

# Structural Glass Rails

PanelGrip® & Level Lock Plus™



# Structural Glass Rails

Leverage Wagner's years of experience and engineering expertise to design and develop your glass rail system.

Our design-to-order solutions feature patented PanelGrip® and Level Lock Plus™ shoe systems to fit the needs of your application. As a trusted partner, we can meet your specifications with the fit, finish and performance you desire.

## System Features

- Obstruction-free view
- Dry glaze system cuts down on install time
- In-shoe glass leveling available to support cap rail-less designs
- ICC certification available for PanelGrip systems to support code approval
- 316 stainless steel handrail, cap rail and cladding for durability
- Wagner turnkey solutions feature structural laminated glass for increased safety and reliability



# Specifications

- Shoe Material: Extruded Aluminum
- Mounting Type: Surface Mount, Embed Mount, Fascia Mount
- Anchor Spacing: 8" or 12" on center
- Finishes: 316 stainless steel brushed satin cladding is standard  
*\*Additional Custom Solutions Available*
- Mechanism Materials: PVC Isolator, Aluminum and Zinc Mechanisms
- Mechanism Spacing: 12" on center
- All standard Wagner shoe systems feature 13/16" tempered laminate glass with structural interlayer
- Custom Infill Options:
  - 1/2"-3/4" tempered monolithic glass
  - 9/16"-13/16" laminated tempered glass
- Height: Up to 60" when used as a guardrail  
*\*Additional Custom Solutions Available*
- Cap Rail: Optional
  - 1.66" O.D.
  - 1.90" O.D.
  - Low-profile crisp corner
  - \*Other Custom Options Available*
- Handrail Options:
  - 1.50"
  - 1.66"
  - 1.90"
  - \*Lumenrail® Options Available*

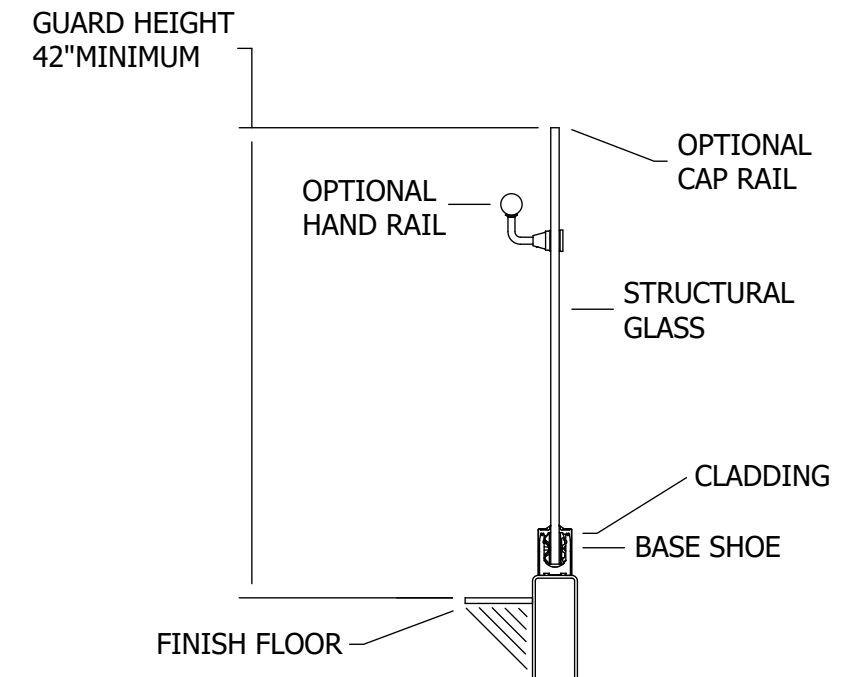
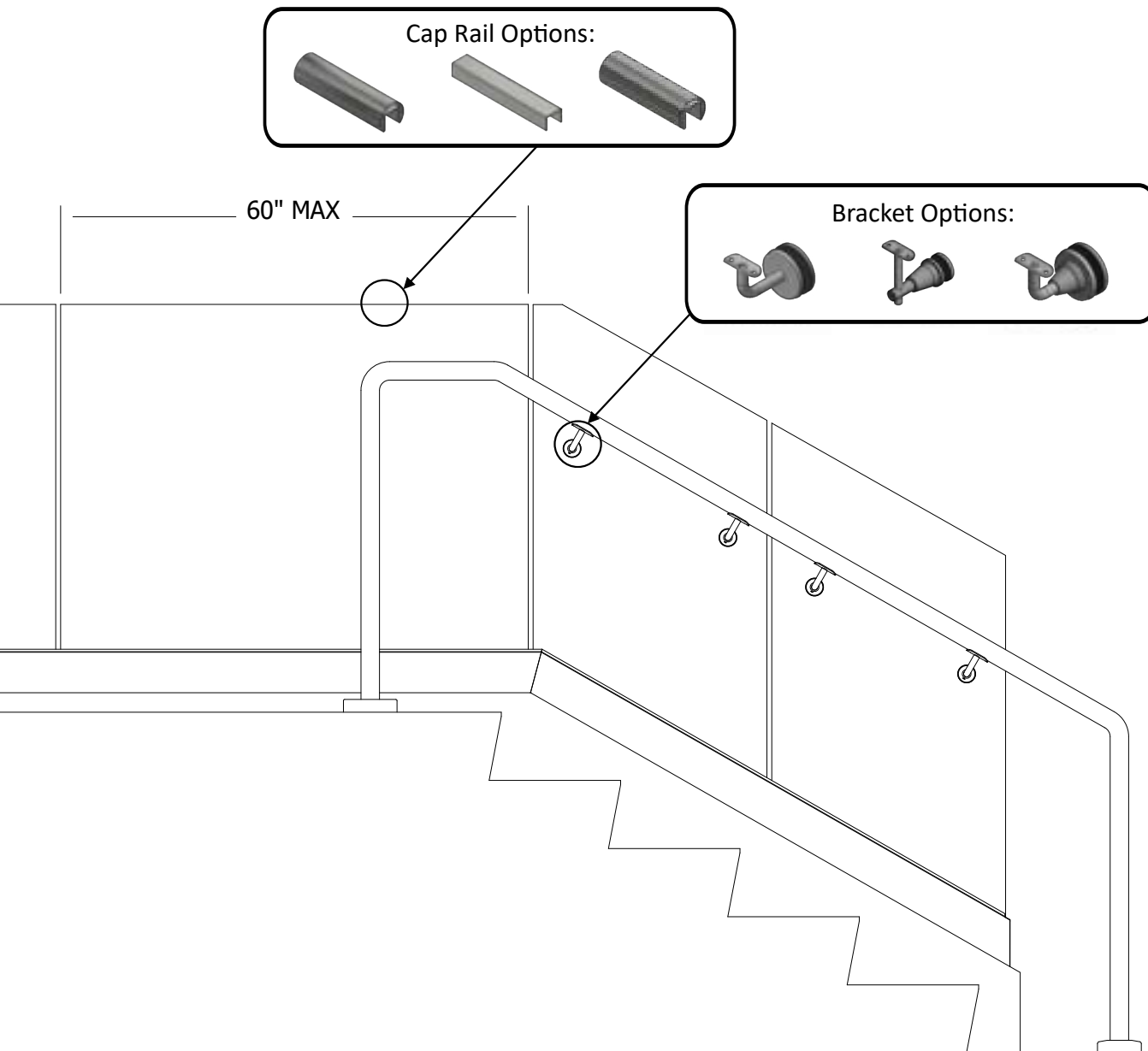


**COVER: Northwestern Mutual**  
Milwaukee, WI  
Photo @ Chris Duzynski  
PanelGrip® Shoe Moulding and Brackets

**Northwestern Mutual**  
Milwaukee, WI  
Photo @ Chris Duzynski  
PanelGrip® Shoe Moulding and Brackets

**Diercks Hall**  
Milwaukee, WI  
Courtesy of Mortenson  
PanelGrip® Shoe Moulding

# Typical Design



## Stainless Steel Cap Rail

Provides a strong, clean, finished aesthetic to glass balustrade systems. The cap rail can be used to protect the top edge of the glass guardrail. Wagner provides round cap rails that match the common handrail diameters of 1.66" and 1.90" pipes, as well as a low-profile, crisp corner U-channel.

## Handrails

Provide security and guidance for uneven walking surfaces. Wagner glass rails support bracket-mounted offset handrails to meet building code requirements. Fabricated stainless steel handrails are available in common 1.50", 1.66" and 1.90" pipe diameters. Lumenrail® options are available with linear and point source lighting for any application.

## Structural Glass

High-quality structural laminated glass capable of supporting the rigorous requirements of guardrails. Structural laminated glass is manufactured with a structural polymer interlayer to provide the greatest level of occupant safety. Wagner uses 13/16" thick glass panels to provide architects with the broadest range of design options for their rails, including the option to avoid a cap rail for truly clear sightlines.

## Stainless Steel Cladding

A great way to give a base shoe a finished, professional look. Wagner's stainless steel cladding matches the brushed finish of our handrails and cap rails. Cladding is available for surface-mounted or fascia-mounted shoe, and can be made with custom dimensions to match your site's unique requirements.

## PanelGrip® and Level Lock Plus™ Base Shoe

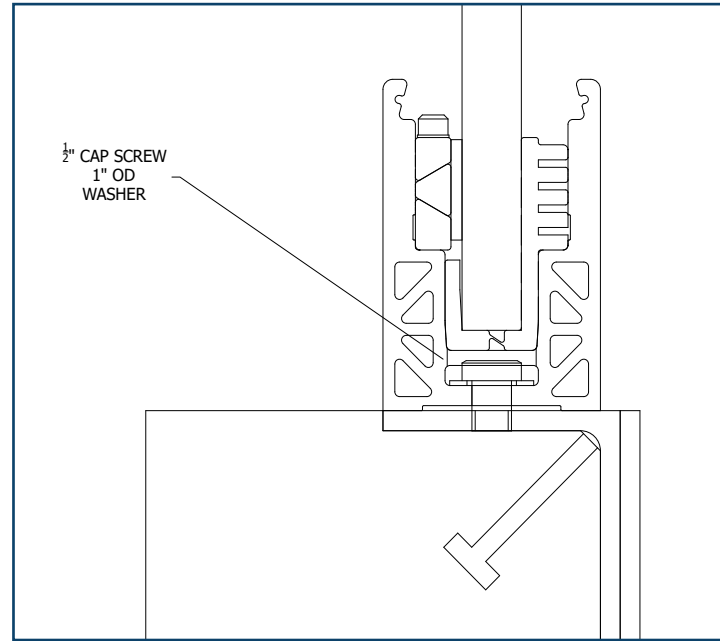
Engineered to provide a secure, structural base for your glass rails. The extruded aluminum shoe is engineered for maximum strength to offer multiple anchor options for various substrates while supporting the structural glass for the demanding requirements of a guardrail. Level Lock Plus™ shoe allows for in-shoe leveling of the glass to ensure a smooth, plumb installation with less shimming when mounted to uneven surfaces.



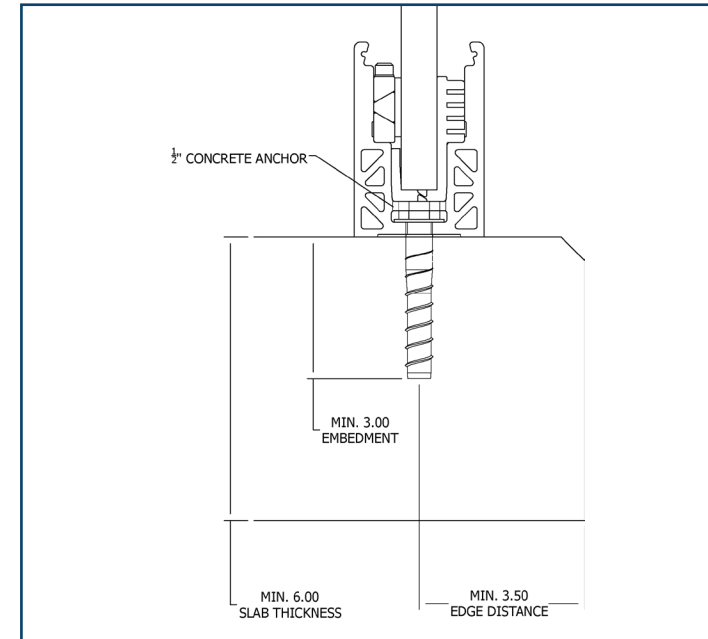
Scan the QR code or access the link below to learn more about Wagner's line of glass railing systems.

[wagnerco.info/WagnerGlassRailings](http://wagnerco.info/WagnerGlassRailings)

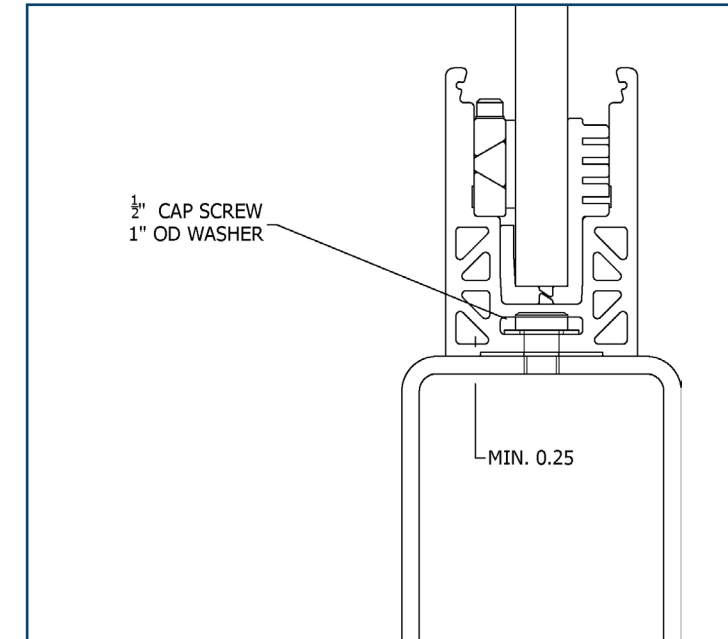
**Steel Substrate in Concrete**



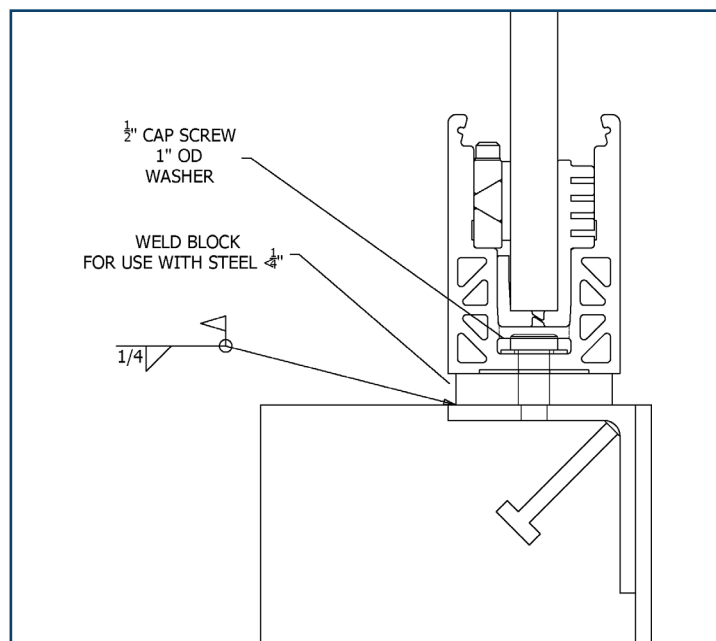
**Surface Mount to Concrete**



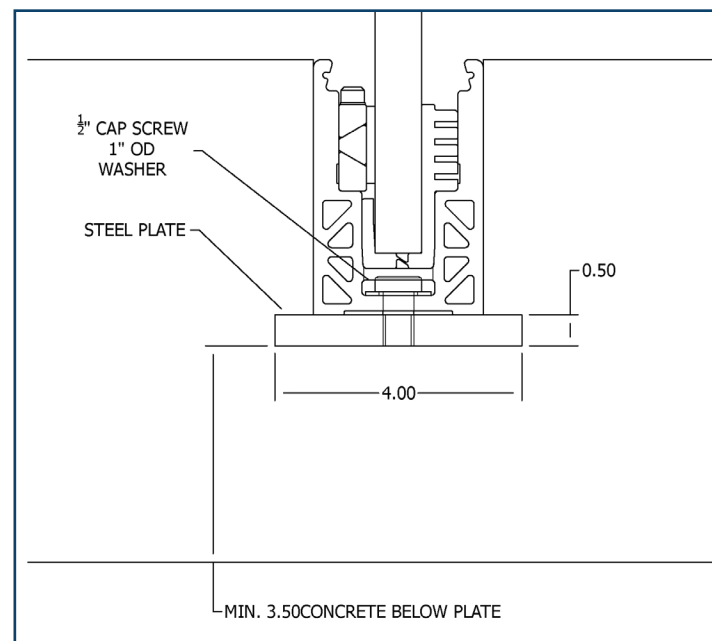
**Hollow Steel Tube without Weld Blocks**



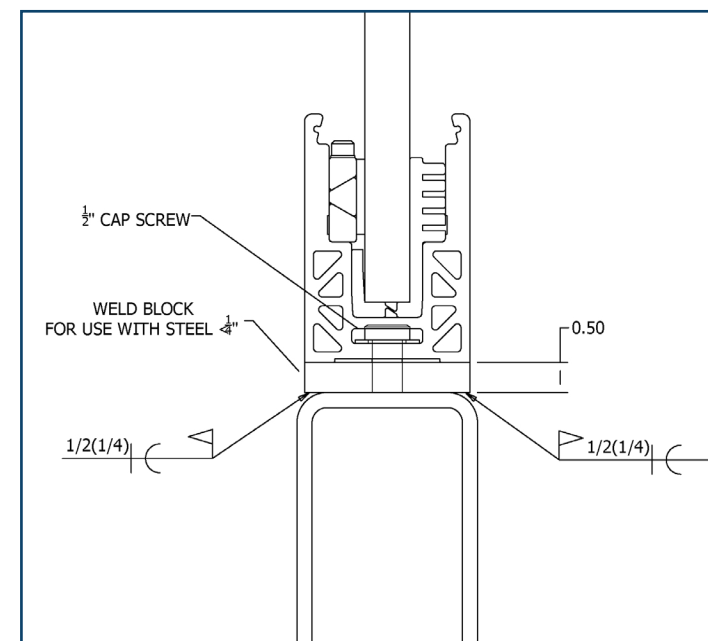
**Steel Substrate with  
Weld Block in Concrete**



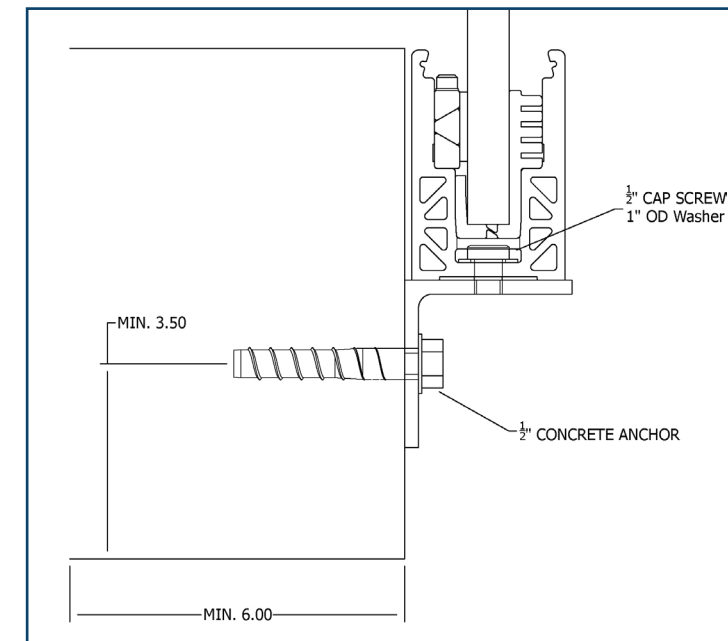
**Embedded Mount to Concrete**



**Hollow Steel Tube with Weld Blocks**



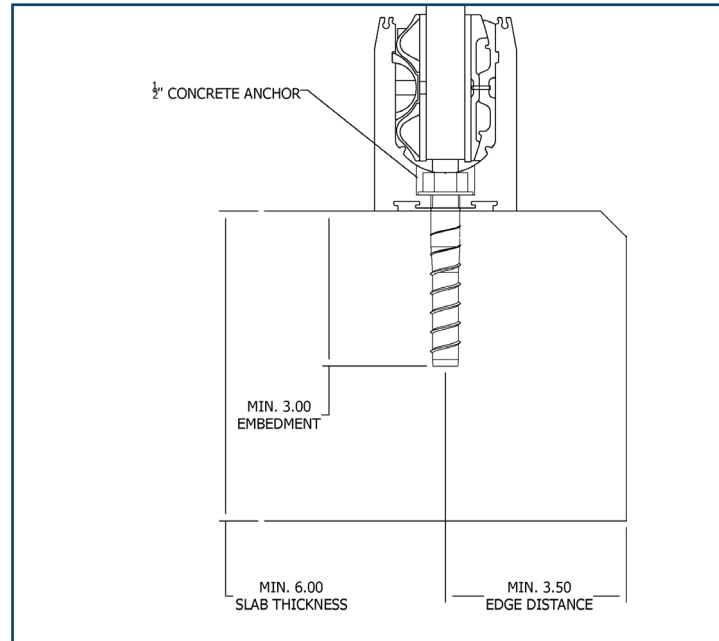
**Fascia Mount with Angle to Concrete**



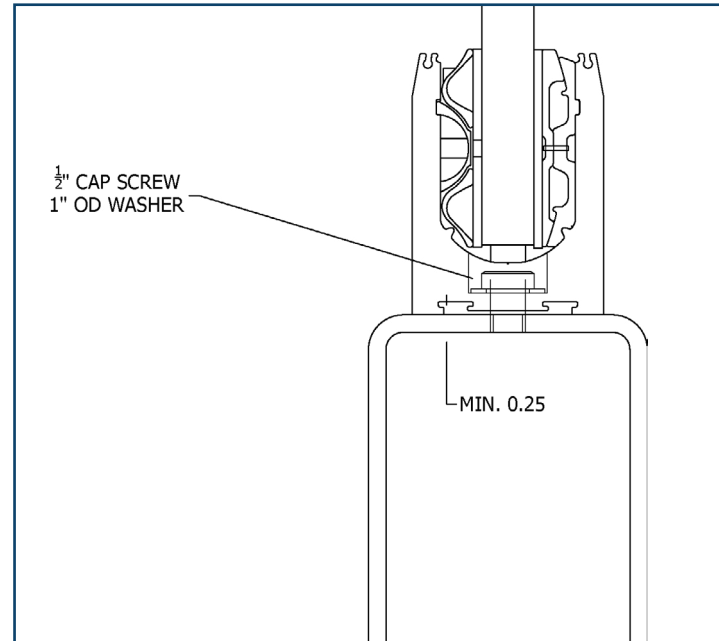
# Typical Mounting Conditions

## Level Lock Plus™

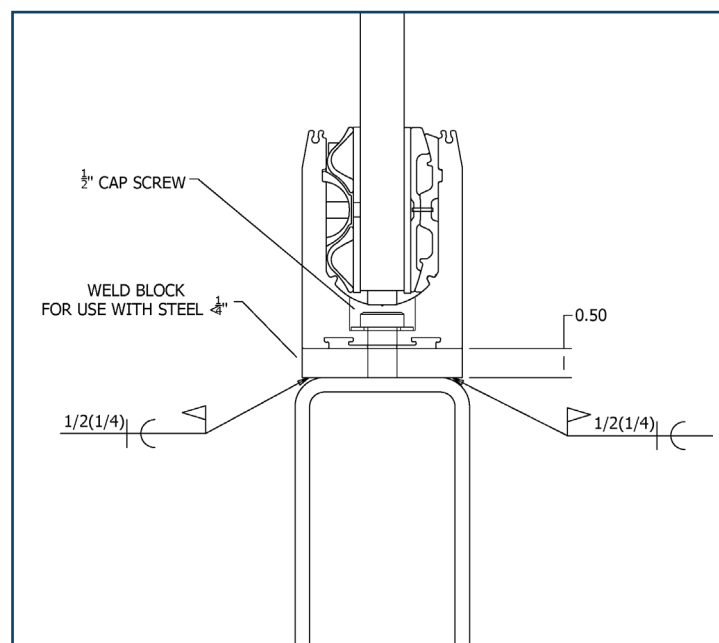
**Surface Mount to Concrete**



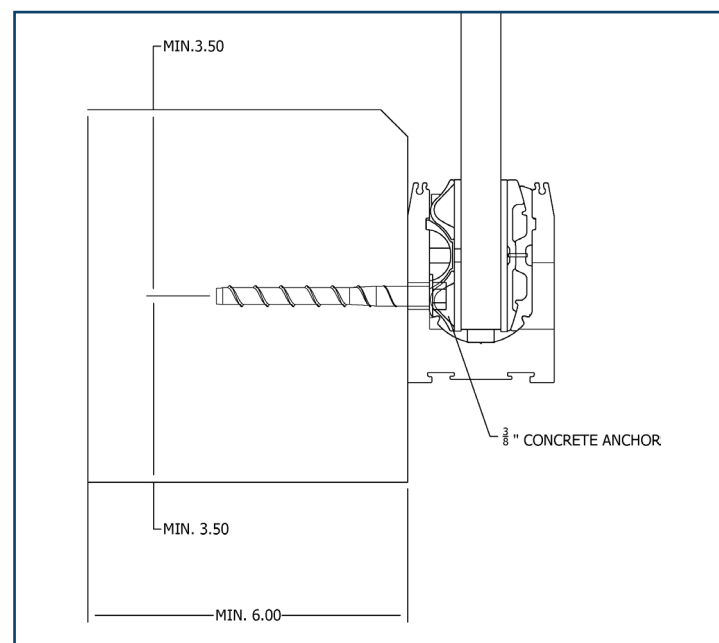
**Hollow Steel Tube without Weld Blocks**



**Hollow Steel Tube with Weld Blocks**

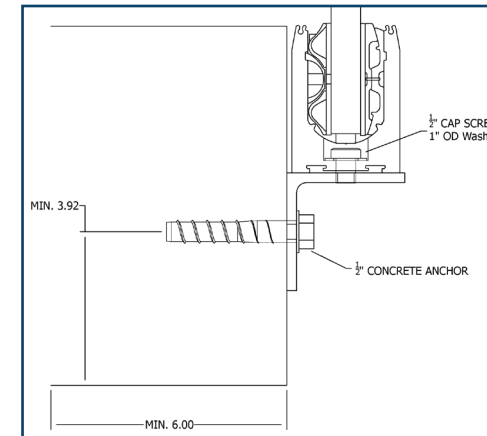


**Fascia Mount to Concrete**

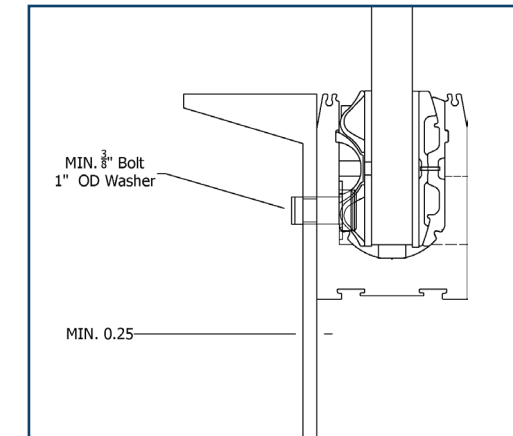


## Level Lock Plus™

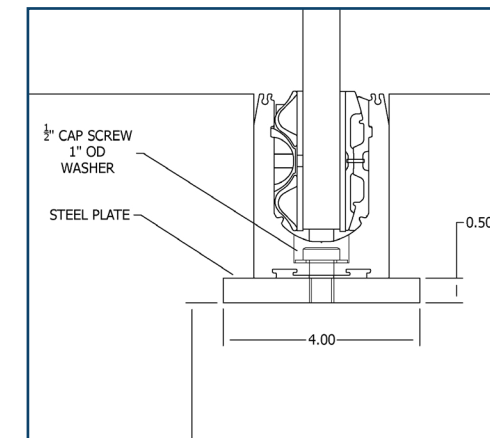
**Fascia Mount with Angle to Concrete**



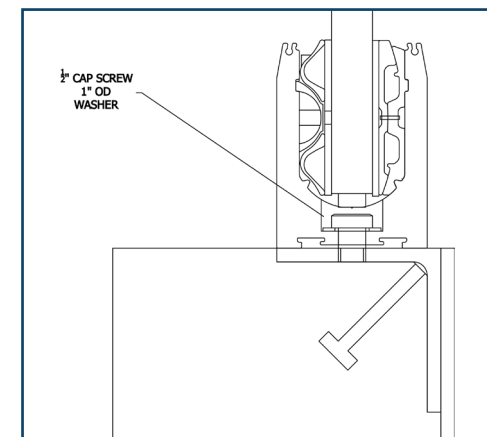
**Steel C Channel**



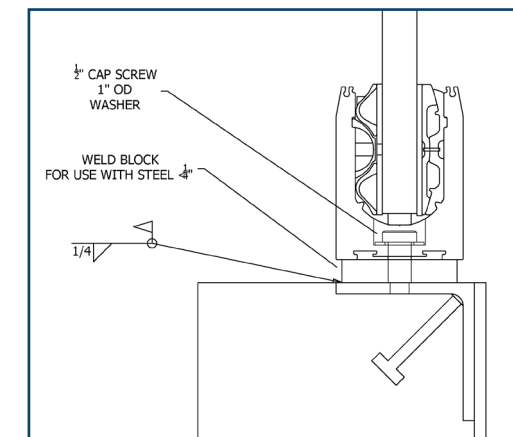
**Embedded Mount to Concrete**



**Steel Substrate in Concrete**



**Steel Substrate with  
Weld Block in Concrete**



# Spec Builder

# Wagner Engineering

Turnkey Installation		
Shoe Type	PanelGrip®	
	Level Lock Plus™	
Glass	13/16" - Structural	
Mounting	Surface	
	Embed	
	Fascia - Angle Iron	
	Fascia - Side Mount	
Top Rail	None - Structural Laminate Glass	
	Low-Profile U-Channel Stainless Steel 316	
	1.50" Stainless Steel 316	
	1.66" Stainless Steel 316	
	1.90" Stainless Steel 316	
Handrail	None	
	1.50" Stainless Steel 316	
	1.66" Stainless Steel 316	
	1.90" Stainless Steel 316	
Fixture Type	Non-Illuminated	
	Lumenrail® Options Available	
Handrail Bracket	316 Stainless Steel Bar Bend Bracket	
	316 Stainless Steel Adjustable Bracket	
Geometry	Straight	
	Curved	

Wagner is proud to offer our experienced rail design engineering services. Our design and engineering services enable you to leverage our experience and knowledge in designing IBC-compliant rail systems tailored to your specific application.

### Engineered Components

Wagner's dedicated engineering begins at the ground level. All of Wagner's systems are fabricated from purpose-built components, designed to withstand the rigors of life safety rails and guards. Wagner designs all our systems to meet or exceed the requirements of the IBC code.

### Take-Off Services

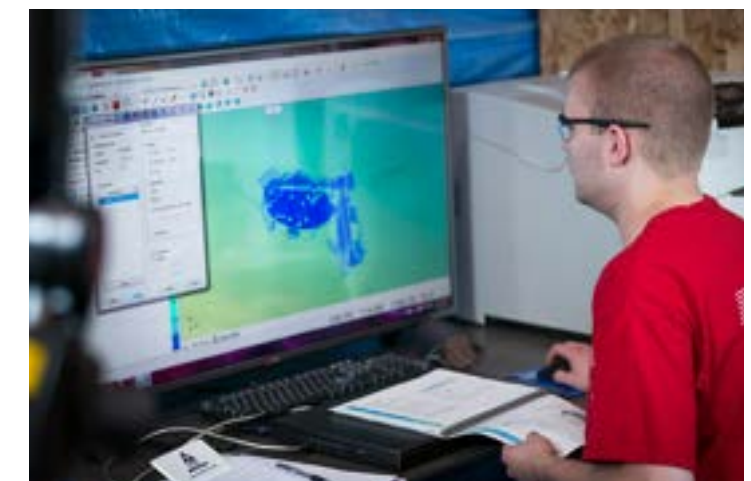
Wagner's team of technical estimators can assist in translating your vision into a detailed quote and ensure that you have all the necessary components and equipment for installing your guard. Our team can work directly with your architectural prints to provide a system that aligns with your design intent.

### Design And Layout Service

Wagner's team of design engineers can find a solution that fits the needs of your project. Our designers utilize architectural prints, field dimensions, or a 3D laser scan of your site to construct your system in 3D CAD, enabling us to consider unique site conditions and pre-plan our systems for optimal installation.

### Professional Engineering

For added peace of mind, Wagner can provide comprehensive signed and sealed calculations by professional engineers for your project. Our professional engineers can assist you in overcoming the unique challenges posed by your site conditions. This includes reviewing the substrate, anchorage and windloading requirements to ensure the protection of your project.

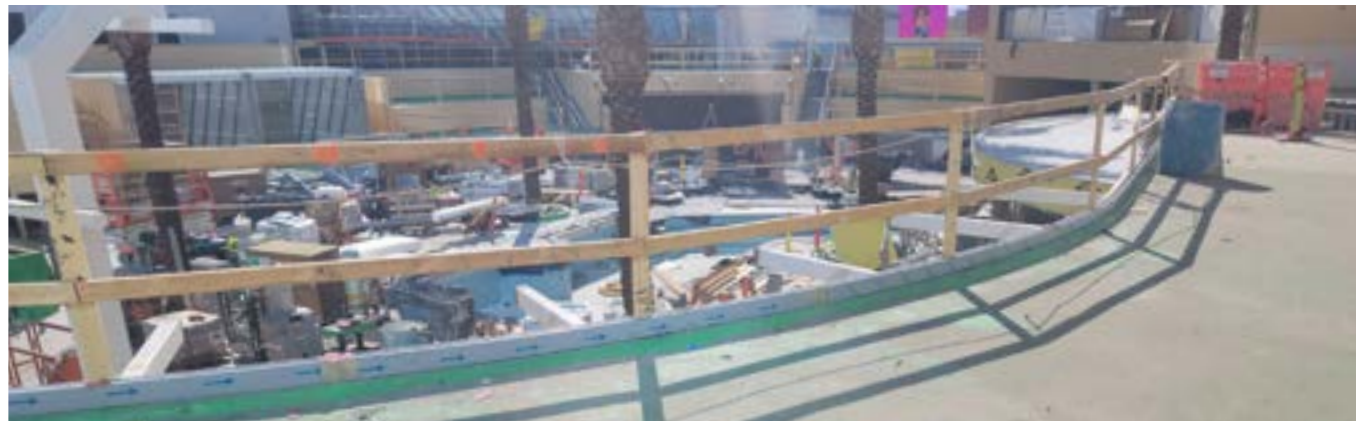


# Wagner Service

## Partnering With You

Wagner is pleased to offer field dimensioning, site support services and turnkey installation solutions for your structural glass system. Our support services enable you to leverage our knowledge and expertise, ensuring a competent and on-schedule conclusion to your next specification.

Remove the guesswork from your project by partnering with Wagner Service and allowing us to help you get the job done. Wagner is here to support you through any or every step of your application.



### Field Measurements

Collaborate with Wagner to acquire the accurate field measurements for your railing system. Our team of product experts will conduct on-site visits to capture all essential dimensions using our point cloud scanning services.

### Site Support

Wagner can provide you with technical and consultative support to help you with your railing installation. Once we receive your railing system materials, our experts will be on-site to guide you through assembly and installation.

### Turnkey

Our turnkey service is our ultimate package—we will provide you with the proper field dimensions and handle the installation of your railing system through one of our partners. The comprehensive installation of your railing system will encompass all fitting, cutting, welding, polishing and anchoring necessary for occupancy.

*Northwestern Mutual  
Milwaukee, WI  
Photo @ Chris Duzynski  
PanelGrip® Shoe Moulding and Brackets*









 @wagnercompanies

 **WAGNER**  
Architectural Systems

888-243-6914 // [rfq@mailwagner.com](mailto:rfq@mailwagner.com)  
10600 West Brown Deer Road // Milwaukee, WI 53224, USA

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