2000/2000W

Handrails



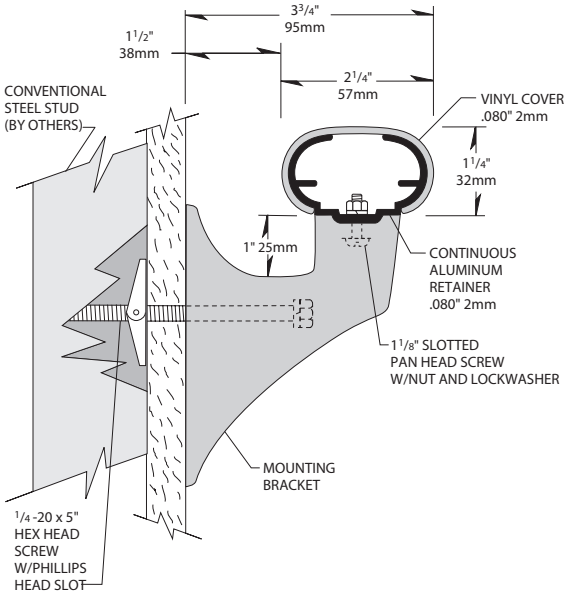
2000



2000W



Optional
Stainless Steel
Bracket



- Smooth, ergonomically inspired surface increases mobility and independence
- 1-1/4" (32mm) x 2-1/4" (57mm) gripping surface
- Mounted on a sturdy .080" (2mm) thick, continuous aluminum retainer
- .080" (2mm) thick, scratch and stain resistant rigid vinyl cover
- 2000W includes black reveals for returns and corners
- Two available bracket styles
- Easy installation, clean-up and maintenance
- Approved in California by OSHPD for hospital use
- Meets ADA and ANSI criteria
- Manufactured in 12' (3.66m) standard lengths
- All mounting fasteners are included with each order
- Removable bottom access plate allows option to fasten to wall
- 2000W Model – Manufactured with Woodland pattern full wrap
- Meets the most rigorous standards and criteria of chemical emissions as prescribed by the GREENGUARD Environmental Institute
- Has been tested and meets GREENGUARD Environmental Institute's and the state of California's requirements for low emitting products as tested by Air Quality Sciences
- Has been tested and meets the GREENGUARD Children & School chemical emissions levels

GREENGUARD® Indoor Air Quality Certified

IPC.334/REV.11

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Suggested Specifications

PART 1 – GENERAL
1.01 SUMMARY
A. Handrail systems for pedestrian safety and wall protection
1.02 SECTION INCLUDES
A. 2000/2000W Handrail Systems
1.03 REFERENCES
A. American National Standards Institute (ANSI)
B. American Society for Testing and Materials (ASTM)
C. Americans with Disabilities Act (ADA)
D. National Building Code of Canada (NBC)
E. National Fire Protection Association (NFPA)
F. Office of Statewide Health Planning and Development (OSHPD)
G. Society of Automotive Engineers (SAE)
H. Underwriters Laboratory (UL)
I. Underwriters Laboratory of Canada (ULC)
J. Uniform Building Code (UBC)
1.04 QUALITY ASSURANCE
A. Performance Requirements: Provide handrail systems that conform to the following requirements of regulatory agencies and the quality control of IPC Door and Wall Protection Systems, Inpro Corporation.
1. Fire Performance Characteristics: Provide UL Classified handrails conforming with NFPA Class A fire rating. Surface burning characteristics, as determined by UL-723 (ASTM E-84), shall be flame spread of 10 and smoke development of 350 - 450. Provide ULC (Canada) listed handrails conforming to the requirements of the National Building Code of Canada 2010, Subsection 3.1.13. Surface burning characteristics, as determined by CAN/ULC-S102.2, shall be flame spread of 15 and smoke developed of 35.
2. Self Extinguishing: Provide handrails with a CC1 classification, as tested in accordance with the procedures specified in ASTM D-635-74, Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position, as referenced in UBC 52-4-1988.
3. Impact Strength: Provide rigid vinyl profile materials that have an Impact Strength of 30.2 ft-lbs/inch of thickness as tested in accordance with the procedures specified in ASTM D-256-90b, Impact Resistance of Plastics.
4. Chemical and Stain Resistance: Provide handrails that show resistance to stain when tested in accordance with applicable provisions of ASTM D-543.
5. GREENGUARD Certified: Provide GREENGUARD Certified material. Profiles shall meet the requirements of GREENGUARD Certification Standards for Low-Emitting Products and GREENGUARD Product Emission Standard for Children & Schools.
6. Fungal and Bacterial Resistance: Provide rigid vinyl that does not support fungal or bacterial growth as tested in accordance with ASTM G-21 and ASTM G-22.
7. Color Consistency: Provide components matched in accordance with SAE J-1545 - (Delta E) with a color difference no greater than 1.0 units using CIE Lab, CIE CMC, CIE LCh, Hunter Lab or similar color space scale systems.
8. Code Compliance: Provide handrails that comply with all current ANSI and ADA requirements. In California, IPC Handrails are approved by OSHPD for use in Hospitals. OSHPD approval #R-0232.
1.05 SUBMITTALS
A. Product Data: Manufacturerís printed product data for each type of handrail specified.
B. Detail Drawings: Mounting details with the appropriate fasteners for specific project substrates.
C. Samples: Verification samples of handrail, 8" (203mm) long, in full size profiles of each type and color indicated.
D. Manufacturerís Installation Instruction: Printed installation instructions for each handrail.
1.06 DELIVERY, STORAGE AND HANDLING
A. Deliver materials in unopened factory packaging to the jobsite.
B. Inspect materials at delivery to assure that specified products have been received.
C. Store in original packaging in a climate controlled location away from direct sunlight.
1.07 PROJECT CONDITIONS
A. Environmental Requirements: Products must be installed in an interior climate controlled environment.
1.08 WARRANTY
A. Standard IPC Limited Lifetime Warranty against material and manufacturing defects.

PART 2 – PRODUCTS
2.01 MANUFACTURER
A. Acceptable Manufacturer: IPC Door and Wall Protection Systems, Inpro Corporation, PO Box 406 Muskego, WI 53150 USA; Telephone: 800.222.5556, Fax: 888.715.8407, www.inprocorp.com
B. Substitutions: Not permitted
C. Provide all handrails and wall protection form a single source.
2.02 MANUFACTURED UNITS
A. Handrail Profile
1. 2000 Handrail, $1\frac{1}{4}$" (32mm) x $2\frac{1}{4}$" (57mm) gripping surface, extends $3\frac{3}{4}$" (95mm) from wall.
2. 2000W Handrail, $1\frac{1}{4}$" (32mm) x $2\frac{1}{4}$" (57mm) gripping surface, extends $3\frac{3}{4}$" (95mm) from wall. Handrail has a full-wrap woodgrain pattern. Returns and corners include reveals.
3. Options: Curved handrail, specify radius. Minimum radius – 3 feet (.91m)
2.03 MATERIALS
A. Vinyl: Snap-on covers of .080" (2mm) thickness shall be extruded from chemical and stain resistant unplasticized polyvinyl chloride (uPVC) with the addition of impact modifiers. No plasticizers shall be added (plasticizers may aid in bacterial growth). Accent strips when used shall be of polyvinyl chloride (PVC).
B. Aluminum: Continuous aluminum retainer of .080" (2mm) thickness shall be fabricated from 6063-T5 aluminum with a mill finish.
C. Stainless Steel: Stainless Steel Brackets shall be made of type 201SS with type 304 stainless steel flange cover.
2.04 COMPONENTS
A. Returns, inside corners, outside corners and brackets shall be made of injection molded thermoplastics.
B. Molded reveals shall have a smooth finish and shall be black.
C. Fasteners: All mounting system accessories appropriate for substrates indicated on the drawing shall be provided, unless installer supplied is indicated.
2.05 FINISHES
A. Vinyl Covers: Handrail colors to be selected by the architect from the IPC finish selection. Surface shall have a pebblette texture.
B. Molded components: Inside corners, outside corners, returns and brackets shall be of a color matching the handrails. Surface shall have a pebblette texture.
C. Stainless Steel: Stainless steel brackets shall have a satin finish.

PART 3 – EXECUTION
3.01 EXAMINATION
A. Examine areas and conditions in which the handrail systems will be installed.
1. Complete all finishing operations, including painting, before beginning installation of handrail system materials.
2. Wall surface shall be dry and free from dirt, grease and loose paint.
3.02 PREPARATION
A. General: Prior to installation, clean substrate to remove dust, debris and loose particles.
3.03 INSTALLATION
A. General: Locate handrail as indicated on approved detail drawings for the appropriate substrate and in compliance with the IPC installation instructions. Install handrail level and plumb at the height indicated on the drawings.
B. Installation of 2000/2000W Handrails: Material must be stored, installed and used in environmentally controlled conditions
1. Cut the aluminum retainer to the desired length, leaving appropriate allowance for returns, outside corners and inside corners. Allow $3\frac{15}{16}$" (100mm) for each return, and $5\frac{3}{8}$" (137mm) for each inside corner. If outside corners are used, the aluminum retainer should be $\frac{1}{4}$" (6mm) from the corner of the wall. Allow $\frac{1}{4}$" (6mm) for each 135˚ outside corner and $2\frac{3}{8}$" (60mm) from the corner of the wall for each 135˚ inside corner.
2. Drill holes in the centerline of the aluminum retainer for brackets, using a $\frac{1}{4}$" drill bit. Holes should be 4" (102mm) from the ends and spaced a maximum of every 32" (813mm). Also, holes should be drilled $\frac{1}{2}$" (13mm) from each end of the aluminum retainer using a $\frac{1}{4}$" drill bit to attach returns or corners.
3. Attach the brackets to the aluminum retainer using one $\frac{1}{4}$" x $1\frac{1}{8}$" slotted pan head bolt, one lock washer, and one 1/4" hex nut for each bracket. (2000W - Slide reveals onto returns and corners). Attach returns, inside corners and outside corners to the aluminum retainer using one $\frac{1}{4}$" x $1\frac{1}{8}$" slotted pan head bolt, one $\frac{1}{4}$" flat washer, one $\frac{1}{4}$" lock washer, and one $\frac{1}{4}$" hex nut for each return. To allow for adjustment, leave at least a $\frac{1}{16}$" (1.5mm) gap between the returns/corners and the end of the aluminum retainer when sliding the two components together.
a. Stainless Steel Brackets – The posts on stainless steel brackets are threaded. Slip the stainless steel cover over the post and then insert the threaded post through the hole on the retainer. Attach the post to the retainer with a $\frac{1}{4}$" lock washer and a $\frac{1}{4}$" hex head nut.
4. Position the aluminum retainer against the wall at the desired height. The distance between the centerline of the bracket mounting holes to the top of the handrail is approx. 3" (76mm). Level the retainer and transfer the locations of the bracket holes to the wall with a marker. Drill all marked holes on the wall with a $\frac{3}{4}$" drill bit for toggle wings or a $\frac{1}{2}$" drill bit for lead anchors.
5. Loosely attach the mounting bolts to the brackets (one $\frac{1}{4}$" x 5" hex head screw, one lock washer, and one toggle wing or lead anchor). For stainless steel brackets, use one $\frac{1}{4}$ - 20 x 3" hex head screw with phillips head slot, one $\frac{1}{4}$" lock washer and one toggle wing or lead anchor. Mount the aluminum retainer assembly into the holes on the wall using the provided fasteners. Level and secure the retainer to the wall.
a. Stainless Steel Brackets – After the handrail is level and the brackets are securely attached to the wall, snap the stainless steel cover over the mounting base.
6. Cut the vinyl cover to the distance between the returns and/or corners. NOTE: Trim all factory edges square before installation. Position the vinyl cover on the aluminum retainer to check the fit. Adjust returns/corners on the aluminum retainer to obtain a tight fit with the vinyl cover. Starting at one end, spread the opened edges of the vinyl cover and push the vinyl cover onto the aluminum retainer. Continue pushing the cover onto the retainer over the entire length until it is securely in place.
7. Left and right returns should be screwed into the wall for added strength. Remove the bottom plate on the return and fasten a screw (provided by the installer) into the wall through the hole located underneath the return. Re-attach the bottom plate by snapping into place.
3.04 CLEANING
A. At completion of the installation, clean surfaces in accordance with the IPC clean-up and maintenance instructions.

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