SECTION 05 52 00

HANDRAILS AND RAILINGS

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\*\* NOTE TO SPECIFIER \*\* Safety Rail Company; OSHA compliant fall protection systems products.
This section is based on the products of Safety Rail Company, which is located at:4244 Shoreline Dr.Spring Park, MN 55384Toll Free Tel: 888-434-2720Fax: 888-471-4931 Email: [request info (sales@safetyrailcompany.com)](https://arcat.com/rfi?action=email&company=Safety%252BRail%252BCompany&message=RE%253A%2520Spec%2520Question%2520(05520src)%253A%2520&coid=47628&spec=05520src&rep=&fax=888-471-4931%2520)
Web: <http://www.safetyrailcompany.com>
 [ [Click Here](https://arcat.com/company/safety-rail-company-47628) ] for additional information.
Safety Rail Company makes OSHA compliant fall protection systems that are durable and innovative but still affordable. With years of industry experience, our products are engineered first and foremost to SAVE LIVES. Beyond the primary goal of safety, we take our products a step further making them easier to assemble, configure, use, and store.
Our team of safety experts takes pride in our 100 percent American Made fall protection systems and the personal service we provide to our customers. We are firmly committed to providing:
Dedicated one-on-one service
Free in depth consultations to ensure you have the exact system you need
Free, fast 3-D Cad modeling of your system
Ongoing partnerships that you can depend on for years to come
Call us today to discuss your fall protection needs or please visit us at our 50,000 sq ft (4645 sq m) manufacturing facility in the Minneapolis area. We look forward to hearing from you!!

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Non-penetrating railing system for roof edge fall protection.
		2. Permanent guard rails.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 07 42 00 - Wall Panels.
		2. Section 07 41 13 - Metal Roof Panels.
		3. Section 07 41 13 - Metal Roof Panels.
		4. Section 07 61 00 - Sheet Metal Roofing.
		5. Section 05 50 00 - Metal Fabrications.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American National Standards Institute (ANSI):
			1. ANSI A14.3 - American National Standards for Ladders - Fixed - Safety Requirements.
		2. American Welding Society (AWS):
			1. AWS D1.1 - Structural Welding Code - Steel.
			2. AWS D1.3 - Structural Welding Code - Sheet Steel.
		3. British Standard (BS):
			1. BS 970 - Specification for wrought steels for mechanical and allied engineering purposes. General inspection and testing procedures and specific requirements for carbon, carbon manganese, alloy, and stainless steels.
			2. BS EN 1562 - Founding. Malleable Cast Irons.
		4. California Occupational Safety and Health Administration (CAL OSHA):
			1. 1620 - Design of Temporary Railing.
			2. 1621 - Railings and Toe Boards.
			3. 3211 - Wall Openings.
			4. 3212 - Floor Openings, Floor Holes, and Roofs.
			5. 3213 - Service Pits and Yard Surface Openings.
			6. 3214 - Stair Rails and Handrails.
		5. Occupational Safety and Health Administration (OSHA):
			1. 29 CFR 1910.23 - Fixed Ladders.
			2. 29 CFR 1910.28 - Duty to Have Fall Protection and Falling Object Protection.
			3. 29 CFR 1910.29 - Walking-Working Surfaces.
			4. 29 CFR 1926.500 - Scope, Application, and Definitions Applicable to this Subpart.
			5. 29 CFR 1926.501 - Duty to Have Fall Protection.
			6. 29 CFR 1926.502 - Fall Protection Systems Criteria and Practices.
			7. 29 CFR 1926.503 - Training Requirements.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		3. Shop Drawings: Drawings showing plans, elevations, sections, and details of components. Show member sizes and part identification, fasteners, anchors, fittings, and evidence of compliance with structural performance requirements.
		4. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
		5. Manufacturer's Certificates:
			1. Certify that Railings and Base Castings are made in USA. Provide steel mill and foundry certificates for verification prior to shipment.
			2. Manufacturer must be American Welding Society Welding Certified for Welding Standards AWS D1.1 and AWS D1.3. Third party qualification documentation required prior to shipment.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Deliver materials to the job site in good condition and adequately protected against damage as handrails are a finished product.
		2. Inspect rail sections for damage before signing the receipt from the trucking company. Truck driver must note damaged goods on the bill of lading if damaged product is found.
		3. Store products in manufacturer's unopened packaging until ready for installation.
		4. Products to be palletized and labeled by roof level or designated drop zone.
	3. PROJECT CONDITIONS
		1. Field Measurements: Where handrails and railings are indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication.
	4. WARRANTY
		1. Warranty: Provide manufacturer's limited two year warranty.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Safety Rail Company, which is located at:4244 Shoreline Dr.Spring Park, MN 55384Toll Free Tel: 888-434-2720Fax: 888-471-4931 Email: [request info (sales@safetyrailcompany.com)](https://arcat.com/rfi?action=email&company=Safety%252BRail%252BCompany&message=RE%253A%2520Spec%2520Question%2520(05520src)%253A%2520&coid=47628&spec=05520src&rep=&fax=888-471-4931%2520);Web: <http://www.safetyrailcompany.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete article it not required.

* 1. NON-PENETRATING RAILING SYSTEM

\*\* NOTE TO SPECIFIER \*\* Delete paragraph if not required.

* + 1. Roof Edge Protection: Provide Safety Rail Company freestanding pedestrian egress barrier system on roof, including pipe railings, uprights, bases, accessories, and fittings.
			1. Product: SRC360 Mobile Safety Rail System.
				1. System top and mid rail provided in accordance with OSHA Standards - 29 CFR 1910.29 (b)(1-14).
				2. Structural Load: 200 lbs (90.7 kg), minimum, in any direction to all components in accordance with OSHA Regulation 29 CFR 1926.502.
			2. Height: 42 inches (1067 mm), minimum.
			3. Railings: 1-5/8 inch (41 mm) O.D. x 0.065 inch \*1.65 mm) wall thickness, hot rolled pickled electric weld steel tubing, free of sharp edges and snag points.
			4. Mounting Bases: 104 lbs (47.2 kg) Class 30 gray iron material cast with four receiver posts. Provide rubber pads on bottom of bases.
			5. Receiver Posts: Provided with a positive locking system into receiver holes that allow rails to be mounted in any direction. Receiver posts shall have drain holes.
			6. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - * 1. Toe Board Brackets.
				2. Finishing Rail: D-shaped railing extension for ladder landings, length of rail section and D-loop as indicated on the Drawings and as required.
				3. Ladder Spanner Brackets: Provide brackets at ladder transition points as required.
			1. Securing Pins: 1010 carbon steel, zinc plated, and yellow chromate dipped. Pins shall consist of collared pin and latch that connects to lynch pin.
			2. Product Origin: Railings and Base Castings are specified as 100 percent made in USA. Manufacturer must provide steel mill and foundry certificates for verification prior to shipment.
			3. Quality/Standards Certifications: Manufacturer must be American Welding Society Welding Certified for Welding Standards AWS D1.1 and AWS D1.3 Third party qualification documentation required prior to shipment
			4. Accessories:
				1. Roof Pads: Provide the following pad under each base to protect roof membrane.

Approved Product: Part No. 150142 Roof Pad.

* + - * 1. Base Mover: Provide two-wheeled steel cart to transport one base unit.

Approved Product: Part No. 400062 Safety Rail Company Base Mover.

* + - 1. Finish: Steel surfaces.

\*\* NOTE TO SPECIFIER \*\* Select the finish and color required from the following paragraphs. Delete those not required.

* + - * 1. Hot Dip Zinc Galvanized.
				2. Factory finished powder coat paint.
				3. Hot Dip Zinc Galvanized and Factory finished powder coat paint.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - * 1. Color: None.
				2. Color: Safety Yellow.
				3. Color: \_\_\_\_\_\_.
				4. Color: Specified by Architect.

\*\* NOTE TO SPECIFIER \*\* Delete Paragraph when not required.

* + 1. Roof Edge Protection: Provide Safety Rail Company freestanding pedestrian egress barrier system on roof, including pipe railings, uprights, bases, accessories, and fittings.
			1. Product: ACCU-FIT Mobile Safety Rail System.
			2. Height: 42 inches (1067 mm), minimum.
			3. Horizontal Railings: NPS 1-1/4 (DN 32) schedule 40 galvanized steel pipe 21 ft (6.4 m) lengths.
			4. Pipe Railing Connections: Join pipe lengths together with approved splice fittings. Tighten all set screw connections to 29 ft lbs (39.3 Nm)
			5. Modular Pipe Fittings: Cast iron. Manufactured to requirements of ASTM A47-77-32510

\*\* NOTE TO SPECIFIER \*\* Delete stanchion options not required.

* + - 1. Stanchions: Traditional; straight. 1-1/4 inch (DN 32) schedule 40 pipe x 42 inches (1067 mm) tall in base.
			2. Stanchions: Architectural; curved. 1-1/4 inch ((DN 32) schedule 40 pipe x 42 inches (1067 mm)tall in base.
			3. Stanchions: Designer; curved. 0.38 inch HRP x 42 inch (1067 mm)tall in base.

\*\* NOTE TO SPECIFIER \*\* Delete base plate option not required.

* + - 1. Freestanding Mobile Base Plate: 104 lbs (47.2 kg) Class 30 gray iron material cast with four post receivers. Provide rubber pads on bottom of bases. Receiver posts shall have drain holes. Stanchion to be pinned into base plate with 3 inch (76 mm) Z-pin.
			2. Mechanically Fastened Base Plate: Galvanized base plates with appropriate fastening interface to mechanically attach to metal roof panels. Stanchion to be pinned into base plate with 3 inch (76 mm) Z-pin.
				1. Standing seam metal roof, non-penetrating
				2. R-Panel metal roof, mechanical penetration
				3. Corrugated metal roof, mechanical penetration
			3. Securing Pins: 1010 carbon steel, zinc plated, and yellow chromate dipped. Pins shall consist of collared pin and latch.
			4. Product origin: Railings and Base Castings are specified as 100 percent made in USA. Manufacturer must provide steel mill and foundry certificates for verification prior to shipment.
			5. Quality/Standards Certifications: Manufacturer must be American Welding Society Welding Certified for Welding Standards AWS D1.1 and AWS D1.3 Third party qualification documentation required prior to shipment.
			6. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessory if not required.

* + - * 1. Toe Board Brackets: Provide brackets as manufactured by Safety Rail Company LLC as required.
				2. Finishing Rail: D-shaped railing extension for ladder landings, length of rail section and D-loop as indicated on the Drawings as required.
				3. Ladder Spanner Brackets: Provide brackets at ladder transition points as required.
				4. Roof Pads: A pad under each base to protect roof membrane. Part No.150142.
				5. Base Mover: 2-wheeled steel cart to transport one base unit. Part No. 400062.
			1. Finish: Steel surfaces.

\*\* NOTE TO SPECIFIER \*\* Select the finish and color required from the following paragraphs. Delete those not required.

* + - * 1. Hot Dip Zinc Galvanized.
				2. Factory finished powder coat paint.
				3. Hot Dip Zinc Galvanized and factory finished powder coat paint.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - * 1. Color: None.
				2. Color: Safety Yellow.
				3. Color: \_\_\_\_\_\_.
				4. Color: Specified by Architect.

\*\* NOTE TO SPECIFIER \*\* Delete Paragraph when not required.

* + 1. Roof Edge Protection: Clamp-on personnel barrier railing system for parapet walls on building roofs, including clamps, railings, and safety connector pins.
			1. Product: SRC Parapet Wall Clamp-on Railing System.
			2. Select proper sized clamps to fit parapet wall width and railing sizes to fit wall length and select railing finish.

\*\* NOTE TO SPECIFIER \*\* Delete parapet clamps options not required.

* + - 1. Parapet Clamps: 1 to 6 inch (25 to 152 mm) parapet wall width. Finish: Zinc plate.
			2. Parapet Clamps: 6 to 12 inch (152 to .305 mm) parapet wall width. Finish: Zinc plate.
			3. Parapet Clamps: 12 to 24 inch (305 to 610 mm) parapet wall width. Finish: Zinc plate.
			4. Standards:
				1. Top and Mid Rail: In accordance with OSHA Standards - 29 CFR 1910.29 (b)(2). Mid rail may be exempt if parapet wall is in excess of 22 inches (559 mm) tall.
				2. Structural Load: 200 lbs (90.7 kg), minimum, in any direction to all components in accordance with OSHA Regulation 29 CFR 1926.502.
			5. Rail Height: 42 inches (1067 mm) above walking surface must be maintained for OSHA compliance.

\*\* NOTE TO SPECIFIER \*\* Delete railing options not required.

* + - 1. Railings: 1.625 inch (41 mm) O.D. with 0.065 inch (1.65 mm) wall W HREW tubing, free of sharp edges and snag points. Railings height can be custom cut to size at factory or field trimmed to size.
			2. Optional Accu-Fit Railings: Galvanized Pipe Railings: 1-1/4 inch (DN 32) schedule 40 pipe, to be assembled free of sharp edges and snag points. Field trim pipes to fit application on corners or terminations.
				1. Accu-Fit Pipe Railing Connections; Join pipe lengths together with approved galvanized splice fittings. Tighten all set screw connections to 29 ft lbs (39.3 Nm)
				2. Accu-Fit Pipe Fitting to be galvanized cast iron fittings manufactured to the requirements of ASTM A47-77-32510
				3. Accu-Fit Stanchions: Vertical profile, constructed of 1-1/4 inch (DN 32) schedule 40 galvanized pipe. Accu-Fit railings may be top coated with custom RAL color to match building facade.
			3. Hardware: 1010 carbon steel, zinc plated pin secures railing to clamp. Secondary Socket Head Cap Screw, 3/8-16 UNC locks railings into clamp.
			4. Product Origin: Railings and Clamps are specified as 100 percent made in USA. Manufacturer must provide steel mill and foundry certificates for verification upon request
			5. Quality/Standards Certifications: Manufacturer must be American Welding Society welding qualified for Welding Standards AWS D1.1 and AWS D1.3 Third party qualification documentation required prior to shipment
			6. Finish: Steel surfaces.

\*\* NOTE TO SPECIFIER \*\* Select the finish and color required from the following paragraphs. Delete those not required.

* + - * 1. Hot Dip Zinc Galvanized.
				2. Factory finished powder coat paint.
				3. Hot Dip Zinc Galvanized and factory finished powder coat paint.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - * 1. Color: None.
				2. Color: Safety Yellow.
				3. Color: \_\_\_\_\_\_.
				4. Color: Specified by Architect.

\*\* NOTE TO SPECIFIER \*\* Delete article it not required.

* 1. PERMANENT GUARD RAILS
		1. Roof Edge Protection: Provide Safety Rail Company permanently attached pedestrian egress barrier system on roof, including pipe railings, bases, accessories, and fittings.

\*\* NOTE TO SPECIFIER \*\* Delete products not required.

* + - 1. Product: Floor Mount Guardrail System.
			2. Product: Face Mount Guardrail System.
			3. Product: Flush Mount Guardrail System.
			4. System top and mid rail provided in accordance with OSHA Standards - 29 CFR 1910.29 (b)(1-14).
			5. Structural Load: 200 lb (90.7 kg), minimum, in any direction to all components in accordance with OSHA Regulation 29 CFR 1926.502.
			6. Tested and independently certified to be in accordance with OSHA fall protection for guardrail regulations, sections 29 CFR 1910.29, 29 CFR 1926.500, 29 CFR 1926.502 and 29 CFR 1926.503.
			7. Railings: 1-5/8 inch (41 mm) O.D. hot rolled pickled electric weld tubing, free of sharp edges and snag points.
				1. Railing to be removable from the bases by removing a retention pin.
				2. Railing to be permanently attached to bases and building structure.

\*\* NOTE TO SPECIFIER \*\* Delete height not required.

* + - 1. Height: 42 inches (1067 mm), minimum.
			2. Height: 48 inches (1219 mm), minimum.

\*\* NOTE TO SPECIFIER \*\* Delete lengths not required.

* + - 1. Length: Available in 1 ft (305 m) increments from 2 to 10 ft (0.61 to 3.05 m) measures to the center of each leg post.
			2. Length (ft / m): \_\_\_\_\_\_.
			3. Length: As specified by Architect.
			4. Single Post Receivers: The first and last piece of a safety railing installation.
			5. Double Post Receiver: The intermediate receiver for in-line railing runs.
			6. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

* + - * 1. Toe Boards.
				2. Safety Gates.
			1. Finish: Steel surfaces.

\*\* NOTE TO SPECIFIER \*\* Select the finish and color required from the following paragraphs. Delete those not required.

* + - * 1. Hot Dip Zinc Galvanized.
				2. Factory finished powder coat paint.
				3. Hot Dip Zinc Galvanized and factory finished powder coat paint.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - * 1. Color: None.
				2. Color: Safety Yellow.
				3. Color: \_\_\_\_\_\_.
				4. Color: Specified by Architect.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions, approved submittals and in proper relationship with adjacent construction.
	4. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION