

ICC-ES Evaluation Report

ESR-3950

Reissued January 2024

This report also contains:


- CBC Supplement

Subject to renewal January 2025

- FBC Supplement

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<p>DIVISION: 05 00 00 — METALS</p> <p>Section: 05 52 00 — Metal Railings</p> <p>Section: 05 73 13 — Glazed Decorative Metal Railings</p> <p>DIVISION: 08 00 00 — OPENINGS</p> <p>Section: 08 81 00— Glass Glazing</p> <p>Section: 08 88 00— Special Function Glazing</p>	<p>REPORT HOLDER: R & B WAGNER, INC.</p>	<p>EVALUATION SUBJECT: PANELGRIP2 GLASS PANEL RAILING SYSTEM</p>	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2018 and 2015 [International Building Code® \(IBC\)](#)

Properties evaluated:

- Structural
- Durability

2.0 USES

The PanelGrip2 Glass Panel Railing System is intended for use in interior and exterior locations of all construction types.

The system may also be used in wind-borne debris regions in accordance with IBC Section 2407.1.4, and a minimum laminated glass panel thickness of 3/4 inch (19 mm), a minimum 0.06-inch (1.52 mm) thick ionoplast SentryGlas®Plus, SGP, and a cap rail is required.

3.0 DESCRIPTION

The PanelGrip2 Glass Panel Railing System consists of top rails, handrails (if applicable), glass panels, PanelGrip2 dry glaze mechanisms, and continuous aluminum base shoes. See [Figure 1](#).

3.1 Top Rails:

The top rails (also known as cap rails) are manufactured from ASTM B221 6063-T52 aluminum or ASTM A1016 304 or 316 stainless steel. See [Figure 3](#).

3.2 Handrails:

The handrails are manufactured from Schedule 40 or Schedule 80 ASTM A554 and ASTM A312 304 or 316 stainless steel or aluminum alloy ASTM B221 6063-T52.

Handrails are additionally classified as “Lit” type. The “Lit” type handrails feature a formed channel to accept adhesive LED strip lighting. See [Figure 4](#). Evaluation of the attachment of the adhesive LED strip to the handrails and the conformance of the adhesive LED strip to any applicable electrical code or building code requirements is outside of the scope of this report.

3.3 Handrail Brackets:

The handrail brackets are manufactured from ASTM A276 304 stainless steel.

3.4 Laminated Glass Panels:

General: The laminated glass panels must comply with ASTM C1172 and Category II of CPSC 16 CFR Part 1201 or Class A of ANSI Z97.1. The panels must consist of two lites of glass with an interlayer.

For nominal laminated glass panel thicknesses of $5/8$ - and $3/4$ -inch, the minimum thickness must be 0.642 and 0.705 inches (16.3 and 17.9 mm) respectively.

Lites: The lites must be Kind FT tempered glass complying with ASTM C1048 and have a minimum Modulus of Rupture (Fr) $\geq 24,000$ psi (165 MPa).

Interlayer: The interlayer must be a minimum 0.060-inch-thick (1.52 mm). The interlayer may be a PVB or non-PVB interlayer.

The PVB interlayers must have a minimum shear modulus of 70 psi (0.5 MPa) for $T \leq 122^\circ\text{F}$ (50°C).

The non-PVB interlayers must have a minimum shear modulus of 1,460 psi (10.1 MPa) for $T \leq 122^\circ\text{F}$ (50°C).

3.5 Base Shoe:

The GR2457HCB base shoes are manufactured from ASTM B221 6005-T5 aluminum. See [Figure 6](#).

3.6 PanelGrip2:

The PanelGrip2 supports consist of a plastic isolator and a zinc/aluminum die-cast panel grip clamping mechanism with an attached plastic spacer pad. The clamp is tightened by turning the cap screw on the top of the assembly. PanelGrip2 mechanisms and isolators are provided in match pairs, fit to select sizes of glass lites. See [Figure 2](#).

3.7 Fasteners:

3.7.1 Concrete Anchors: The concrete anchors must be $1/2$ -inch-diameter-by- $4 1/2$ -inch long Hilti Kwik-HUS EZ (KHEZ) screw anchors evaluated under [ESR-3027](#). KHEZ anchors must be installed with a $3 1/2$ -inch minimum edge distance and spaced in accordance with [Table 5](#) of this report. Anchor end distance must be at least 4 inches.

3.7.2 Cap Screws: The cap screws must be $1/2$ -inch–13 diameter by $3/4$ -inch long 300 series stainless steel cap screws installed into tapped holes and spaced in accordance with [Table 5](#) of this report. The physical dimensions and materials must comply with ASTM F-837 alloy group 1 (any condition).

3.8 Substrates:

3.8.1 Concrete: The concrete must have a minimum compressive strength of 4000 psi (27.6 MPa) in a cracked condition or 2500 psi (17.2 MPa) in an uncracked condition and a minimum 6-inch thickness. See [Figure 7.1](#).

3.8.2 Steel Angle: The steel angle must be a minimum $1/2$ -inch (12.7 mm) thick complying with ASTM A36. The steel angle must be designed by the structural engineer to ensure the minimum capacity requirements of the balustrade system are met. Attachment of the steel angle to the building substrate is outside of the scope of this report. See [Figure 7.2](#).

3.9 Durability:

The PanelGrip2 system materials supplied by R & B Wagner, Inc. are inherently corrosion-resistant. The material type specified must be appropriate for the environment of the installation. Information verifying the durability must be submitted to the code official, when requested.

4.0 DESIGN AND INSTALLATION

4.1 Installation:

Installation of the guardrail system, including the handrails and top rails, must comply with the manufacturer's published instructions, this report, and the IBC, as applicable.

The manufacturer's published installation instructions must be available at the jobsite at all times during installation. In the event of a conflict between this report and the manufacturer's instructions, this report governs.

4.1.1 Top Rails: The top rail must be installed for all situations. The maximum spans in [Table 1](#) are based on the capacities of the top rails. The end span may exceed the value shown in [Table 1](#) if supported by a wall or post but must not exceed the maximum middle span.

The top rail must be supported by a minimum of three glass panels unless supported by a wall or post.

The top rail is installed to the glass panel with 3M VHB double-sided tape.

4.1.2 Handrails:

4.1.2.1 General: Handrails must be installed as required per the applicable code.

4.1.2.2 Brackets: The handrails in [Table 1](#) and [Figure 4](#) may be used with any combinations of brackets noted in [Table 2](#). The brackets are installed through holes located near the ends of the glass panels.

4.1.2.3 Installation: Handrails are installed to glass panels using the through-glass mounting brackets shown in [Figure 5](#). The mounting brackets are installed at the ends of the glass panels. The holes in the laminated glass panels must comply with Section 4.3 of this report.

4.1.2.4 Spacing: The handrail span length must be within the limits shown in [Table 1](#), and the bracket spacing must be within the limits shown in [Table 2](#).

4.1.3 Base Shoes: Details of the connections of the base shoes that are either surface mounted to concrete or fascia mounted to steel are shown in [Figures 7.1](#) and [7.2](#).

[Table 5](#) provides the allowable wind loads for the base shoe and anchorages. [Table 5](#) also provides the maximum guard height (H_g) for the base shoe and anchorages based on a live load of 50 plf (.73 kN/m).

A minimum of two anchors are required for any base shoe connection.

4.1.4 PanelGrip2 System: The PanelGrip2 is a dry glazing system where the glass panel is clamped inside the base shoe by the PanelGrip2 clamp and isolator. The glass is held in place by the compressive forces created by the PanelGrip2 clamp and isolator. Compressive forces are developed by tightening the PanelGrip2 cap screw to the manufacturer's specifications using the PanelGrip torque wrench.

The PanelGrip2 system is compatible with the GR2457HCB base shoe and glass panel thicknesses listed in this report.

PanelGrip2 supports must be spaced a minimum of 4 inches from the ends of the base shoe and a maximum of 12 inches on center in the base shoe.

4.2 Design:

4.2.1 Live Loads: The following project specific live loads must be identified while limiting stresses within the glass panels to 6,000 psi (41.3 MPa) [modulus of rupture (24,000 psi) divided by a safety factor of 4] and the deflection to 1 inch (25.4 mm) or less:

A live load of 50 lb/ft applied in any direction along the top rail.

A single concentrated live load of 200 pounds (0.89 kN) applied in any direction at any point on the top of glass panel.

A horizontally applied normal live load of 50 pounds applied perpendicular to the glass panel on an area not to exceed 12 inches-by-12 inches (305 mm-by-305 mm).

4.2.2 Wind Loads: The allowable stress due to wind loading is 9600 psi (66.2 MPa). The required wind load must be determined by a qualified design professional based on the project-specific conditions, taking into account the balustrade location on the structure, and must not exceed the values shown in the tables of this report. The PanelGrip2 Glass Panel Railing System allowable wind load capacity is provided in [Tables 3](#) and [4](#) of this report. [Table 5](#) provides the allowable wind loads for the various anchoring conditions. [Table 5](#) also

provides the maximum height of the guard (H_g) for the base shoes and various anchorages based on a live load of 50 plf (0.73 kN/m).

4.3 Holes and Notches:

Holes and notches are permitted for mounting handrails. Holes and notches must conform to ASTM C1048 and must not exceed 2 inches wide (50.8 mm). Notches or holes must not exceed $1/12$ of the glass width. Holes or notches must not be located within the first third of the glass panel (balustrade) height from the shoe.

4.4 Wind-Borne Debris Regions:

When installed in wind-borne debris regions, the system must be installed with $3/4$ -inch-thick (19 mm), laminated glass panels with a 0.06 inch, SentryGlas[®]Plus, SGP interlayer. When installed as described in this section, the system is rated in accordance with IBC Section 2407.1.4 for use in wind zones 1 through 4, in which missile levels A, B, C, or D are required in accordance with ASTM E1996 as modified by Section 1609.2.2 of the 2018 IBC (Section 1609.1.2 of the 2015 IBC).

5.0 CONDITIONS OF USE

The PanelGrip2 described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The product is limited to installation where it is not subject to vehicle impacts.
- 5.2 The supporting structure must be designed and constructed to support the loads imposed by the guards in accordance with the applicable code. The anchorage to the frame must be as specified in this report or designed to provide the required strength for the specified balustrade height and imposed loads.
- 5.3 Drawings and design details for the PanelGrip2 system, using the information noted in this report, must be included on construction plans submitted to the code official for approval. The drawings and details must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.
- 5.4 When installed where the base shoe anchors are exposed to moisture, the base shoe anchors must be of a material intended for the use and identified by the manufacturer as acceptable for exterior applications.
- 5.5 All metals in contact with aluminum must either be an alloy approved for direct aluminum contact, or isolated from the aluminum by an approved coating.
- 5.6 The top rail must be supported by a minimum of three laminated glass panels unless the top rail is supported by a wall or post on both ends.
- 5.7 Glass sand-blasted or etched on surfaces 1 (outside face) or 4 (inside face) is outside the scope of this report.
- 5.8 Use of the system as a grab bar is outside the scope of this report.
- 5.9 All laminated glass panels must be fully tempered Type II laminated glass, with an interlayer complying with Section 3.4, and fabricated and inspected in accordance with ASTM C1172. The glass fabricator must provide certification of compliance with ASTM C1048 for fully tempered glass or ASTM C1172 for laminated glass as applicable. Glass must be procured directly from a qualified glass fabricator and is not produced or supplied by R & B Wagner, Inc.
- 5.10 The PanelGrip2 Glass Panel Railing System components, except for the glass panels, steel angles, and anchors are supplied by R & B Wagner.

6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Glass Railing and Balustrade Systems \(AC439\)](#) dated April 2019, including ASTM E1996 impact tests.

7.0 IDENTIFICATION

- 7.1 The PanelGrip2 Glass Panel Railing System components described in this report are identified by a label on the packaging bearing the manufacturer's name; product description and/or part number; and the ICC-ES evaluation report number (ESR-3950).
- 7.2 The glass panels must be identified as specified in the applicable code.

7.3 The report holder's contact information is the following:

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10600 WEST BROWN DEER ROAD
MILWAUKEE, WISCONSIN 53224
(414) 214-0444
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TABLE 1—TOP RAIL SPAN LENGTHS
 (Based on the top rail spanning over a minimum of three glass panels)

SHAPE	PART NUMBER	MATERIAL	MAXIMUM MIDDLE SPAN (inches) ^{1,2,4}	MAXIMUM END SPAN (inches) ^{1,3,4,5}
Round	GR2200	6063 T52 Aluminum	48-1/2"	18" (457 mm)
	GR2190	6063 T52 Aluminum	48-1/2"	18" (457 mm)
	GR2168	6063 T52 Aluminum	48-1/2"	18" (457 mm)
	GR2250	6063 T52 Aluminum	48-1/2"	18" (457 mm)
	GR3152	316 Stainless Steel	48-1/2"	18" (457 mm)
	GR3166	304 Stainless Steel	48-1/2"	18" (457 mm)
	GR3190	304 Stainless Steel	48-1/2"	18" (457 mm)
	GR3192	316 Stainless Steel	48-1/2"	18" (457 mm)
	GR3250	304 Stainless Steel	48-1/2"	18" (457 mm)
	GR3169	316 Stainless Steel	48-1/2"	18" (457 mm)
U-Channel	GR30915	304 Stainless Steel	48-1/2"	18" (457 mm)
	GR30916	316 Stainless Steel	48-1/2"	18" (457 mm)
	GR31115	304 Stainless Steel	48-1/2"	18" (457 mm)
Oval	GR3315	304 Stainless Steel	48-1/2"	18" (457 mm)

For **SI**: 1 inch = 25.4 mm.

1. Based on the capacity of the top rail considering the worst case between a 50 plf uniform load and a 200 lb. concentrated load.
2. The maximum middle glass panel widths must not be greater than the maximum middle top rail span.
3. The maximum end glass panel must not be greater than the maximum end top rail span, except as noted in Footnote 5.
4. The glass panels widths must not be less than the minimum glass panel width noted in [Tables 3 and 4](#).
5. When the top rail is attached to a wall or post, the maximum top rail end span may be greater than the maximum top rail end span tabulated values but no greater than the maximum middle span.

TABLE 2—HANDRAIL BRACKETS

SHAPE	PART NUMBER	MATERIAL	MAXIMUM SPACING (inches) ¹
L-shape	GR3900	304 Stainless Steel	48"
L-shape	GB3303	304 Stainless Steel	48"
L-Shape	GB3253	304 Stainless Steel	48"
L-shape	GB3370	304 Stainless Steel	48"
L-shape	GB3270	304 Stainless Steel	48"
L-shape	GB3300	304 Stainless Steel	48"
L-shape	GB3250	304 Stainless Steel	48"
L-shape	GB4383	304 Stainless Steel	48"
L-shape	GB4377	304 Stainless Steel	48"
L-shape	GB4387	304 Stainless Steel	48"
L-shape	GB3259	304 Stainless Steel	48"

1. All holes and notches must comply with Section 4.3.

TABLE 3—NOMINAL 5/8" (16MM) LAMINATED TEMPERED GLASS PANEL STRENGTH^{3,6} (5/16" x 0.060" x 5/16")

Glass Panel Width (in.)	Eff. Defl. Thick. (in.) H _{ef} ;w ⁷	Eff. Stress Thick. (in.) h _{min} ;e _f ;σ ⁸	M _{all wind} (lb-in./ft)	ALLOWABLE WIND PRESSURE (w _{all wind} ⁵), psf FOR PANEL HEIGHT (H _c ²), in.					Live Load of 50 lbs/ft ⁴	
				36	42	48	60	72	Maximum Height (H _c ^{1,2}) inches based on:	
Interlayer Shear Modulus, G >= 1460 psi for T <= 122°F									Stress	1" Defl.
12	0.4512	0.5050	4896	82.4	60.6	46.4	29.7	20.6	61.2	38.6
24	0.5386	0.5799	6457	108.7	79.9	61.1	39.1	27.2	80.7	46.0
36	0.5831	0.6100	7144	120.3	88.4	67.7	43.3	30.1	89.3	49.8
41	0.5942	0.6168	7304	*	90.3	69.2	44.3	30.7	91.3	50.8
48	0.6056	0.6234	7462	*	*	70.7	45.2	31.4	93.3	51.8
Interlayer Shear Modulus, G >= 70psi T <= 122°F									Stress	1" Defl.
12	0.3739	0.4202	3390	57.1	41.9	32.1	20.5	14.3	42.4	32.0
24	0.3901	0.4394	3707	62.4	45.9	35.1	22.5	15.6	46.3	33.3
36	0.4125	0.4647	4146	69.8	51.3	39.3	25.1	17.4	51.8	35.2
41	0.4227	0.4757	4345	*	53.7	41.1	26.3	18.3	54.3	36.1
48	0.4372	0.4910	4629	*	*	43.8	28.1	19.5	57.9	37.4

- Based on an allowable live load stress of 6000 psi.
- Glass height above top of base shoe H_c.
- * Allowable load is equivalent to the last value above.
- Other loads listed in Section 4.2.1 must be considered.
- w_{all wind} is based on an allowable wind load stress of 9600psi.
- Part number PG2417 PanelGrip dry mount mechanism and part number GR2457HCB base shoe are required to support 5/8" (17mm) laminated glass panel.
- H_{ef};w is the effective thickness for calculating deflection in accordance with ASTM E1300-12ae¹.
- h_{min};e_f;σ is the effective thickness for calculating stress in accordance with ASTM E1300-12ae¹.

TABLE 4—NOMINAL 3/4" (19MM) LAMINATED TEMPERED GLASS PANEL STRENGTH^{3,6} (3/8" x 0.060" x 3/8")

Glass Panel Width (in.)	Eff. Defl. Thick. (in.)	Eff. Stress Thick. (in.)	M _{all wind} (lb-in./ft)	ALLOWABLE WIND PRESSURE (w _{all wind} ⁵), psf FOR PANEL HEIGHT (H _c ²), in.					LIVE LOAD OF 50 lbs/ft ⁴	
	Hef;w	hmin;ef;σ		36	42	48	60	72	Maximum Height (H _c ^{1,2}) inches based on:	1" Defl.
Interlayer Shear Modulus, G >= 1460 psi for T <= 122°F									Stress	1" Defl.
12	0.5314	0.5952	6802	114.5	84.1	64.4	41.2	28.6	85.0	45.4
24	0.6312	0.6835	8970	151.0	110.9	84.9	54.4	37.8	112.1	53.9
36	0.6871	0.7229	10033	168.9	124.1	95.0	60.8	42.2	125.4	58.7
41	0.7016	0.7321	10290	*	127.3	97.4	62.4	43.3	128.6	60.0
48	0.7167	0.7411	10547	*	*	99.9	63.9	44.4	131.8	61.2
Interlayer Shear Modulus, G >= 70psi T <= 122°F									Stress	1" Defl.
12	0.4529	0.5088	4971	83.7	61.5	47.1	30.1	20.9	62.1	38.7
24	0.4686	0.5272	5336	89.8	66.0	50.5	32.3	22.5	66.7	40.0
36	0.4909	0.5525	5860	98.7	72.5	55.5	35.5	24.7	73.3	42.0
41	0.5014	0.5639	6105	*	75.5	57.8	37.0	25.7	76.3	42.8
48	0.5165	0.5800	6458	*	*	61.2	39.1	27.2	80.7	44.1

For SI: 1 inch = 25.4 mm; 1 ft = 305 mm; 1 lb = 4.45 N

- Based on an allowable live load stress of 6000 psi.
- Glass height above top of base shoe H_c.
- *Allowable load is equivalent to the last value above.
- Other loads listed in Section 4.2.1 must be considered.
- w_{all wind} is based on an allowable wind load stress of 9600 psi.
- Part number PG2475 PanelGrip dry mount mechanism and part number GR2457HCB base shoe are required to support 3/4" (19mm) laminated glass panel.
- Hef;w is the effective thickness for calculating deflection in accordance with ASTM E1300-12ae¹.
- hmin;ef;σ is the effective thickness for calculating stress in accordance with ASTM E1300-12ae¹.

TABLE 5—BASE SHOES LIVE LOAD AND WIND LOAD STRENGTHS

ANCHORAGE	SPACING (in)	ALLOWABLE MOMENT, lb-in/ft	ALLOWABLE WIND PRESSURE (w _{all wind}), psf FOR GUARD HEIGHT (H _g ¹) (in.)							LIVE LOAD OF 50 lbs/ft ⁷
			Guard Height							
			36"	39"	42"	45"	48"	54"	60"	Maximum Guard Height (H _g ¹) (in.)
Steel, 1/2-13 Cap Screw ³	14	1823	30.7	26.2	22.6	19.6	17.3	13.6	11.1	36.5"
	12	2127	35.8	30.5	26.3	22.9	20.1	15.9	12.9	42.5"
	6	4254	71.6	61.0	52.6	45.8	40.3	31.8	25.8	85.1"
Concrete, 1/2" Hilti Kwik HUS EZ ^{4,6}	14	1388	23.4	19.9	17.2	15.0	13.1	10.4	n/a ²	27.8"
	12	1610	27.1	23.1	19.9	17.4	15.2	12.0	n/a ²	32.2"
	6	3034	51.1	43.5	37.5	32.7	28.7	22.7	18.4	60.7"
Concrete, 1/2" Hilti Kwik HUS EZ ^{5,6}	14	1626	27.4	23.3	20.1	17.5	15.4	12.2	n/a ²	32.5"
	12	1887	31.8	27.1	23.3	20.3	17.9	14.1	11.4	37.7"
	6	3555	59.8	51.0	44.0	38.3	33.7	26.6	21.5	71.1"

For SI: 1 inch = 25.4 mm; 1 ft = 305 mm; 1 lb = 4.45 N

- Glass height above bottom of base shoe.
- Allowable wind pressure below 10 psf minimum requirements per Section 30.2.2 of ASCE 7.
- Anchorage to minimum 1/2-inch thick steel angle complying with ASTM A36.
- Anchorage to minimum 6-inch thick 4,000psi cracked concrete installation condition.
- Anchorage to minimum 6-inch thick 2,500psi uncracked concrete installation condition.
- Minimum nominal embedment (H_{nom}) of 3 inches / effective embedment (H_{ef}) of 2.16 inches.
- Other live loads listed in Section 4.2.1 must also be taken into consideration.

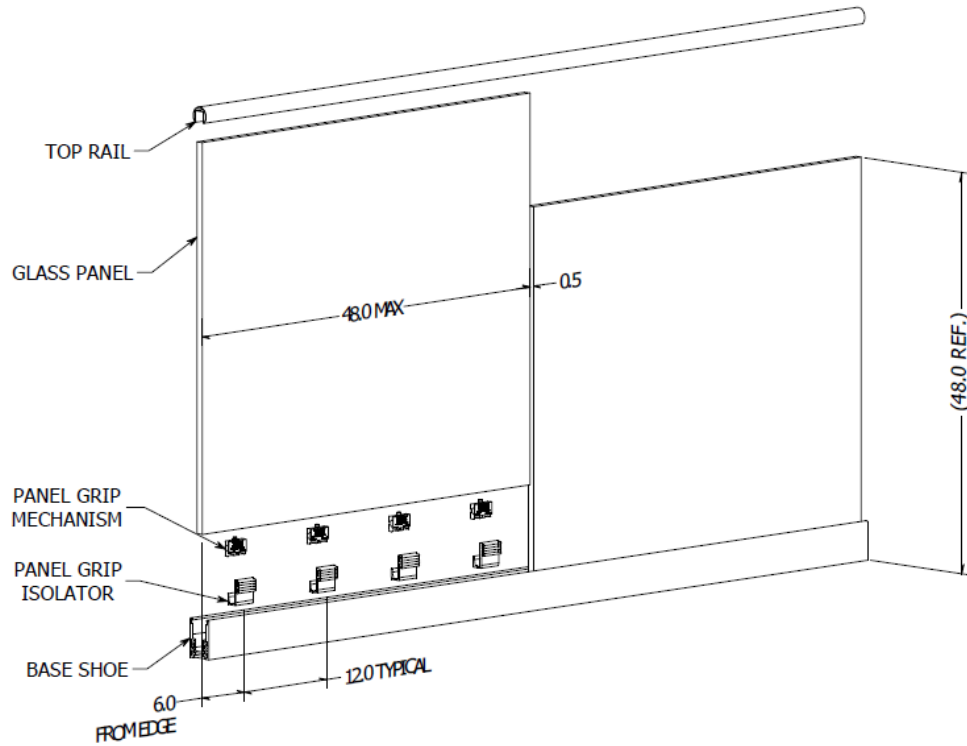


FIGURE 1—DEPICTION OF GUARD RAIL ASSEMBLY COMPONENTS (INCHES)

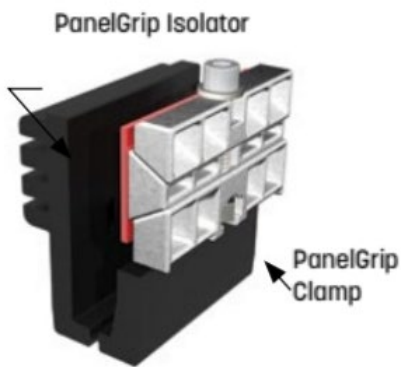


FIGURE 2—PANELGRIP 2

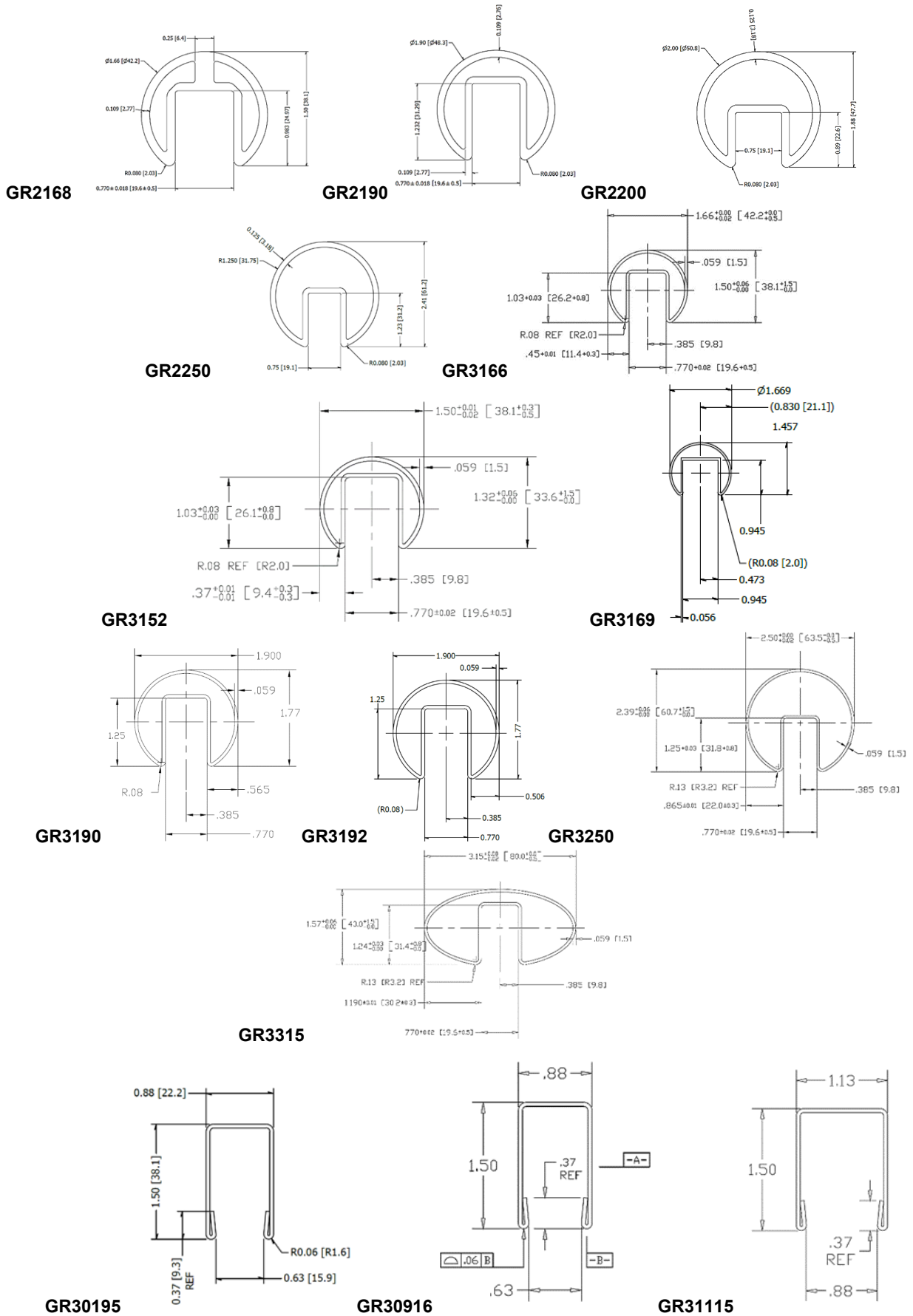


FIGURE 3—TOP RAIL PROFILES

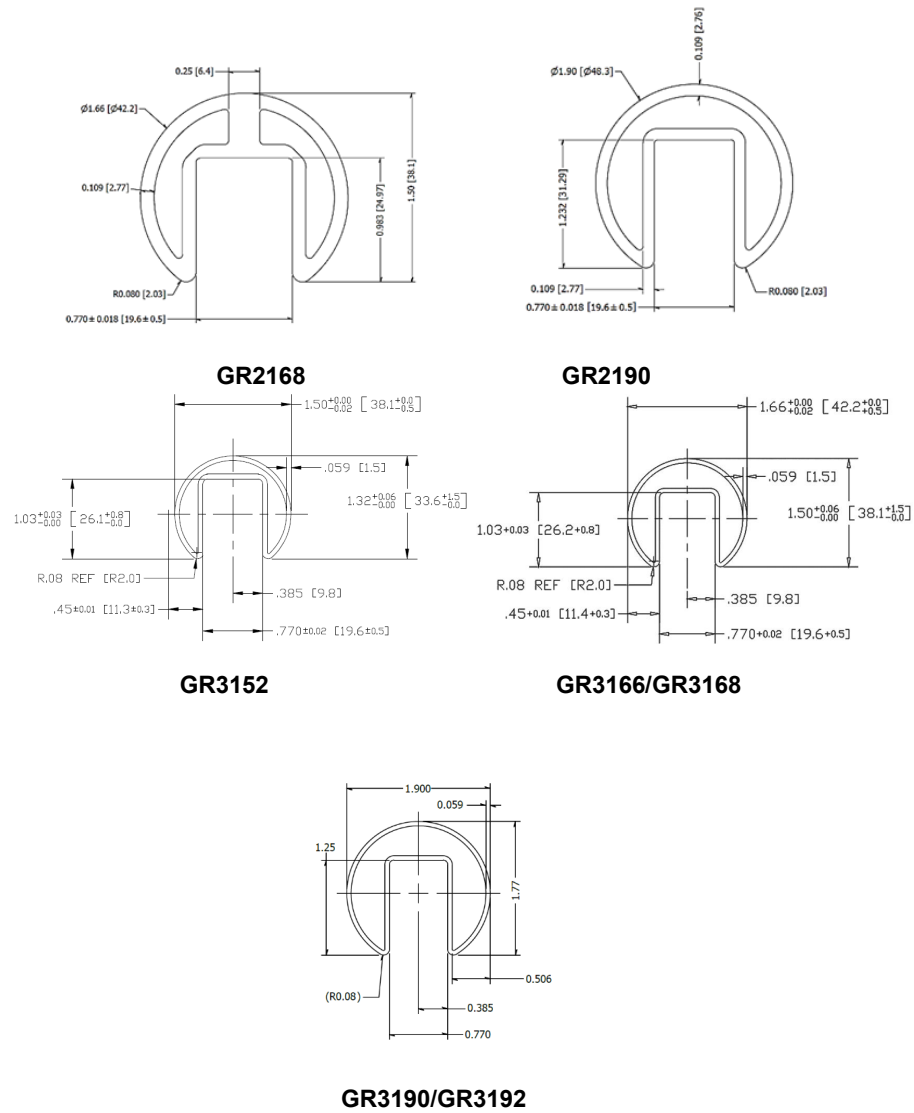


FIGURE 4—LIT HANDRAIL PROFILES

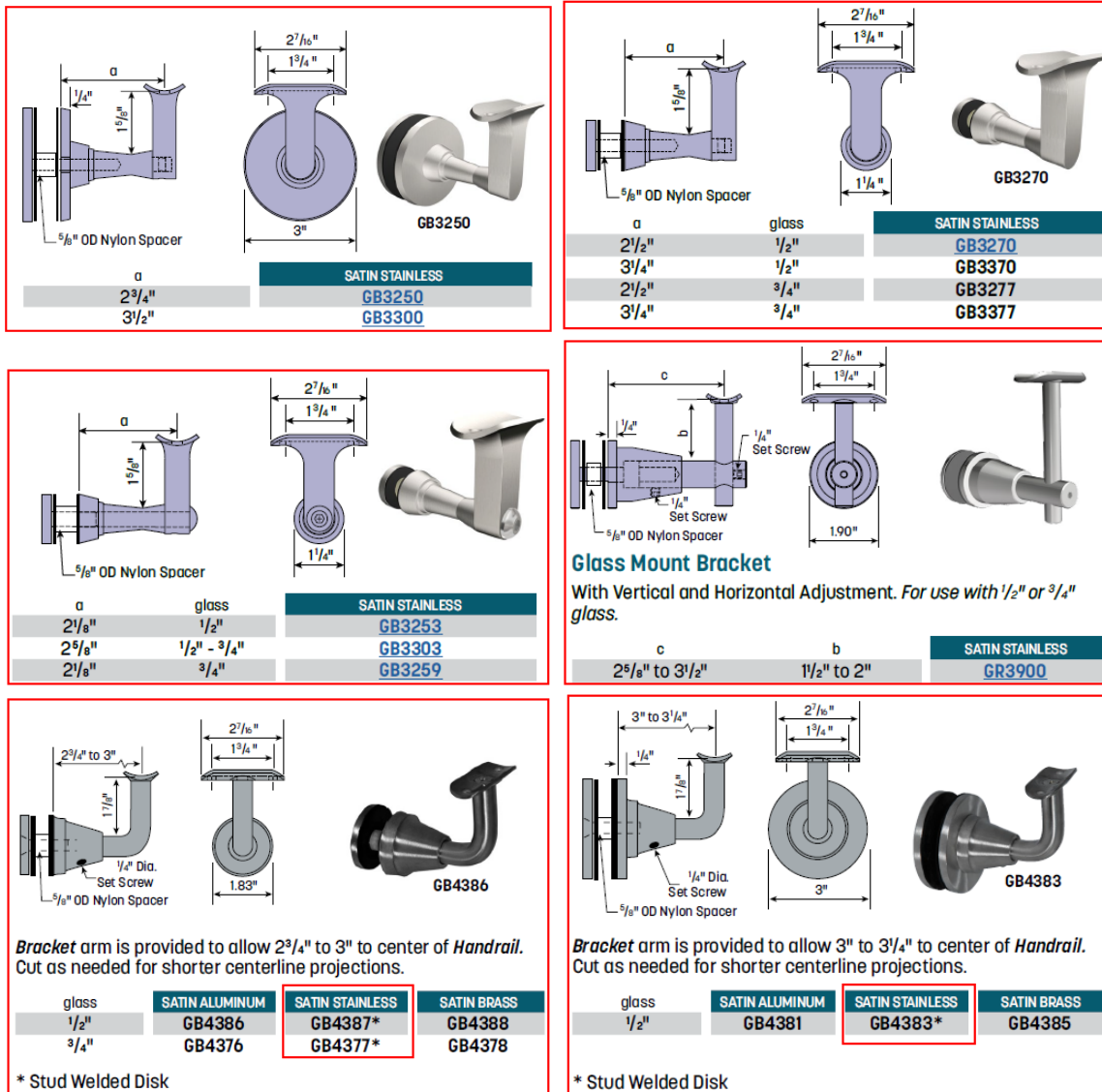


FIGURE 5— HANDRAIL BRACKETS

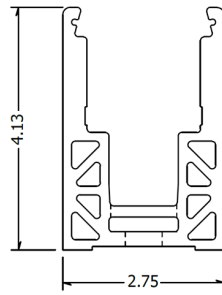
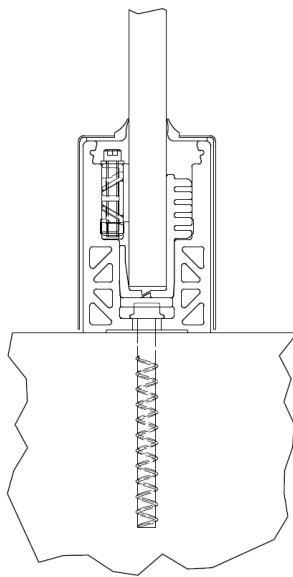
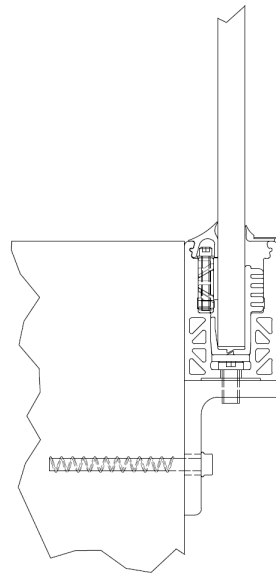


FIGURE 6—GR2457HCB BASE SHOE PROFILE



7.1 Concrete Surface Mount



7.2 Concrete Fascia Mount*

*Design of steel angle and mounting of angle to concrete substrate is outside scope of this report

FIGURE 7—SURFACE MOUNTED AND FASCIA MOUNTED DETAILS



FIGURE 8—PANELGRIP 2 SUPPORT, BASE SHOE, AND GLASS ASSEMBLY

DIVISION: 05 00 00—METALS
Section: 05 52 00—Metal Railings
Section: 05 73 13—Glazed Decorative Metal Railings

DIVISION: 08 00 00—OPENINGS
Section: 08 81 00—Glass Glazing
Section: 08 88 00—Special Function Glazing

REPORT HOLDER:

R & B WAGNER, INC.

EVALUATION SUBJECT:

PANELGRIP2 GLASS PANEL RAILING SYSTEM

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that PanelGrip2 Glass Panel Railing System, described in ICC-ES evaluation report ESR-3950, has also been evaluated for compliance with the code noted below.

Applicable code edition:2019 *California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

2.0 CONCLUSIONS**2.1 CBC:**

The PanelGrip2 Glass Panel Railing System, described in Sections 2.0 through 7.0 of the evaluation report ESR-3950, complies with CBC Chapters 10 and 24, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 10, 16, and 24, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections of the CBC are beyond the scope of this supplement.

This supplement expires concurrently with the evaluation report, reissued January 2024.

DIVISION: 05 00 00—METALS
Section: 05 52 00—Metal Railings
Section: 05 73 13—Glazed Decorative Metal Railings

DIVISION: 08 00 00—OPENINGS
Section: 08 81 00—Glass Glazing
Section: 08 88 00—Special Function Glazing

REPORT HOLDER:

R & B WAGNER, INC.

EVALUATION SUBJECT:

PANELGRIP2 GLASS PANEL RAILING SYSTEM

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that the PanelGrip2 Glass Panel Railing System, described in ICC-ES evaluation report ESR-3950, has also been evaluated for compliance with the code noted below.

Applicable code edition:2017 *Florida Building Code—Building***2.0 CONCLUSIONS**

The PanelGrip2 Glass Panel Railing System, described in Sections 2.0 through 7.0 of the evaluation report ESR-3950, complies with the *Florida Building Code—Building*, provided the design and installation are in accordance with the 2015 *International Building Code*® provisions noted in the evaluation report.

Use of the PanelGrip2 Glass Panel Railing System for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* has not been evaluated and is outside the scope of this supplemental report.

For products falling under Florida Rule 9N-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued January 2024.