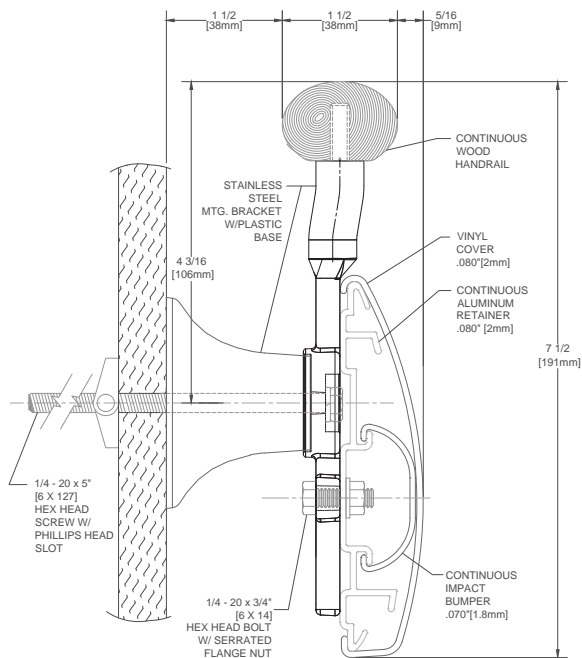


# 3540WV/3540WFV Silhouette Handrail

## Suggested Specifications



- 7-1/2" (191mm) height, 1-1/2" (38mm) x 1-1/16" (27mm) oval gripping diameter, extends 3-5/16" (85mm) from the wall
- 3540WV - Wood handrail available in red oak, maple or FSC® Certified Ash with and integrated vinyl wall guard
- Lower wall guard is mounted on a sturdy .080" (2mm) thick, continuous aluminum retainer
- Meets ADA and ANSI criteria
- Manufactured in 8' - 16' (2.44m - 4.88m) standard lengths
- All mounting fasteners are included with each order

IPC.2260/REV.2

# 3540WV/3540WFV Silhouette Handrail

## Suggested Specifications

### PART 1 GENERAL

#### 1.01 SUMMARY

A. Handrail systems for pedestrian safety and wall protection

#### 1.02 SECTIONS INCLUDES

A. 3540WV/3540WFV Silhouette Handrail System, oval wood handrail with integrated wall guard.

#### 1.03 REFERENCES

- A. American National Standards Institute (ANSI)
- B. American Society for Testing and Materials (ASTM)
- C. American with Disabilities Act (ADA)
- D. Environmental Protection Agency (EPA)
- E. Kitchen Cabinets Manufacturers Association (KCMA)
- F. National Building Code of Canada (NBC)
- G. National Emission Standards for Hazardous Air Pollutants (NESHAP)
- H. National Fire Protection Association (NFPA)
- I. Society of Automotive Engineers (SAE)
- J. Underwriters Laboratory (UL)
- K. Underwriters Laboratory of Canada (ULC)
- L. Uniform Building Code (UBC)

#### 1.04 SYSTEM DESCRIPTION

A. Performance Requirements: Provide wood handrail systems with integrated impact bumpers 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 impact bumper 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 impact bumper 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 impact bumpers 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 impact bumpers that show resistance to stain when tested in accordance with applicable provisions of ASTM D-543.
5. 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.
6. Color Consistency: Provide thermoplastic 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.
7. Cold, heat and chemical resistance: Provide wood handrail with a finish that complies with the applicable provisions of ANSI/KCMA A161.1-1990 for cold check, heat and chemical resistance.
8. Environmental compliance: Provide wood handrail and with a finish that does not off gas or emit any VOC, after a full cure, as tested in accordance to the EPA, NESHAP, Method 24, 40CFR, Volume 60, Appendix A.
9. Code Compliance: Provide handrails that comply with all

current ANSI and ADA requirements.

#### 1.05 SUBMITTALS

- A. Product Data: Manufacturer's printed product data for each product indicated in this section.
- B. Detail Drawings: Mounting details with appropriate fasteners for specific project substrates.
- C. Loaner Samples: Verification samples of handrail, 15" (381mm) long, in full size profiles with one return and one mounting bracket of each type and color indicated. Return samples to IPC after review.
- D. Manufacturer's Installation Instructions: 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 environment away from direct sunlight.

#### 1.07 WARRANTY

- A. Standard IPC limited lifetime warranty against material and manufacturing defects.

### PART 2 PRODUCTS

#### 2.01 MANUFACTURERS

- A. Acceptable Manufacturer: IPC Door and Wall Protection Systems, InPro Corporation  
PO Box 406, Muskego, WI 53150 USA  
Telephone 800-543-1729, Fax: 888-715-8407  
Internet address: www.inprocorp.com
- B. Substitutions: Not permitted
- C. Provide all handrails and wall protection from a single manufacturer.

#### 2.02 MANUFACTURED UNITS

- A. Wood Handrail
  1. 3540WV Silhouette Handrail, 7-1/2" (191mm) height, 1-1/2" (38mm) x 1-1/16" (27mm) oval gripping diameter, system extends 3-5/16" (85mm) from the wall. Integrated vinyl cover, 5" (127mm) high. Inner impact bumper, 1-7/8" (48mm) high.
    - a. Stainless steel handrail returns and corners, standard; Wood handrail. returns and corners, optional.
    - b. Options: Curved handrail, specify radius. Minimum radius - 3 feet (91m)
  2. 3540WFV Silhouette Handrail, 7-1/2" (191mm) height, 1-1/2" (38mm) x 1-1/16" (27mm) oval gripping diameter, system extends 3-5/16" (85mm) from the wall. Integrated vinyl cover, 5" (127mm) high. Inner impact bumper, 1-7/8" (48mm) high. Wall guard shall have a full wrap faux-wood pattern.
    - a. Stainless steel handrail returns and corners, standard; Wood handrail. returns and corners, optional.
    - b. Options: Curved handrail, specify radius. Minimum radius - 3 feet (91m)

#### 2.03 MATERIALS

- A. Wood: Shall be FAS grade, kiln dried, solid maple or red oak with moisture content of 5-9%.
- B. Forest Stewardship Council® Certified Wood: Shall be kiln dried solid FSC® Certified Ash.
- C. 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). Inner snap-on vinyl impact bumper of .070" (1.8mm) 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). Woodland pattern when used shall be of polyvinyl chloride (PVC).  
D. Aluminum: Continuous aluminum retainer of .080" (2mm) thickness shall be fabricated from 6063-T5 aluminum, with a mill finish.  
E. Stainless Steel: Brackets, returns and corners shall be made of type 201 stainless steel.

#### 2.04 COMPONENTS

- A. Handrail returns, outside corners and inside corners shall be stainless steel or solid wood and a finish to match handrails.
- B. Molded inside corners, outside corners and brackets shall be made of injection molded thermoplastic.
- C. Fasteners: All mounting systems accessories appropriate for substrates indicated on the drawings shall be provided.

#### 2.05 FINISHES

- A. Wood Stain: Color of the handrail to be selected, by the architect, from the IPC stain selection.
- B. Wood Finish: Handrail shall be finished with two coats of pre-catalyzed finish. Finish shall be a low luster satin finish.
- C. Vinyl Covers: Color of the vinyl cover to be selected, by the architect, from the IPC finish selection. Surface shall have a pebblette texture.
- D. Inner Impact Bumper: Color of the inner impact bumper to be black.
- E. Molded Components: Returns, inside corners, outside corners and brackets shall be of a color and texture matching the vinyl covers.
- F. Stainless Steel: Handrail returns and corners shall be #4 satin finish. Exposed surfaces of brackets shall be #4 satin finish.

### PART 3 EXECUTION

#### 3.01 INSTALLERS

- A. Installer should be familiar with the installation of fine finished wood products.

#### 3.02 EXAMINATION

- A. Examine areas and conditions in which handrail 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.

#### 3.03 PREPARATION

- A. General: Prior to installation, clean substrate to remove dust, debris and loose particles.

#### 3.04 INSTALLATION

- A. General: Locate the handrail as indicated on the approved detail drawing for the appropriate substrate and in compliance with the IPC installation instructions. Install handrail level and plumb at the height indicated on the drawings.

#### 3.05 CLEANING

- A. At completion of the installation, clean surfaces in accordance with the IPC clean-up and maintenance instructions.

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