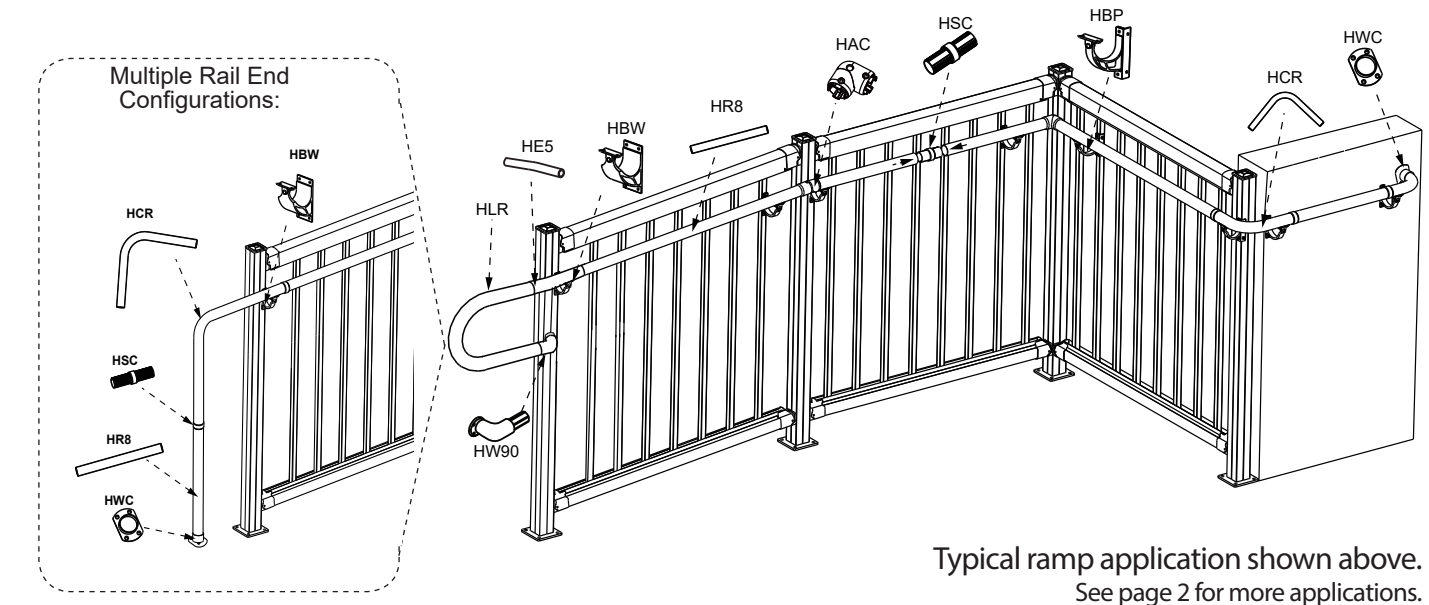
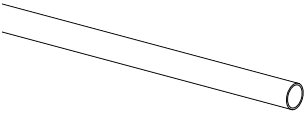
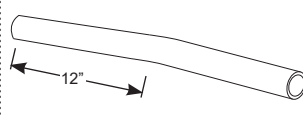
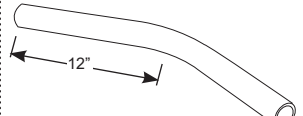
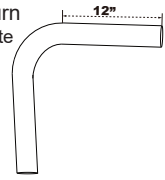
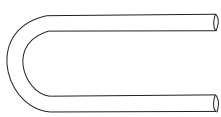
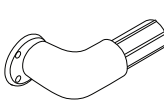
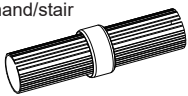
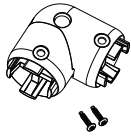
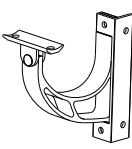
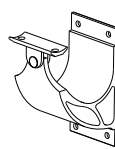
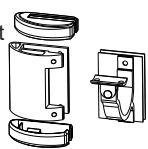
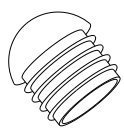
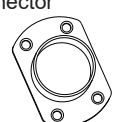
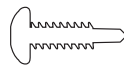


INSTALLATION INSTRUCTIONS



Secondary Handrail ADA Component Profiles:

HR08 8 ft Hand/Stair Rail • 1 1/2" OD 	HE5 5° Elbow • Used for ramp applications 	HE35 35° Elbow • Used for stair applications 	HCR 90° Corner Return • To accommodate 90° corner or ground return 
HLR Handrail Loop Return • 180° return to finish handrail system 	HW90 90° Wall Return • To accommodate 90° return into wall or post 	HSC Rail Splice and Cap • 10" splice to connect sections of hand/stair rail 	HAC Adjustable Angle Connector • Accommodates any corner or angle connection 
HBP Picket Bracket • To attach handrail to railing picket 	HBW Wall/Post Bracket • To attach handrail to wall or post 	HBG 10mm Glass Bracket • To attach hand/stair rail to Crystal rail 10 mm glass 	HEC End Rail Cap • End cap for rails 
	HWC Wall/Post Return Connector • Used to cap the end of the handrail tube against a wall, post or ground return. 	WCS-50-TS Self-Drilling Screws • #10 x 3/4" 	

Recommended Tools:



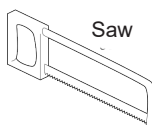
Drill



Drill Bit



Tape Measure



Saw



Tube Cutter



Rubber Mallet



Level



Safety Glasses



Wax Pencil



Gloves

⊕ Safety First

- Always wear safety eyewear when cutting or drilling.
- Railing and components that are cut, can have sharp edges. Remove any burs from cut pieces before installing.
- When cutting aluminum, use a non-ferrous metal blade.
- If you need to cut any railing/component tube that is less than 6", please use a pipe cutter or hand saw. Avoid using a rotary electric saw to cut small pieces as they may become a projectile and cause serious personal injury.

Secondary Handrail/ ADA Compliant Handrail Guidelines:

1. Regal ideas QuickKit Secondary Handrail/ADA Compliant Handrails can be installed using various design applications such as those for ramps, stairs and for use on the CrystalRail Frameless Glass Railing System. The following guide will illustrate how the various components install and work together to build your handrail/stair rail system.
2. Codes may vary by area. **We recommend that you check with your local Building Code Department for guidelines and limitations before installation.** The final authority on when and where railings are required on steps, stairs, landings, balconies and decks, rests with your local building code official.
3. This document will guide you through general installation procedures and the guidelines regarding installation heights and distances need to be confirmed by your local building department before installation.
 - Railing spaced from wall: (\Rightarrow 1.5")
 - Railing projection into stairs (\leq 4.5")
 - Railing height (\Rightarrow 31.5" one-side-rail, or \Rightarrow 27" with rails on two sides)
 - U.S. handrails for stairs with one side against a wall: 30-38"
 - U.S. handrails at open stairs: 34-38" above the stairs/floor
 - Canadian stair handrails: 32-36" above the stairs/floor
4. Handrail continuity: handrails should be continuous so that a hand can slide along the rail without interruption from above the top step to above the bottom step.
5. Handrail brackets need to be installed within 12" of the end of the handrail/stair rail.
6. Handrail brackets need to be installed on one side of the rail end end using a rail splice/connector.
7. Maximum span without using a handrail bracket varies by code and application. The range is between 4 ft to 6 ft maximum span.

Surfaces and Structures

- When installing brackets, wall returns and other components into a wall, floor or fixed object, ensure you have a solid structure for the fasteners/anchors to bite into and help distribute the loads that get applied to the handrail/ stair rail system when in use.
- Mounting surfaces for the brackets and components must be flat, solid and free from cracks and debris.

Fasteners

- Regal ideas Titanium Slate Ceramic Screws (WCS-50-TS) are recommended for attaching the various components and brackets to the handrail/ stair rail tube, and for attaching the brackets to the Regal ideas aluminum posts and pickets.
- Fastener type and length will vary depending on the surface and material you are mounting into. Check with your local building officials when planning your project.
- When pre-drilling use a smaller drill bit than the fastener you are using.

Fastener Guide		
Surface	Screw Size	Drill Bit Size
Aluminum	#10 x 3/4"	1/8" (3 mm)
Brick/Concrete	#10-14 x 1" (Screw with Anchor)	5/16" (8 mm)
Wood	#10 x 2 1/2"	not required

The above is a guide for reference purposes. Fastener type and length will vary depending on the surface and material you are mounting into.

Applications:

- Ramps
- Stairs
- Wall
- CrystalRail

Before you begin installing any section, please take the time to plan and layout your section to ensure you have calculated the proper length and have all the necessary parts to complete, including the correct fasteners.

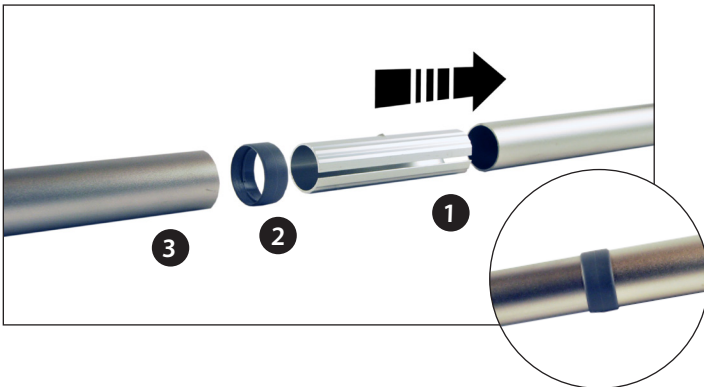
It is important to check with your local building codes for guidelines and limitations before installation.

INSTALLATION GUIDELINES:

Rail Splice/Connector

Model: HSC

Use to connect handrail end to elbows, corners and loop return.



For use with HR08/ HE5/ HE35/ HLR/ HCR

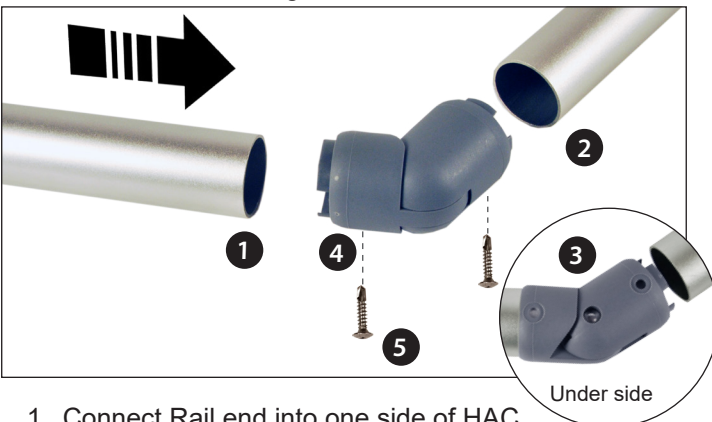
1. Slide rail splice/connector into rail end until metal tip in center of rail splice/connector touches the rail end.
2. Slide collar ring over open end of rail splice/connector until it connects with the metal tip in the center of the rail splice/connector and covers part of the rail end.
3. Slide second rail end over opposite end of rail splice/connector. Push together both rail ends until they are both touching the inside inner ring of the collar and there is no lateral movement of the collar ring.

! Do not cut the HSC splice/connector. Cut the rail ends if you need to adjust railing length.

Adjustable Angle Connector

Model: HAC

Use to create custom angles.



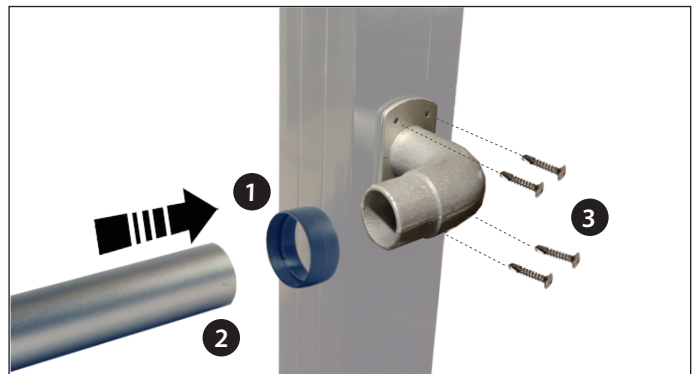
1. Connect Rail end into one side of HAC.
2. Connect second rail end into opposite side of HAC.

3. Ensure rail ends are pushed tightly into the HAC until you see the aluminum rail end completely cover the inside screw hole of the HAC.
4. Use a 1/8" (3mm) drill bit to pre-drill the 2 screw holes.
5. Secure rail ends into HAC by using a #2 square head screwdriver and the screws included.

90° Wall/Post Return

Model: HW90

Use to start or end your handrail/ stair rail against a wall or post.



1. Push collar over HW90 wall/post return, until inside ring stops at center lip.
2. Push rail end firmly onto/toward HW90 until rail end touches inside center ring of collar and collar has no lateral movement.

IMPORTANT: Ensure top of handrail is set at proper height/level before drilling into wall or post.

3. Mark screw holes onto wall or post and use the appropriate drill bit size to pre-drill into surface.

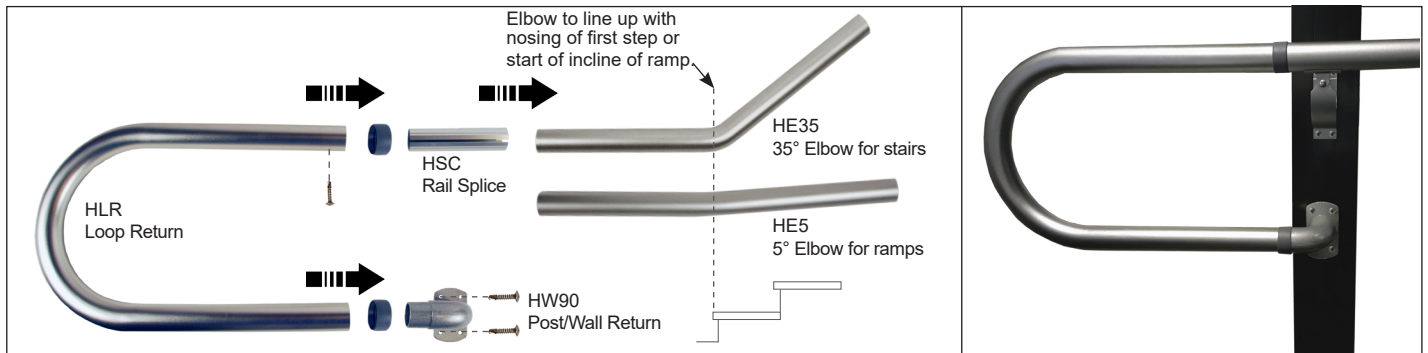
! Make sure you use the appropriate fasteners for the surface you are attaching to. For mounting into Regal ideas aluminum posts, use Regal ideas Ceramic Screws (WCS-50-TS)

Fasteners Guide for HW90

Surface	Screw Size	Qty	Drill Bit Size
Aluminum	#10 x 3/4"	4	1/8" (3mm)
Brick/Concrete	#10-14 x 1" (Screw with Anchor)	4	5/16" (8mm)
Wood	#10 x 2 1/2"	4	not required

The above is a guide for reference purposes. Fastener type and length will vary depending on the surface and material you are mounting into.

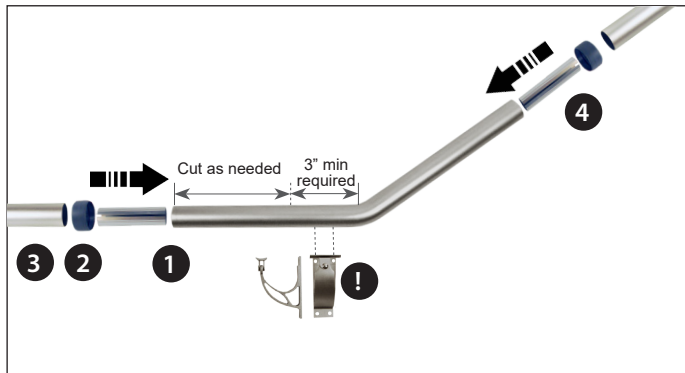
Configuration Detail: HLR / HE5 / HE35 / HR08



Elbows 5° / 35° / 90°

Model: HE5/HE35/HCR

Use to accommodate incline/decline and continuous corners of handrail/stair rail.



*HSC rail splice/connectors are required for attachment to handrail/stair rail.

1. Slide rail splice/connector into angled elbow.
2. Slide collar ring over rail splice/connector until inner center ring stops at inner seam.
3. Slide rail end onto rail splice/connector and under collar. Push tightly until both ends are touching the inside inner ring of the collar and there is no lateral movement.
4. Repeat steps for the other end of the elbow.

⚠ When connecting two ends with a rail splice/connector you must use a picket or post/wall bracket on one side of the seam for support. (See page 5 for installation instructions).

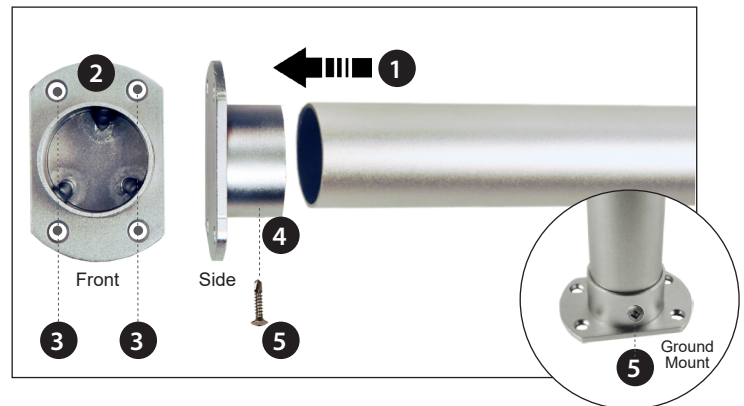
Configuration Detail 90° Corner:



Wall/Post Return Connector

Model: HWC

Use to cap the end of the handrail/stair rail end against a wall, post or ground return.



1. Slide rail end into HWC wall/post connector fitting.
2. Use level and tape measure to find your correct handrail/stair rail height. Mark holes and pre-drill into mounting surface. See chart below for drill bit and fastener sizes recommended.
3. Use appropriate fasteners and screw/anchor HWC wall/post connector fitting into post, wall or floor.
4. Drill small pilot hole using 1/8" (3mm) drill bit through the underside (or side if floor mounted) of the HWC and handrail/ stair rail.
5. Use a Regal Ideas Ceramic Screw (WCS-50-TS) and a #2 square head screw driver to tighten the screw unto the HWC wall/post connector.

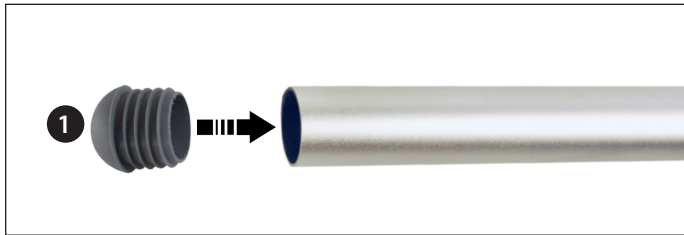
Fasteners Guide for HWC

Surface	Screw Size	Qty	Drill Bit Size
Aluminum	#10 x 3/4"	4	1/8" (3mm)
Brick/Concrete	#10-14 x 1" (Screw with Anchor)	4	5/16" (8mm)
Wood	#10 x 2 1/2"	4	not required

The above is a guide for reference purposes. Fastener type and length will vary depending on the surface and material you are mounting into.

End Rail Cap

Use to cap the ends of handrails/stair rails.



1. Place cap into rail end and tap with rubber mallet until rail cap is securely in place.

Handrail/Stair Rail Supports

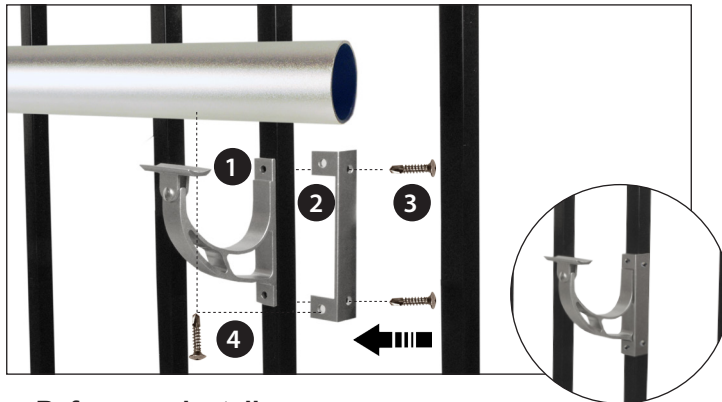
Handrail/Stair rail supports are required:

- At each rail splice connection
- At every on-center span that is 6ft or more. (The distance between support brackets are not to be greater than 6ft on-center.)

Picket Bracket

Model: HBP

Use to attach handrail/stair rail to picket.



Before you install:

- Use the HBP picket bracket as a guide to mark the screw holes on the front and side of the picket.
- Pre-drill the holes on the picket using a 1/8" (3mm) drill bit.

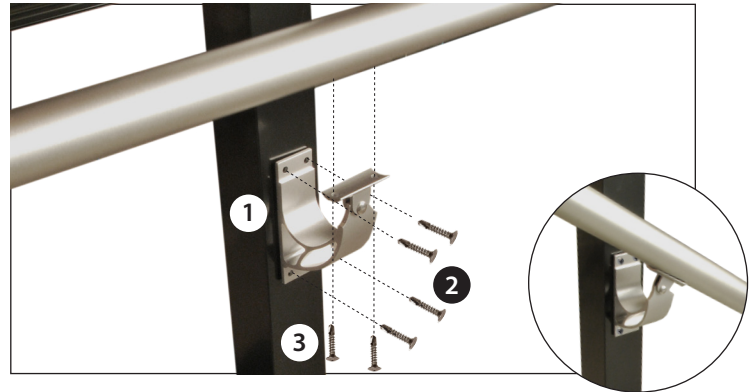
1. Place the HBP picket bracket on the face of the picket and line up the bracket holes with the holes you pre-drilled.
2. Place the side support piece of the HBP picket bracket.
3. Use Regal Ideas Ceramic Screws (WCS-50-TS) to attach HBP picket bracket to picket. Use a #2 square bit screw driver to attach the front and side screws.
4. Place handrail/stair rail onto picket bracket arm, pre-drill and attach using Regal Ideas Ceramic Screws (WCS-50-TS).

- ⚠ Tilt/adjust the bracket support cradle so that it fits flush with the handrail/ stair rail tube prior to tightening the screws.

Post/Wall Bracket

Use to attach handrail/stair rail to wall or post.

Model: HBW



Before you install:

- Use the HBW Post/Wall bracket as a guide to mark the screw holes on the front side of the post or wall.
- Pre-drill the holes on the picket using the appropriate size drill bit.

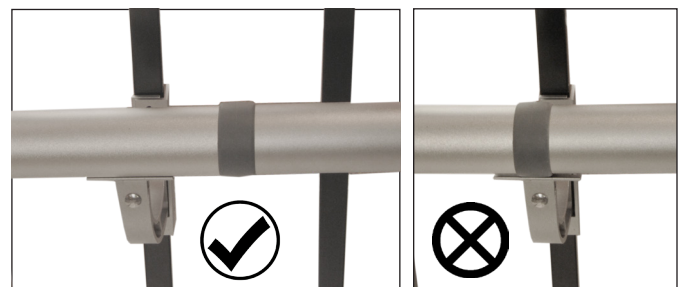
1. Line up the bracket holes with the holes you pre-drilled.
2. Use the appropriate fasteners to fasten the HBW post/wall mount.
3. Place handrail/stair rail onto post/wall bracket arm, pre-drill and attach using Regal Ideas Ceramic Screws (WCS-50-TS).

Fasteners Guide for HBW

Surface	Screw Size	Qty	Drill Bit Size
Aluminum	#10 x 3/4"	4	1/8" (3mm)
Brick/Concrete	#10-14 x 1" (Screw with Anchor)	4	5/16" (8mm)
Wood	#10 x 2 1/2"	4	not required

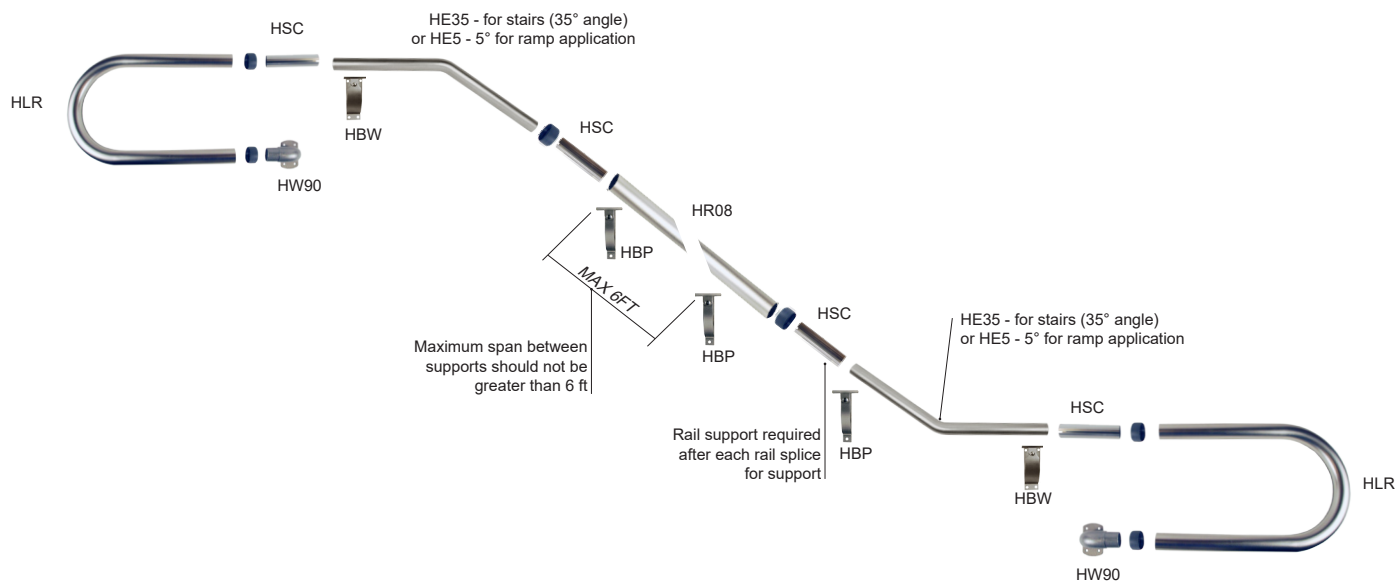
The above is a guide for reference purposes. Fastener type and length will vary depending on the surface and material you are mounting into.

- ⚠ When connecting two ends with a rail splice/connector you must use a picket or post/wall bracket on one side of the seam for support. This will allow for proper fitting of the collar and handrail/stair rail onto the bracket arm.

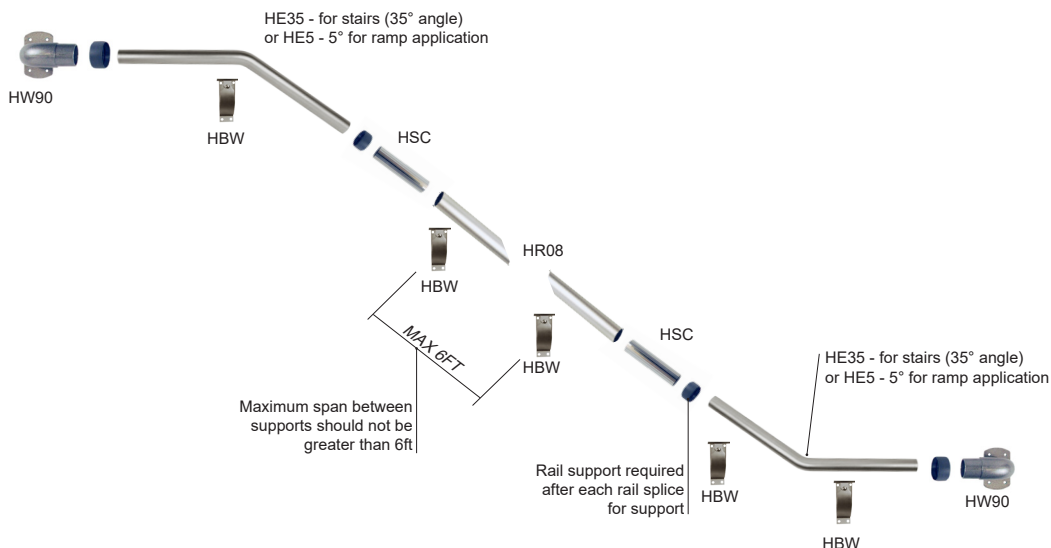


Sample Part Configurations:

Stair/Ramp with Loop return



Wall/Surface install



⚠ When installing brackets and wall returns into a wall or floor, ensure you have a solid structure for the fasteners/anchors to bite into and help distribute the loads that get applied to the handrail/ stair rail system when in use.

IMPORTANT to check with your local Building Department for guidelines, limitations and proper fastener uses before installation.