel-Silver	1 1/4"	1/2"	1/8"	1350CL/CR	● Nickel-Silver	1 1/2"	1/2"	1/8"
					125CL/CR	● Malleable Iron	1 1/4"	1/2"	1/8"	150CL/CR	● Malleable Iron	1 1/2"	1/2"	1/8"

		Left Junior Channel Lateral Scroll (JL)	Right Junior Channel Lateral Scroll (JR)	Left Junior Lateral Scroll (SL)	Right Junior Lateral Scroll (SR)	Forged Lamb's Tongue (F)	End Urn Base (U)	Center Urn Base (UC)	Corner Urn Base (UL)
4429	● Steel	● 100JL	● 100JR	● 4429SL	● 4429SR	● 4429F	● 4429U	● 4429UC	● 4429UL

Verify all dimensions before cutting.

Center Piece (T)	End Urn Base (U)	Lateral Scroll (GL/GR)	Non-Ferrous Channel Lateral** (CL/CR)	Lateral "a" Dimension	Iron Flat Bar Channel Lateral (CL/CR/P)
6930T ● Aluminum	-	6930GL/GR ● Aluminum	650CL/CR ● Aluminum	6 3/8"	150CL/CR ● Mal. Iron
6930T ● Aluminum	-	6930GL/GR ● Aluminum	650CL/CR ● Aluminum	6 3/8"	150CL/CR ● Mal. Iron
6931T ● Aluminum	-	6931GL/GR ● Aluminum	600CL/CR ● Aluminum	5 9/16"	100CL/CR ● Mal. Iron
-	-	-	-	-	-
-	-	6933GL/GR ● Aluminum	615CL/CR ● Aluminum	5 7/16"	125CL/CR ● Mal. Iron
6934T ● Aluminum	-	6934GL/GR ● Aluminum	615CL/CR ● Aluminum	5 1/2"	125CL/CR ● Mal. Iron
6935T ● Aluminum	-	6935GL/GR ● Aluminum	650CL/CR ● Aluminum	6 3/8"	150CL/CR ● Mal. Iron
4530T ● Bronze	-	4530GL/GR ● Bronze	450CL/CR ● Bronze	6 3/8"	150CL/CR/P ● Mal. Iron
-	4531U ● Bronze	4531GL/GR ● Bronze	400CL/CR ● Bronze	5 9/16"	100CL/CR ● Mal. Iron
4530T ● Bronze	-	4530GL/GR ● Bronze	450CL/CR ● Bronze	6 3/8"	150CL/CR/P ● Mal. Iron
4534T ● Bronze	-	4534GL/GR ● Bronze	425CL/CR ● Bronze	5 1/2"	125CL/CR ● Mal. Iron
4535T ● Bronze	-	4535GL/GR ● Bronze	450CL/CR ● Bronze	6 3/8"	150CL/CR ● Mal. Iron
4534T ● Bronze	-	4534GL/GR ● Bronze	425CL/CR ● Bronze	5 1/2"	125CL/CR ● Mal. Iron
-	4531U ● Bronze	4531GL/GR ● Bronze	400CL/CR ● Bronze	5 9/16"	100CL/CR ● Mal. Iron
-	-	4539GL/GR ● Bronze	425CL/CR ● Bronze	5 7/16"	125CL/CR ● Mal. Iron
-	-	4428GL/GR ● Malleable Iron	-	5 1/2"	125CL/CR ● Mal. Iron
4429T ● Mal. Iron	4429U ● Mal. Iron	4429GL/GR ● Malleable Iron	-	5 5/8"	100CL/CR ● Mal. Iron
-	-	-	-	-	-
-	-	4441GL/GR ● Malleable Iron	-	6 1/8"	150CL/CR/P ● Mal. Iron
-	-	5235GL/GR ● Nickel-Silver	1350CL/CR ● Nickel-Silver	6 3/8"	150CL/CR ● Mal. Iron
-	-	5530GL/GR ● Nickel-Silver	1350CL/CR ● Nickel-Silver	6 3/8"	150CL/CR/P ● Mal. Iron
-	-	5534GL/GR ● Nickel-Silver	1315CL/CR ● Nickel-Silver	5 1/2"	125CL/CR ● Mal. Iron

* All steel fittings are produced in Malleable Iron in an "As Cast" Finish.



● ALUMINUM ● NICKEL-SILVER
● BRONZE ● STAINLESS ● MALLEABLE IRON

● ● ● ● ● **HANDRAIL FITTINGS**

End Piece and Corner Availability

Handrail Moulding	Square End Piece (N)	Corner Bend (C)	Bend Radius(r)	Non-Ferrous Corner Bend *	Iron Corner Bend *
4529 ● Bronze	4529N ● Bronze	4529C ● Bronze	3"	-	-
4530 ● Bronze	4530N ● Bronze	4530C ● Bronze	2½"	450CC ● Bronze	150CC ● Malleable Iron
4531 ● Bronze	4531N ● Bronze	4531C ● Bronze	2½"	400CC ● Bronze	100CC ● Malleable Iron
4532 ● Bronze	4532N ● Bronze	4532C ● Bronze	2½"	450CC ● Bronze	150CC ● Malleable Iron
4534 ● Bronze	4534N ● Bronze	4534C ● Bronze	2½"	425CC ● Bronze	125CC ● Malleable Iron
4535 ● Bronze	4535N ● Bronze	4535C ● Bronze	2½"	450CC ● Bronze	150CC ● Malleable Iron
4536 ● Bronze	4536N ● Bronze	4536C ● Bronze	2½"	425CC ● Bronze	125CC ● Malleable Iron
4537 ● Bronze	4537N ● Bronze	4537C ● Bronze	2½"	400CC ● Bronze	100CC ● Malleable Iron
4538 ● Bronze	4538N ● Bronze	-	-	-	-
4539 ● Bronze	4539N ● Bronze	4539C ● Bronze	2½"	425CC ● Bronze	125CC ● Malleable Iron
4572 ● Bronze	4572N ● Bronze	4572C ● Bronze	2½"	-	-
4573 ● Bronze	4573N ● Bronze	4573C ● Bronze	3"	-	-
4574 ● Bronze	4574N ● Bronze	4574C ● Bronze	3"	-	-
4575 ● Bronze	4575N ● Bronze	4575C ● Bronze	2½"	450CC ● Bronze	150CC ● Malleable Iron
6488 ● Bronze	6488N** ● Bronze	-	-	-	-
6489 ● Bronze	6489N** ● Bronze	6489C ● Bronze	5"	-	-
6402 ● Aluminum	6902N ● Aluminum	6902C ● Aluminum	2½"	-	-
6405 ● Aluminum	6985N ● Aluminum	6985C ● Aluminum	2½"	-	-
6407 ● Aluminum	6907N ● Aluminum	6907C ● Aluminum	3"	-	-
6434 ● Aluminum	6434N ● Aluminum	-	-	-	-
6435 ● Aluminum	6435N ● Aluminum	6435C ● Aluminum	3"	-	-
6436 ● Aluminum	6436N ● Aluminum	-	-	-	-
6437 ● Aluminum	6437N ● Aluminum	-	-	-	-
6530 ● Aluminum	6530N ● Aluminum	6530C ● Aluminum	4"	-	-
6531 ● Aluminum	6531N ● Aluminum	6531C ● Aluminum	4"	-	-
6532 ● Aluminum	6532N ● Aluminum	6532C ● Aluminum	4"	-	-
6901 ● Aluminum	6901N ● Aluminum	6901C ● Aluminum	2½"	600CC ● Aluminum	100CC ● Malleable Iron
6902 ● Aluminum	6902N ● Aluminum	6902C ● Aluminum	2½"	600CC ● Aluminum	100CC ● Malleable Iron
6905 ● Aluminum	6905N ● Aluminum	6905C ● Aluminum	3"	-	-
6906 ● Aluminum	6906N ● Aluminum	6906C ● Aluminum	3"	-	-
6907 ● Aluminum	6907N ● Aluminum	6907C ● Aluminum	3"	-	-
6929 ● Aluminum	6930N ● Aluminum	6930C ● Aluminum	2½"	650CC ● Aluminum	150CC ● Malleable Iron
6930 ● Aluminum	6930N ● Aluminum	6930C ● Aluminum	2½"	650CC ● Aluminum	150CC ● Malleable Iron
6931 ● Aluminum	6931N ● Aluminum	6931C ● Aluminum	2½"	600CC ● Aluminum	100CC ● Malleable Iron
6932 ● Aluminum	6932N ● Aluminum	6932C ● Aluminum	3"	-	-
6933 ● Aluminum	6933N ● Aluminum	6933C ● Aluminum	2½"	615CC ● Aluminum	125CC ● Malleable Iron
6934 ● Aluminum	6934N ● Aluminum	6934C ● Aluminum	2½"	615CC ● Aluminum	125CC ● Malleable Iron
6935 ● Aluminum	6935N ● Aluminum	6935C ● Aluminum	2½"	650CC ● Aluminum	150CC ● Malleable Iron
6984 ● Aluminum	6984N ● Aluminum	6984C ● Aluminum	3"	-	-
6985 ● Aluminum	6985N ● Aluminum	6985C ● Aluminum	2½"	650CC ● Aluminum	150CC ● Malleable Iron
6987 ● Aluminum	6987N ● Aluminum	6987C ● Aluminum	3"	-	-
5235 ● Nickel-Silver	5235N ● Nickel-Silver	5235C ● Nickel-Silver	2½"	1350CC ● Nickel-Silver	150CC ● Malleable Iron
5274 ● Nickel-Silver	5274N ● Nickel-Silver	5274C ● Nickel-Silver	3"	-	-
5288 ● Nickel-Silver	5288N** ● Nickel-Silver	-	-	-	-
5289 ● Nickel-Silver	5289N** ● Nickel-Silver	-	-	-	-
5530 ● Nickel-Silver	5530N ● Nickel-Silver	5530C ● Nickel-Silver	2½"	1350CC ● Nickel-Silver	150CC ● Malleable Iron
5534 ● Nickel-Silver	5534N ● Nickel-Silver	5534C ● Nickel-Silver	2½"	1315CC ● Nickel-Silver	125CC ● Malleable Iron
5538 ● Nickel-Silver	5538N ● Nickel-Silver	-	-	-	-
5572 ● Nickel-Silver	5572N ● Nickel-Silver	5572C ● Nickel-Silver	2½"	-	-
4428 ● Steel	4428N* ● Malleable Iron	4428C* ● Malleable Iron	2½"	-	125CC ● Malleable Iron
4429 ● Steel	4429N* ● Malleable Iron	4429C* ● Malleable Iron	2½"	-	100CC ● Malleable Iron
4441 ● Steel	4441N* ● Malleable Iron	4441C* ● Malleable Iron	2½"	-	150CC ● Malleable Iron
4488 ● Stainless Steel	4488N ● Stainless Steel	-	-	-	-
6511 ● Stainless Steel	6511N ● Stainless Steel	-	-	-	-
6512 ● Stainless Steel	6512N ● Stainless Steel	-	-	-	-

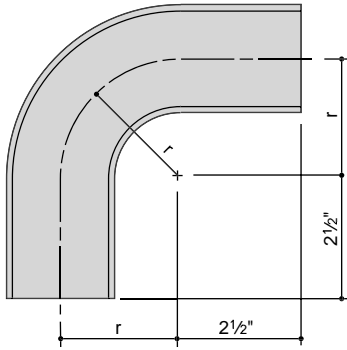
* "As Cast" Finish, no lacquer ** Flat End Cap matches profile

Be aware that due to the differences in tolerances between extruded handrail and cast fittings, butt joints usually require special attention to assure a proper match.

● ● ● ● **HANDRAIL FITTINGS**

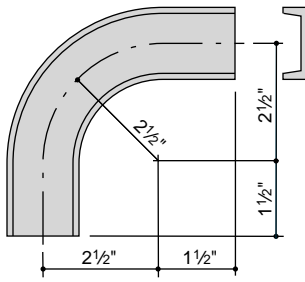
HANDRAIL FITTINGS

Satin Finish, except as noted
Bronze and Nickel-Silver fittings are lacquered.



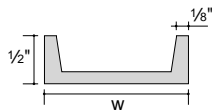
C Corner Bend

Trim one leg for use as a wall return.
Combine two corner bends together for 180° turns.

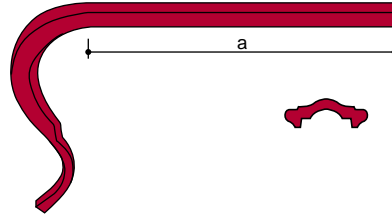


CC Channel Corner Bend

"As Cast" Finish
Fits the underside of moulding corner bend.

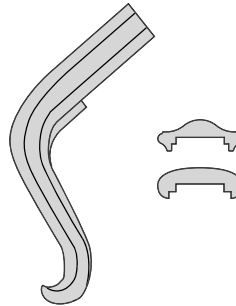


		w
600CC	● Aluminum	1"
615CC	● Aluminum	1 1/4"
650CC	● Aluminum	1 1/2"
400CC	● Bronze	1"
425CC	● Bronze	1 1/4"
450CC	● Bronze	1 1/2"
1315CC	● Nickel-Silver	1 1/4"
1350CC	● Nickel-Silver	1 1/2"
100CC	● Malleable Iron	1"
125CC	● Malleable Iron	1 1/4"
150CC	● Malleable Iron	1 1/2"

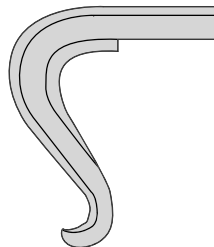


F Forged Lamb's Tongue

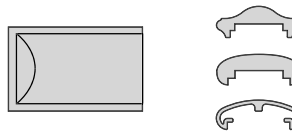
		a
4429F	● Steel	18"
4429F-3	● Steel	36"
4429F-4	● Steel	48"
4429F-5	● Steel	60"
4429F-6	● Steel	72"



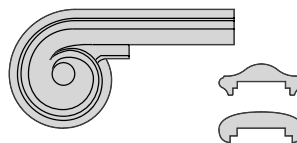
B Bevel Lamb's Tongue



S Straight Lamb's Tongue



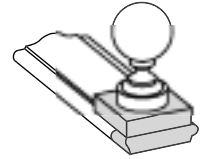
N Square End Piece



V Volute

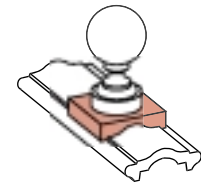
URN BASES

Urn bases may be welded or bolted in place with the finial stud.



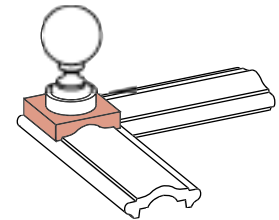
U End Urn Base

4531U	● Bronze
4429U	● Malleable Iron



UC Center Urn Base

4429UC	● Malleable Iron
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UL Corner Urn Base

4429UL	● Malleable Iron
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- BRONZE
- NICKEL-SILVER
- STEEL

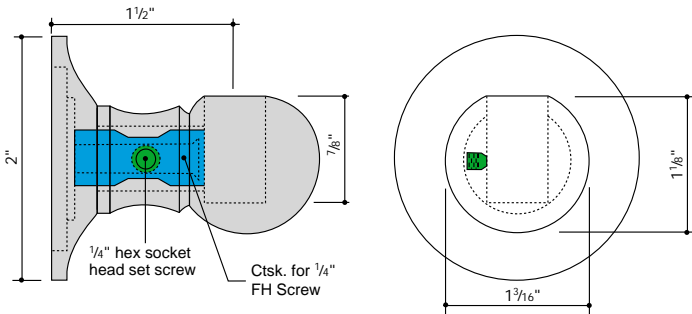
● ● ● POST AND SPINDLE FITTINGS

Spindle Cups are machined from solid stock. Bronze and Nickel-Silver Cups are furnished in a satin finish and lacquered. Steel Cups are furnished in a black oxide machined finish suitable for painting. Spindle Cups are not intended or designed to be a structural member.



PLAIN SPINDLE CUP

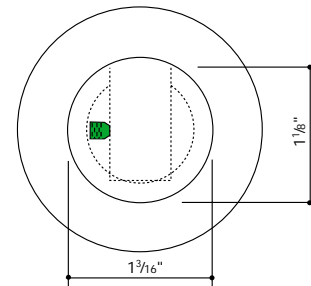
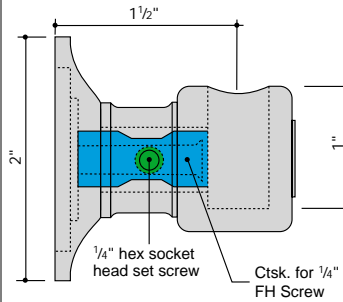
Rounded Hole



		Hole
883	● Bronze	1/2"
183	● Nickel-Silver	1/2"
1983	● Steel	1/2"

RINGED SPINDLE CUP

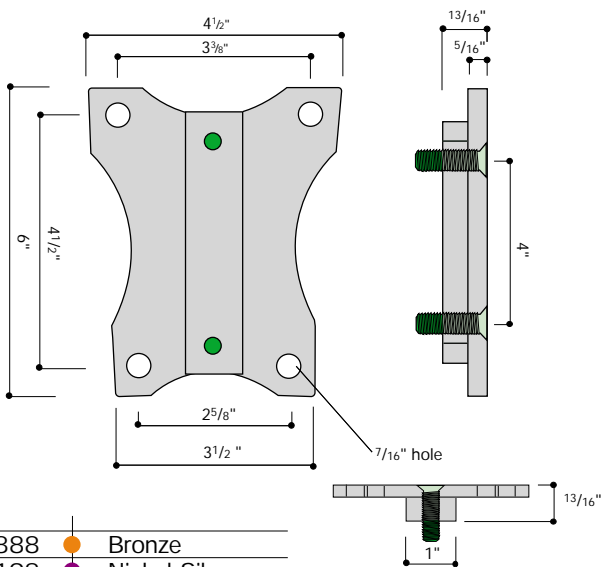
Rounded Hole



		Hole
884	● Bronze	1/2"
184	● Nickel-Silver	1/2"
1984	● Steel	1/2"

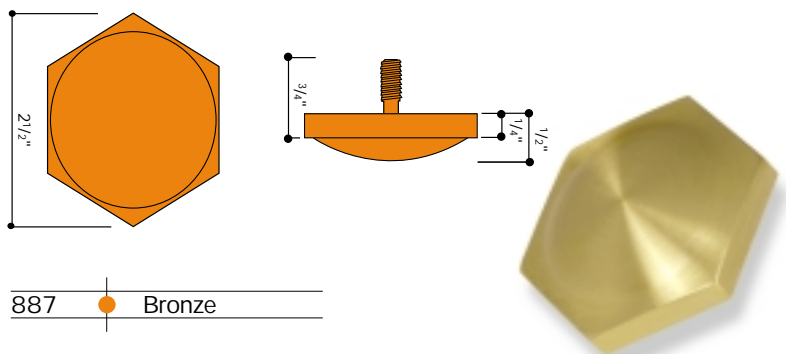


TRADITIONAL POST FASCIA FLANGE



888	● Bronze
198	● Nickel-Silver
1988	● Steel

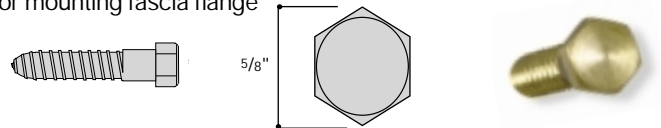
TRADITIONAL POST LOWER COVER



887	● Bronze
-----	--

DECORATIVE HEX HEAD LAG SCREW

For mounting fascia flange



● Brass	Finished Head 3/8" x 2"
● Nickel-Silver	Finished Head 3/8" x 2"

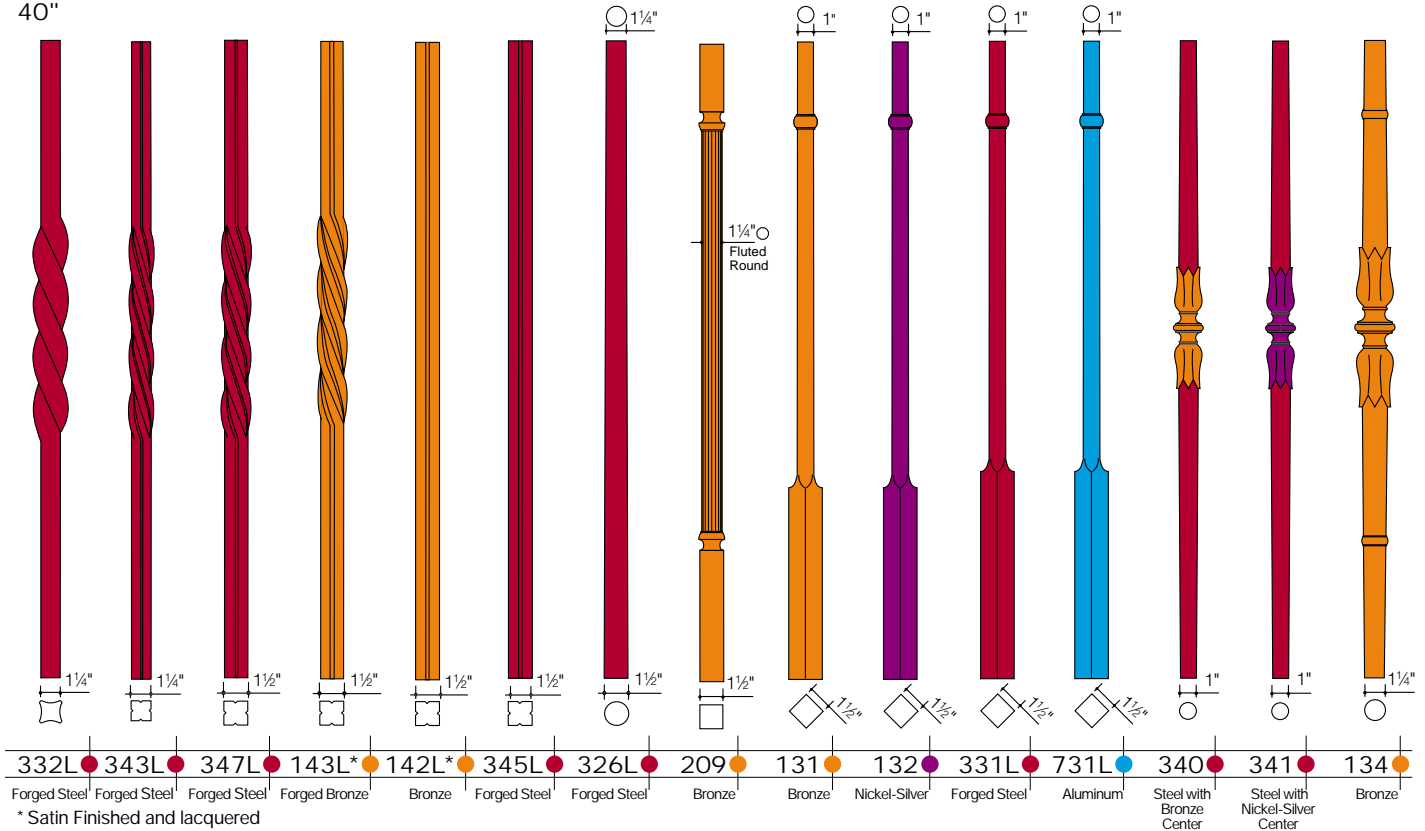
● ● ● ● **STARTING POSTS**

Scale: 1" = 1'-0"

Starting Posts from Julius Blum & Co., Inc. have been engineered and tested to conform to the ASTM 985 concentrated test load requirement. Copies of the Test Reports are available.

STARTING POSTS

40"



STARTING POSTS

36"



Capitol Dome, Oklahoma City, OK
 Architect: Frankfurt-Short-Bruza
 Fabricator: York Metal Fabricators, Oklahoma City, OK



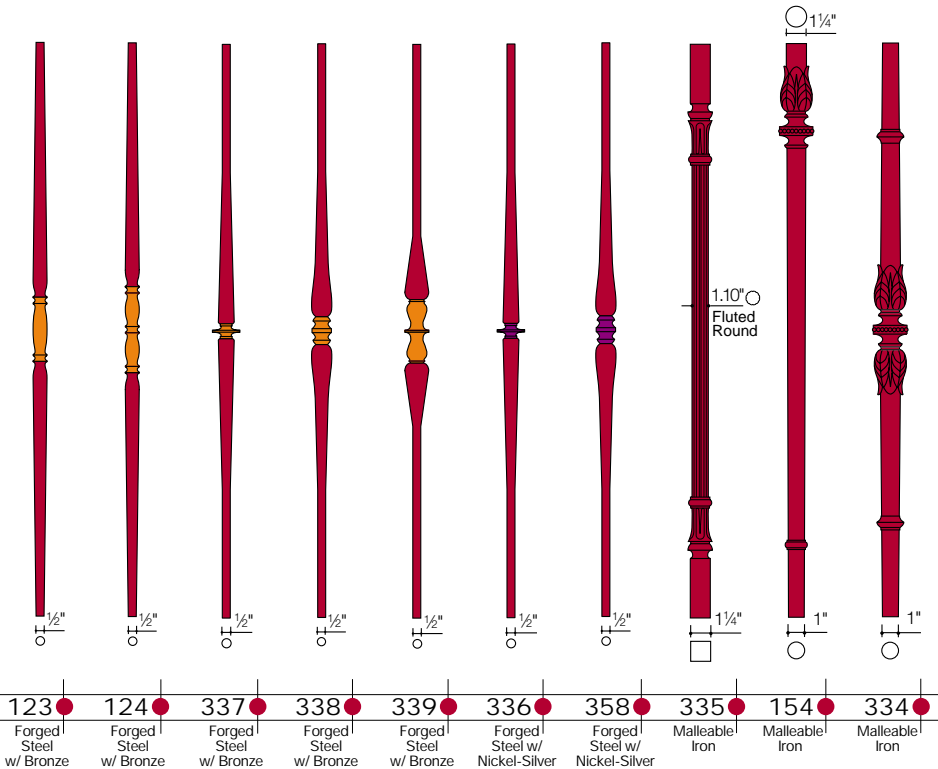
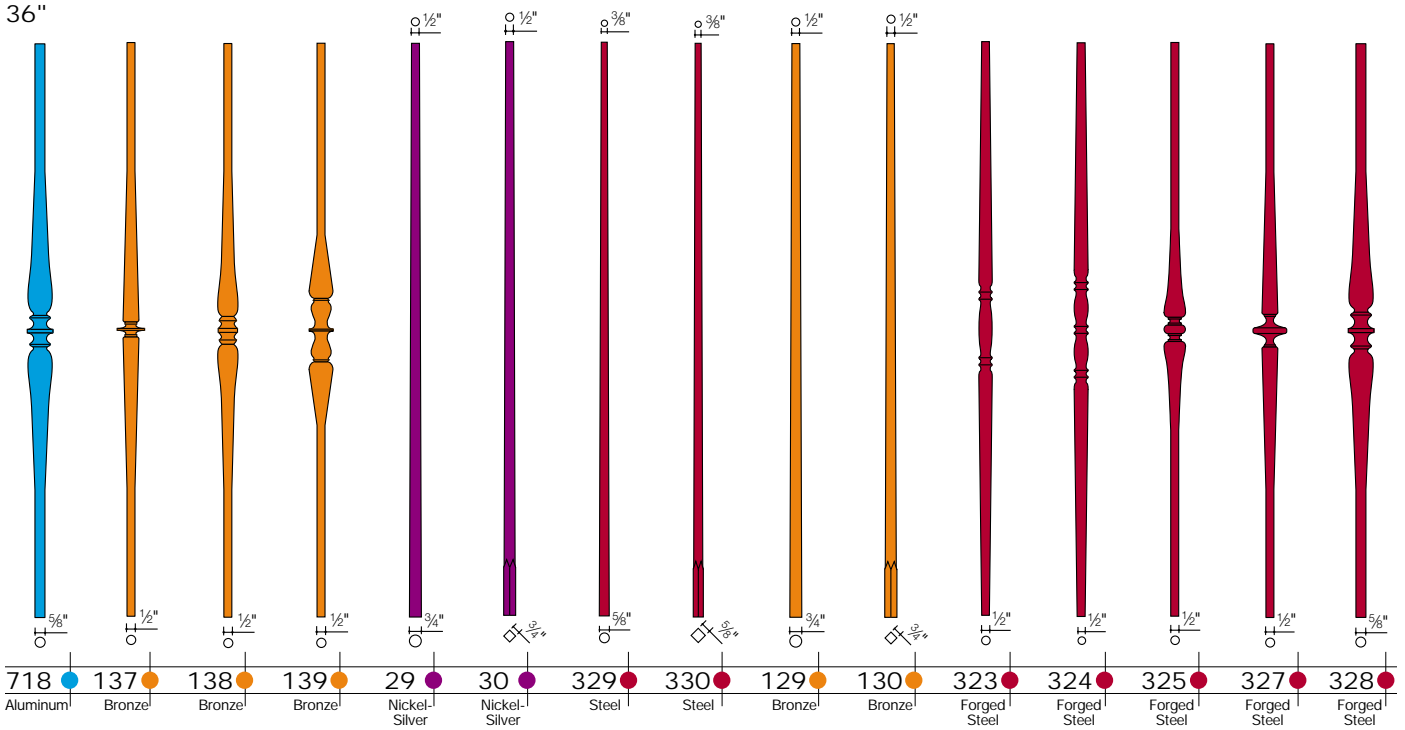
- ALUMINUM
- BRONZE
- NICKEL-SILVER
- MALLEABLE IRON / STEEL

● ● ● ● SPINDLES

Scale: 1" = 1'-0"

Spindles are produced from solid stock and have a surface suitable for polishing or painting. Forged spindles with bronze and nickel-silver centers are permanently assembled and are equal in strength to solid spindles. Bronze and nickel-silver centers are polished and protected for shipment and installation. Aluminum spindles are machined from solid 6063 aluminum rod and have a surface suitable for painting or anodizing. **Important: Spindles are not structural members nor intended to be starting posts.**

SPINDLES



Bronze and Nickel-Silver Center Detail

Forged steel spindles with decorative centers are forged in two halves with one end turned down to 1/2" diameter solid rod. This rod is force-fit into a recess drilled in the other half of the spindle forming a permanent assembly with a full 1/2" of solid steel at the center, thereby overcoming the weakness of an assembly using a threaded stud.

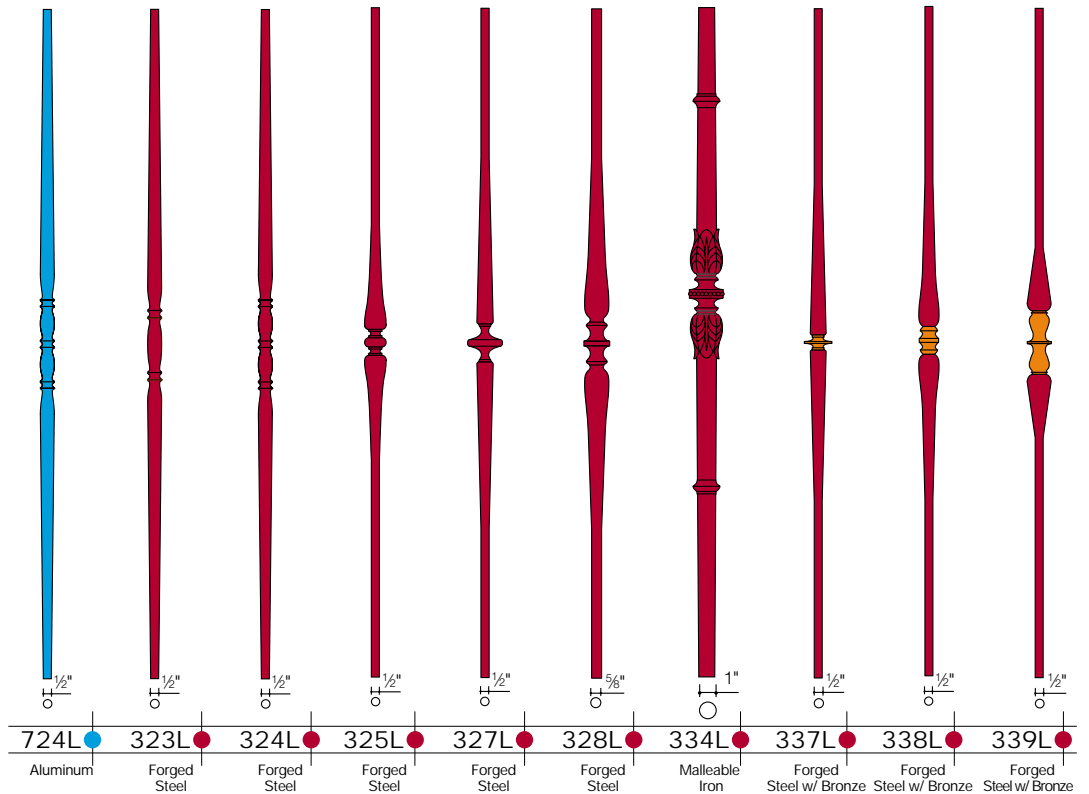
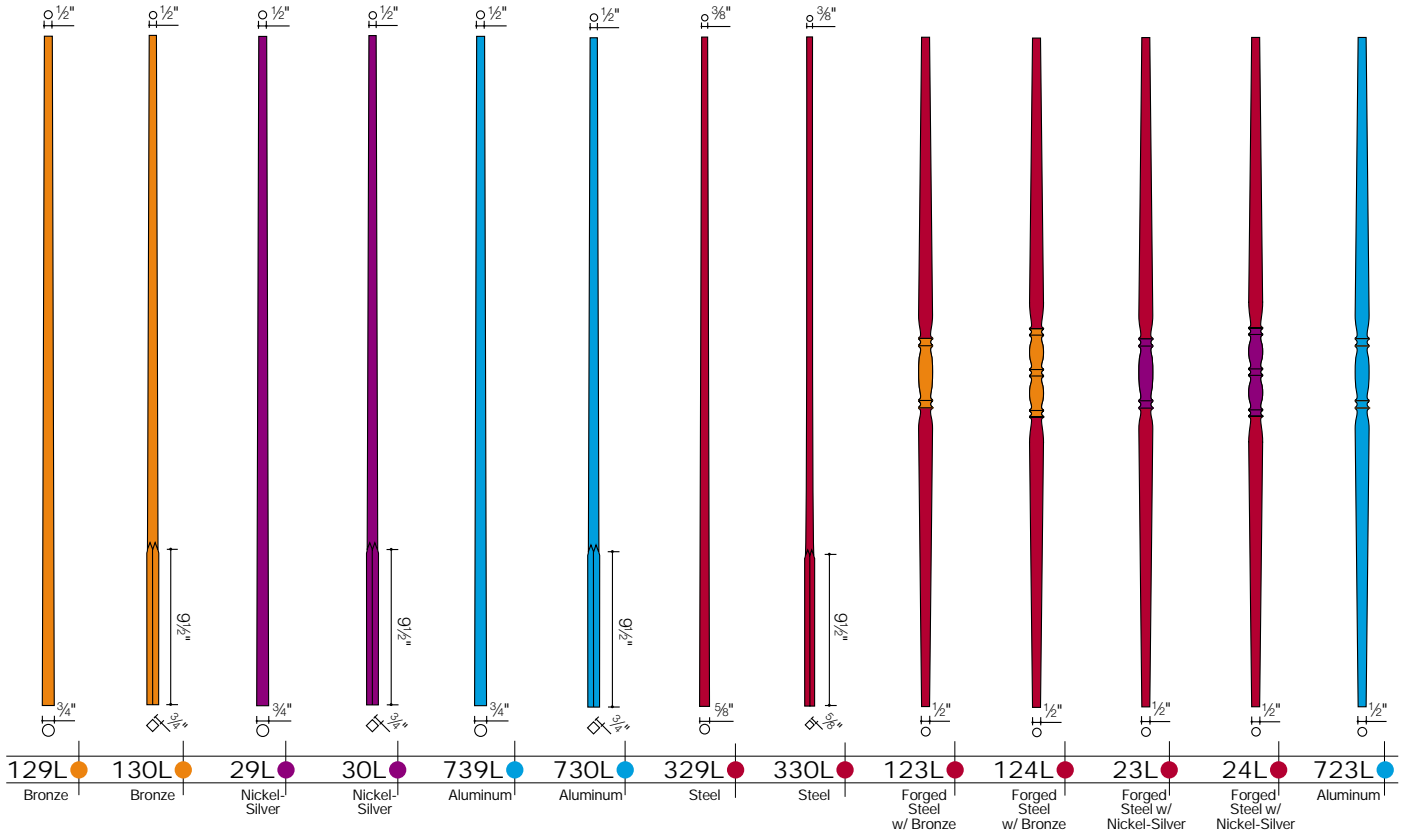
- ALUMINUM
- BRONZE
- NICKEL-SILVER
- MALLEABLE IRON / STEEL

● ● ● ● SPINDLES

Scale: 1" = 1'-0"

SPINDLES

42"





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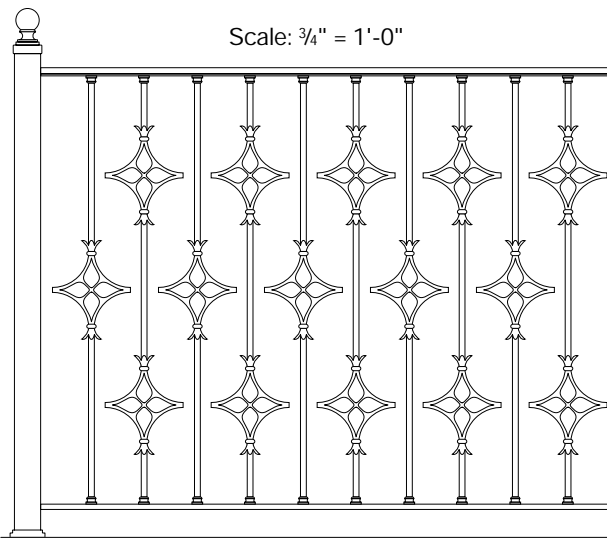
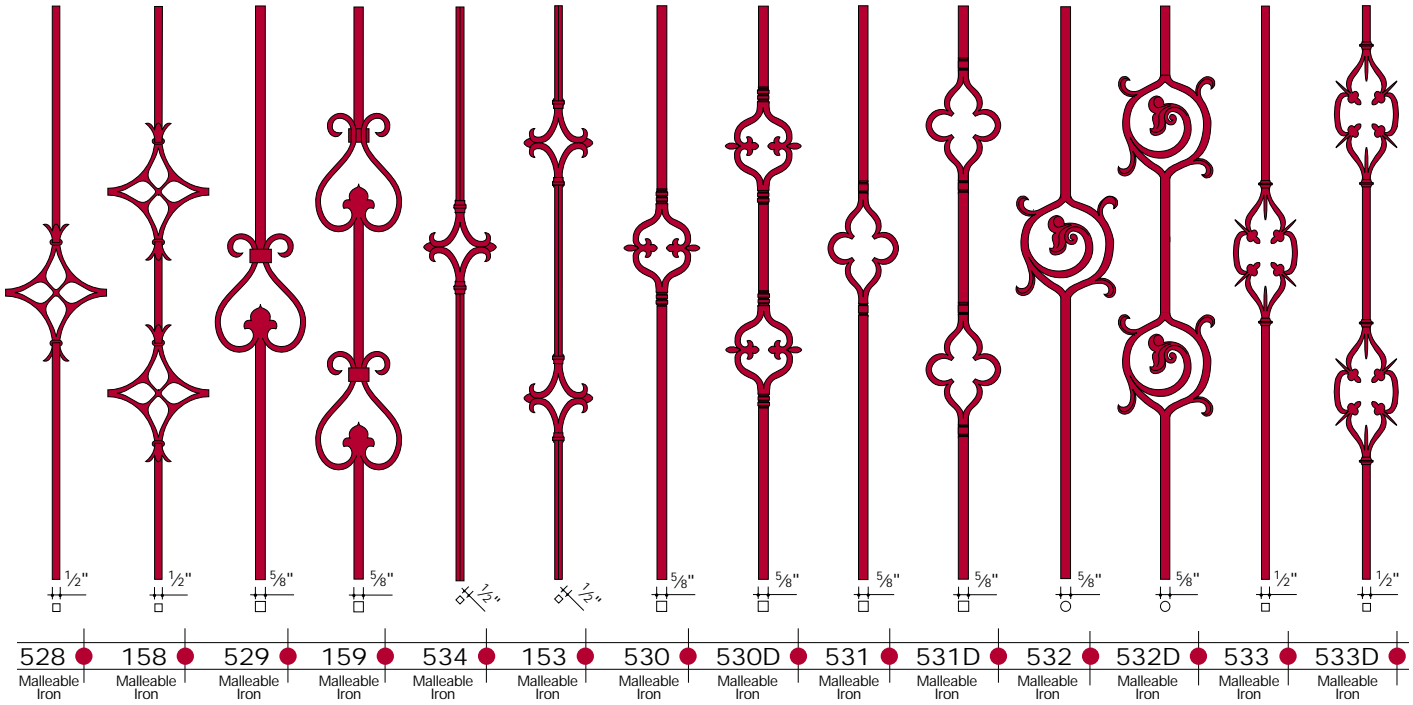
- ALUMINUM
- NICKEL-SILVER
- BRONZE
- MALLEABLE IRON

● ● ● ● SPINDLES

Scale: 1" = 1'-0"

ORNAMENTAL SPINDLES

36"



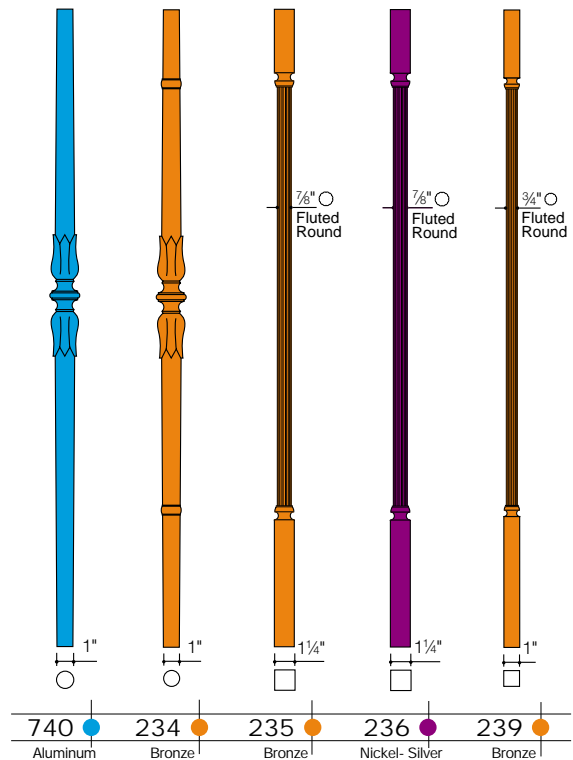
Ornamental Spindles

Spindle	Material	Width at widest point	Spindle	Material	Width at widest point
1973*	Aluminum	5 1/4"	530D	Mal. Iron	5 7/8"
531	Mal. Iron	4 3/4"	153	Mal. Iron	6"
531D	Mal. Iron	4 3/4"	159	Mal. Iron	6"
533	Mal. Iron	5"	534	Mal. Iron	6"
533D	Mal. Iron	5"	532	Mal. Iron	6 7/16"
973*	Mal. Iron	5 1/4"	532D	Mal. Iron	6 7/16"
529	Mal. Iron	5 5/8"	528	Mal. Iron	7"
530	Mal. Iron	5 5/8"	158	Mal. Iron	7"

* See page 47

SPINDLES

40"



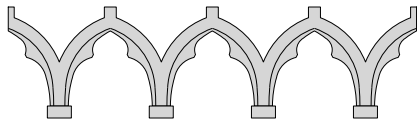
● ● ORNAMENTAL VALANCES

Scale: 1 1/2" = 1'-0"

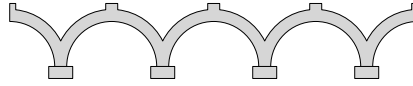
ORNAMENTAL VALANCES

Aluminum / Malleable Iron

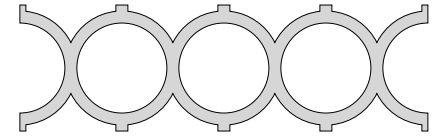
These castings are useful in various combinations to create ornamental railings with minimal openings. When used with 1/2" square bars, the maximum opening will be 3 3/4", thereby conforming to the 4" sphere requirement.



		lbs.	ht	wd
1970	● Aluminum	1.2	4 5/8"	17"
970	● Malleable Iron	3.4	4 5/8"	17"

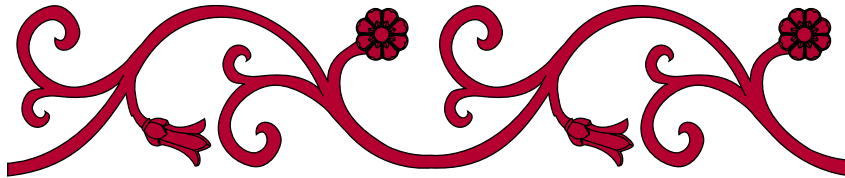


		lbs.	ht	wd
1971	● Aluminum	.8	3"	17"
971	● Malleable Iron	2.2	3"	17"



		lbs.	ht	wd
1972	● Aluminum	1.1	5"	17"
972	● Malleable Iron	3.3	5"	17"

Corinthian

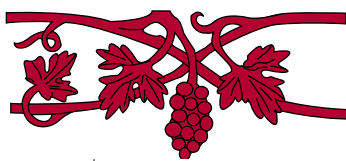


550	● Malleable Iron	6.7 lbs.	7 1/8" ht	34" wd
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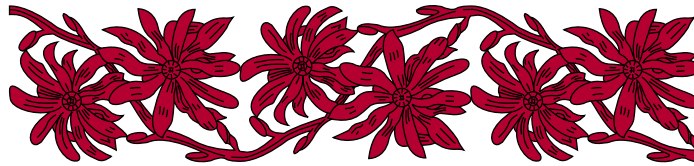
552	● Mal.Iron	4.3 lbs.	10"ht	19"wd
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Bordeaux



514	●	3.4 lbs.	6 1/2"ht	14"wd
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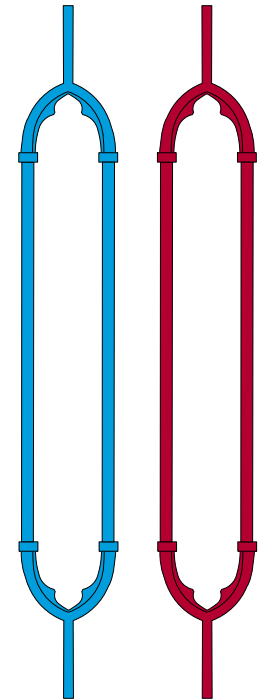
Primavera



584	● Malleable Iron	9.9 lbs.	6 1/2" ht	29" wd
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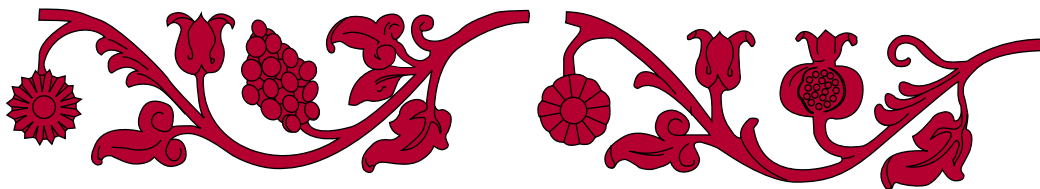
ORNAMENTAL VALANCE BARS

36"
Conforms to 4" sphere requirement.



1973	● Aluminum			
973	● Malleable Iron			

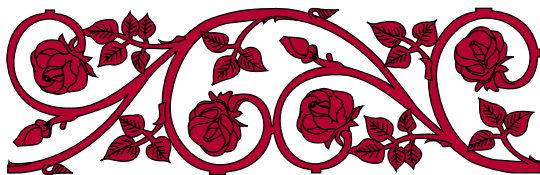
Siena



Repeat or alternate 522 and 523 for continuous runs in columns or friezes.

522	● Mal. Iron	8.4 lbs.	6 7/16"ht	20 3/8" wd
523	● Mal. Iron	6.9 lbs.	6 7/16" ht	20 1/4" wd

Dresden



572	● Malleable Iron	5.7 lbs.	6 7/8" ht	22 1/2" wd
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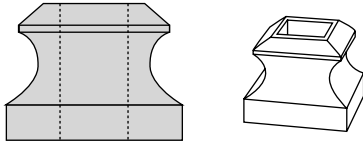
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BALUSTERS, COLLARS, BASES AND FLANGES

- ALUMINUM
- BRONZE
- NICKEL-SILVER
- CAST IRON / STEEL

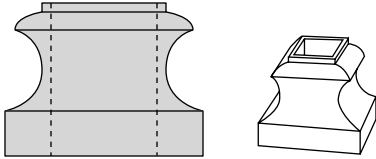
Bases, Collars and Flanges are furnished with clear holes for bar sizes shown. Non-ferrous items are satin finished, except as noted. Aluminum items are cast from Almag 35. Bronze items are cast from C86500 bronze and match the color of extruded architectural bronze. Polished bronze and Nickel-Silver items are given a protective lacquer coating.

BASES



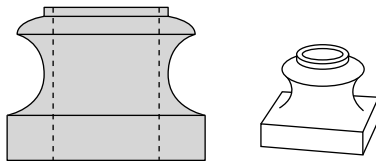
Square Hole

Aluminum	Bronze	Nickel-Silver	Hole	Width	Height
752	252	452	1/2"	1 1/4"	1 5/16"
753	253		5/8"	1 1/4"	1 5/16"
754	254	454	3/4"	1 3/8"	1 5/16"
767	267	467	1"	1 9/16"	1 1/16"
768	268	448	1 1/4"	2 3/4"	1 1/2"
769	269	479	1 1/2"	3"	1 1/2"



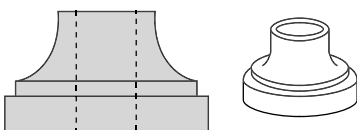
Square Hole

		Hole	Width	Height
352	Cast Iron	1/2"	1 1/4"	1 1/16"
353	Cast Iron	5/8"	1 1/4"	1 1/16"
354	Cast Iron	3/4"	1 3/8"	1 1/16"
367	Cast Iron	1"	1 3/4"	1 1/8"
368	Cast Iron	1 1/4"	2 3/4"	1 5/8"
369	Cast Iron	1 1/2"	3"	1 3/4"



Round Hole

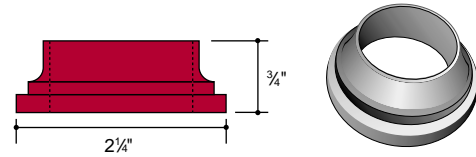
Aluminum	Bronze	Nickel-Silver	Cast Iron	Hole	Width	Height
	255		355	3/8"	1 1/4"	1 5/16"
	256	456	356	1/2"	1 1/4"	1 5/16"
717	257		357	5/8"	1 3/8"	1 1/8"
760	250	455		3/4"	2 1/2"	1 5/8"
719	249	449	349	1"	2 1/2"	1 5/8"
	251			1 1/4"	2 1/2"	1 5/8"



Round Hole

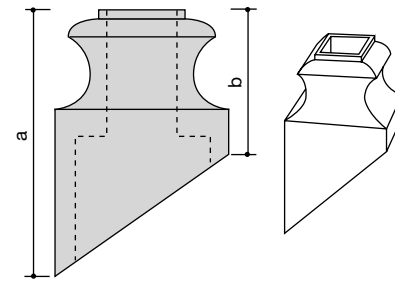
		Hole	Width	Height
75	Turned Steel	3/8"	1 1/4"	3/4"
77	Turned Steel	1/2"	1 1/4"	3/4"
80	Turned Brass--unpolished	1/2"	1 1/4"	3/4"
480	Nickel-Silver	1/2"	1 1/4"	3/4"

BASES



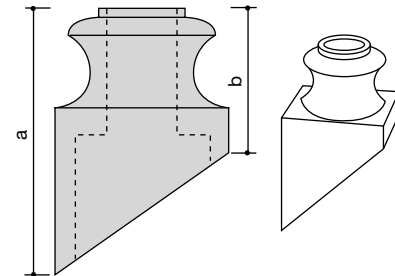
Round Hole

347	Turned Steel	Hole	1 1/2"
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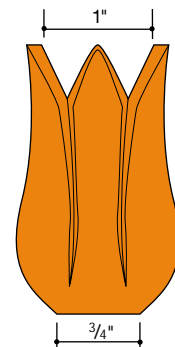
Square Hole

		Hole	a	b	Width
362	Cast Iron	1/2"	2"	1"	1 1/4"
363	Cast Iron	5/8"	2 1/4"	1"	1 1/4"
262	Bronze	1/2"	2"	1"	1 1/4"
263	Bronze	5/8"	2 1/4"	1"	1 1/4"



Round Hole

		Hole	a	b	Width
359	Cast Iron	3/8"	1 7/8"	1"	1 1/4"
360	Cast Iron	1/2"	1 7/8"	1"	1 1/4"
361	Cast Iron	5/8"	2 3/16"	1 1/8"	1 3/8"
260	Bronze	1/2"	1 7/8"	1"	1 1/4"
261	Bronze	5/8"	2 3/16"	1 1/8"	1 3/8"



Round Hole

264	Bronze	Hole	1"	Height	2 5/8"
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Matches center of 234 and 340 post

● ● ● ● BALUSTERS, COLLARS, BASES AND FLANGES

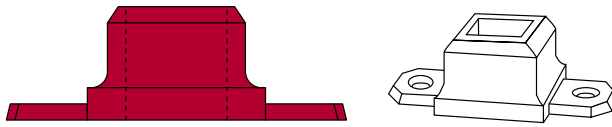
TUBE SOCKETS



Square Hole

Cast Iron	Mal. Iron	Aluminum	Hole	Base	Height
201	301	1201	1"	3"	1 3/8"
202		1202	1 1/4"	3 1/4"	1 1/2"
203		1203	1 1/2"	3 1/2"	1 3/4"
204		1204	2"	4"	1 3/4"
205		1205	2 1/2"	4 1/2"	1 7/8"
206		1206	3"	5 1/4"	2 3/8"

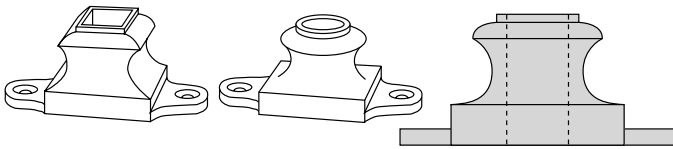
FLANGES



Square Hole

		Hole	Base	Height
342	Malleable Iron	7/16"	1 1/8"	1 1/8"
344*	Malleable Iron	1/2"	1 1/8"	1 1/8"
350	Malleable Iron	1/2"	1 1/8"	1 3/16"
351	Malleable Iron	5/8"	1 3/16"	1 3/16"
398	Malleable Iron	3/4"	1 7/16"	7/8"
400	Malleable Iron	7/8"	1 5/8"	1"
399	Malleable Iron	1"	1 3/4"	1 1/8"

* 344 is similar to 350 but is high enough to permit adjustment of baluster height for uneven steps



Square Hole

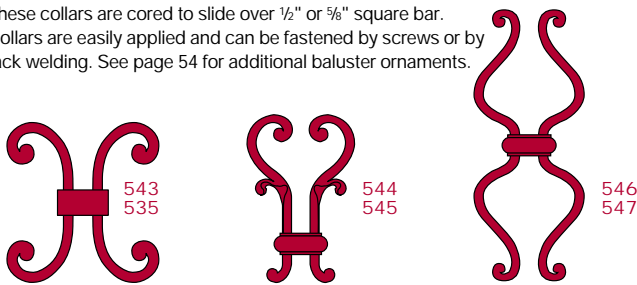
Malleable Iron	Hole	Base	Height
390	1/2"	1 5/16"	1"
391	5/8"	1 5/16"	1"
393	1"	1 13/16"	1 3/16"

Round Hole

Malleable Iron	Aluminum	Bronze	Hole	Base	Height
395			3/8"	1 5/16"	1"
396	776	276	1/2"	1 5/16"	1"
397	797	297	5/8"	1 7/16"	1 1/8"

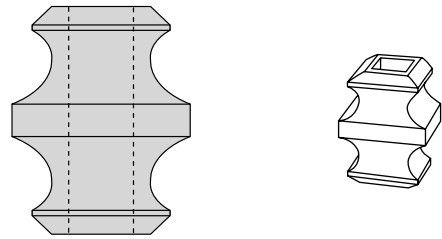
ORNAMENTAL COLLARS

These collars are cored to slide over 1/2" or 5/8" square bar. Collars are easily applied and can be fastened by screws or by tack welding. See page 54 for additional baluster ornaments.



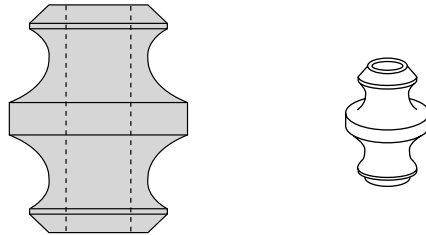
		Hole	Width	Height	Weight
544	Malleable Iron	1/2"	3"	4 1/4"	.685
546	Malleable Iron	1/2"	3"	7 1/4"	.767
543	Malleable Iron	1/2"	4 3/8"	4 1/4"	.870
545	Malleable Iron	5/8"	3"	4 1/4"	.686
547	Malleable Iron	5/8"	3"	7 1/4"	.865
535	Malleable Iron	5/8"	4 1/2"	4 7/8"	1.160

COLLARS



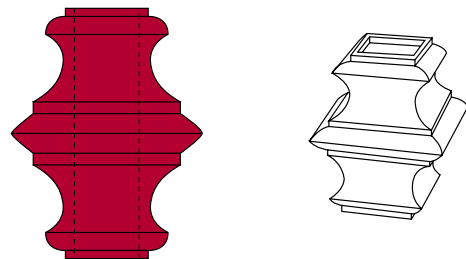
Square Hole

		Hole	Width	Height
765	Aluminum	1/2"	1 3/8"	1 3/4"
766	Aluminum	5/8"	1 3/8"	1 3/4"
265	Bronze	1/2"	1 3/8"	1 3/4"
266	Bronze	5/8"	1 3/8"	1 3/4"



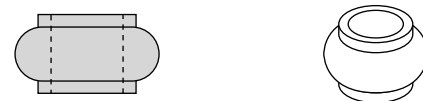
Round Hole

		Hole	Width	Height
281	Bronze	1/2"	1 1/4"	1 3/4"
282	Bronze	5/8"	1 1/4"	1 3/4"



Square Hole

		Hole	Width	Height
365	Cast Iron	1/2"	1 1/2"	2"
366	Cast Iron	5/8"	1 11/16"	1 7/8"
348	Cast Iron	3/4"	1 15/16"	2"



Round Hole, Turned

Steel	Bronze	Nickel-Silver	Hole	OD	Height
72	272	472	1/2"	1"	9/16"
	273	473	1"	1 1/4"	3/4"

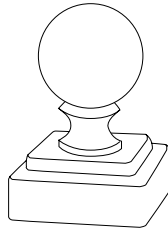
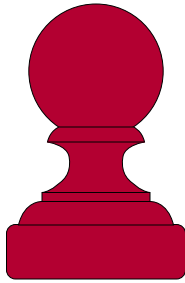


Round Hole, Turned

Steel	Bronze	Nickel-Silver	Hole	OD	Height
73			3/8"	3/4"	13/32"
74	274	474	5/8"	1"	1/2"

● ● ● ● POST CAPS

BALL CAP

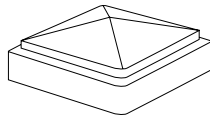
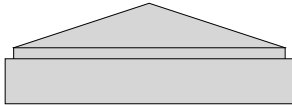


Rounded inside corners

			Tube Size	Ball Diam.	Height
5320	●	Cast Iron	2"×2"	1 ³ / ₁₆ "	3 ³ / ₄ "
5325	●	Cast Iron	2 ¹ / ₂ "×2 ¹ / ₂ "	2 ¹ / ₈ "	3 ³ / ₄ "
5330	●	Cast Iron	3"×3"	2 ³ / ₁₆ "	3 ³ / ₄ "
5335	●	Cast Iron	3 ¹ / ₂ "×3 ¹ / ₂ "	2 ¹ / ₂ "	3 ³ / ₄ "
5340	●	Cast Iron	4"×4"	2 ³ / ₄ "	3 ³ / ₄ "

CAP TYPE A

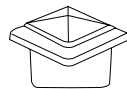
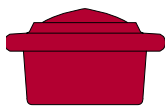
Type A bronze and aluminum caps are satin finished. Cast aluminum caps are Almag 35. Bronze caps are cast from C86500 bronze—to match closely the color of extruded architectural bronze—and are lacquered.



Rounded inside corners

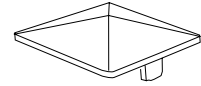
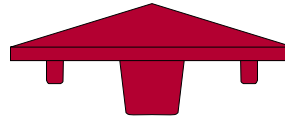
			Tube Size		Tube Size
5615	●	Cast Iron	1 ¹ / ₂ "×1 ¹ / ₂ "	Satin Finish	2"×2"
5620	●	Cast Iron	2"×2"		2"×2"
5625	●	Cast Iron	2 ¹ / ₂ "×2 ¹ / ₂ "		3"×3"
5632	●	Cast Iron	3"×2"		4"×4"
5630	●	Cast Iron	3"×3"		6"×3"
5635	●	Cast Iron	3 ¹ / ₂ "×3 ¹ / ₂ "		8"×4"
5640	●	Cast Iron	4"×4"		
5642	●	Cast Iron	4"×2"		
56425	●	Cast Iron	4"×2 ¹ / ₂ "	Satin Finish	2"×2"
5643	●	Cast Iron	4"×3"		3"×3"
5652	●	Cast Iron	5"×2"		4"×4"
56525	●	Cast Iron	5"×2 ¹ / ₂ "		6"×3"
5653	●	Cast Iron	5"×3"		6"×4"
5650	●	Cast Iron	5"×5"		8"×3"
5663	●	Cast Iron	6"×3"		8"×4"
5664	●	Cast Iron	6"×4"		
5660	●	Cast Iron	6"×6"		
5683	●	Cast Iron	8"×3"		
5684	●	Cast Iron	8"×4"		

DRIVE-ON CAP



5411	●	Cast Iron	Drive fit for 1"×1"×.073" structural tubing
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CAP TYPE C

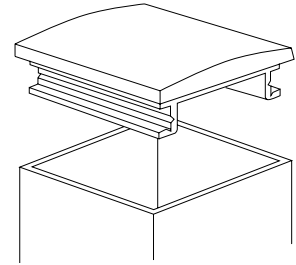
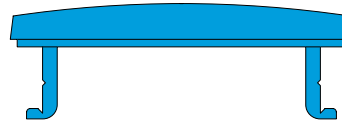


			Tube Size*
5415	●	Cast Iron	1 ¹ / ₂ "×1 ¹ / ₂ "
5420	●	Cast Iron	2"×2"
5440	●	Cast Iron	4"×4"

* 11 ga. maximum thickness

CAP TYPE D

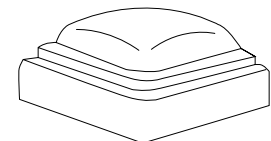
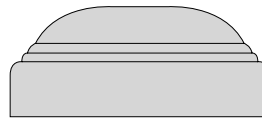
Type D Post Caps are extruded and machined from aluminum alloy 6063 and are suitable for anodizing. Lugs fit inside ¹/₈" wall tubing with sharp corners and are easily ground down to fit ³/₁₆" or ¹/₄" wall tubing.



			Tube Size
5120	●	Extruded Aluminum	2"×2"
5130	●	Extruded Aluminum	3"×3"
5132	●	Extruded Aluminum	3"×2"
5140	●	Extruded Aluminum	4"×4"
5142	●	Extruded Aluminum	4"×2"
5143	●	Extruded Aluminum	4"×3"
5152	●	Extruded Aluminum	5"×2"
5153	●	Extruded Aluminum	5"×3"
5162	●	Extruded Aluminum	6"×2"
5163	●	Extruded Aluminum	6"×3"
5164	●	Extruded Aluminum	6"×4"
5183	●	Extruded Aluminum	8"×3"
5184	●	Extruded Aluminum	8"×4"

DRIVE-ON CAP, TYPE W

For drive fit. Caps do not require fastening. 18 ga.



			Tube Size
5920	●	Pressed Steel	2"×2"
5925	●	Pressed Steel	2 ¹ / ₂ "×2 ¹ / ₂ "
5930	●	Pressed Steel	3"×3"
5935	●	Pressed Steel	3 ¹ / ₂ "×3 ¹ / ₂ "
5943	●	Pressed Steel	4"×3"
5940	●	Pressed Steel	4"×4"
5963	●	Pressed Steel	6"×3"
5933	●	Pressed Stainless Steel	3"×3"
5944	●	Pressed Stainless Steel	4"×4"

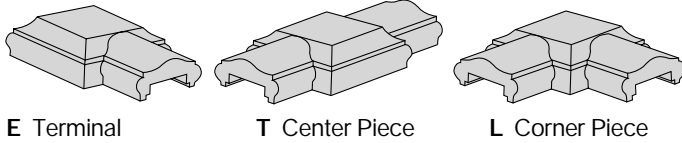
● ● ● ● FINIAL BASES / URN AND BALL FINIALS

FINIAL BASES

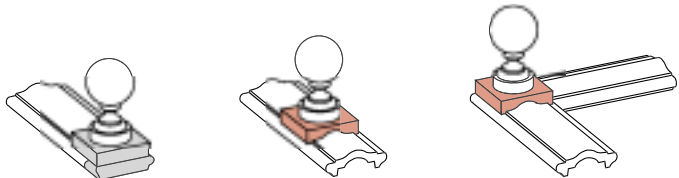
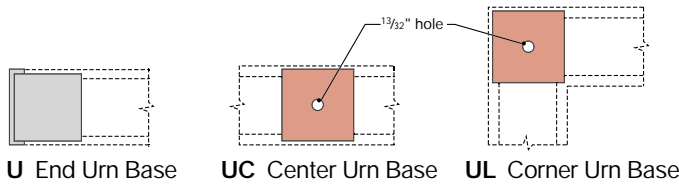
Bronze and aluminum bases are satin finished. Bronze bases are also lacquered.

Be aware that due to the difference in tolerances between extruded handrail and cast fittings, butt joints usually require special attention to assure a proper match.

TERMINALS, CENTER PIECES AND CORNER PIECES



URN BASES



Urn bases may be welded or bolted in place with the finial stud.

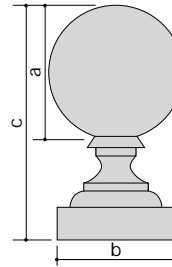
Fittings Availability

Handrail Moulding	Terminal End Piece (E)	Corner Piece (L)	Center Piece (T)	End Urn Base (U)
● 6929	● 6930E	● 6930L	● 6930T	-
● 6930	● 6930E	● 6930L	● 6930T	-
● 6931	● 6931E	● 6931L	● 6931T	-
● 6934	● 6934E	● 6934L	● 6934T	-
● 6935	● 6935E	-	● 6935T	-
● 4530	● 4530E	● 4530L	● 4530T	-
● 4531	● 4531E	● 4531L	-	● 4531U
● 4532	● 4530E	● 4530L	● 4530T	-
● 4534	● 4534E	● 4534L	● 4534T	-
● 4535	-	-	● 4535T	-
● 4536	● 4534E	● 4534L	● 4534T	-
● 4537	● 4531E	● 4531L	-	● 4531U
● 4428	● 4428E	● 4428L	-	-
● 4429	● 4429E	● 4429L	● 4429T	● 4429U
● 4441	● 4441E	-	-	-



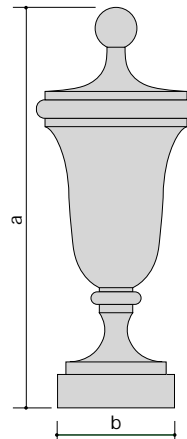
URN AND BALL FINIALS

Bronze, Nickel-Silver and Aluminum urns and finials are polished. Bronze and Nickel-Silver items are clear lacquered. All urns and finials are supplied with a 3/8" tapped hole in the base, except as noted.

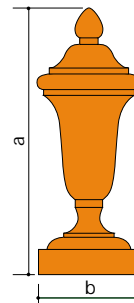


Square Base		a	b	c
3545	● Mal. Iron	2"	1 3/4"	3 1/2"
3544	● Mal. Iron	1 3/4"	1 1/2"	3 1/8"
3543*	● Mal. Iron	1 1/2"	1 1/4"	2 3/4"
3542*	● Mal. Iron	1 1/4"	1 1/8"	2 3/8"
3541	● Mal. Iron	1"	7/8"	1 3/4"
3145	● Bronze	2"	1 3/4"	3 1/2"
3144	● Bronze	1 3/4"	1 1/2"	3 1/8"
3143	● Bronze	1 1/2"	1 1/4"	2 3/4"
3142	● Bronze	1 1/4"	1 1/8"	2 3/8"
Round Base		a	b	c
3045	● Bronze	2"	1 3/4"	3 1/2"
3044	● Bronze	1 3/4"	1 1/2"	3 1/8"
3043	● Bronze	1 1/2"	1 1/4"	2 3/4"
3042	● Bronze	1 1/4"	1 1/8"	2 3/8"
3041	● Bronze	1"	7/8"	1 3/4"
3243	● Aluminum	1 1/2"	1 1/4"	2 3/4"

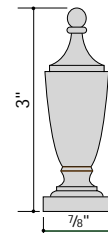
* Available with or without a 3/8" tapped hole.



Square Base		a	b
3526	● Malleable Iron	6"	1 3/4"
3525	● Malleable Iron	5"	1 1/2"
3524	● Malleable Iron	4"	1 1/4"
3523	● Malleable Iron	3"	1"
3126	● Bronze	6"	1 3/4"
3125	● Bronze	5"	1 1/2"
3124	● Bronze	4"	1 1/4"
3123	● Bronze	3"	1"
3323	● Aluminum	3"	1"
Round Base		a	b
3025	● Bronze	5"	1 1/2"
3024	● Bronze	4"	1 1/4"
3023	● Bronze	3"	1"
4024	● Nickel-Silver	4"	1 1/4"

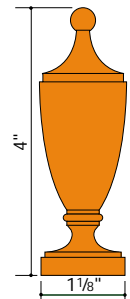


Square Base		a	b
3134	● Bronze	4"	1 1/2"
3133	● Bronze	3"	1"
Round Base		a	b
3034	● Bronze	4"	1 1/2"
3033	● Bronze	3"	1"



Round Base		a	b
3073	● Bronze	3"	7/8"
3277†	● Aluminum	3"	7/8"

† Unpolished



Round Base		a	b
3064	● Bronze	4"	1 1/8"