SECTION 05 51 00

FIXED METAL LADDERS

Display hidden notes to specifier. (Don't know how? [Click Here](https://www.arcat.com/sd/display_hidden_notes.shtml))

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\*\* NOTE TO SPECIFIER \*\* Alaco Ladder Company; fixed and folding aluminum wall ladders and ship's ladders.
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 This section is based on the products of Alaco Ladder Company, which is located at:
 5167 G Street
 Chino, CA 91710-5143
 Tel: 888-310-7040
 Fax: 909-591-7565
 Email: sales@alacoladder.com
 [ [Additional Product Data and Info](http://www.arcat.com/arcatcos/cos30/arc30245.cfm) ]
 .
 Alaco is a manufacturer of special purpose and custom designed ladders to fit a variety of residential, commercial, and industrial uses. Established over 100 years ago, Alaco engineers and manufactures a wide array of ladders for numerous applications. Ladders are Alaco's only business, and they are the experts in the field.
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1. GENERAL
	1. SECTION INCLUDES

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

* + 1. Fixed aluminum wall ladders.
		2. Fixed aluminum ship's ladders.
		3. Folding aluminum wall ladders.
		4. Retractable aluminum wall ladders.
		5. Fasteners and installation accessories.
	1. RELATED SECTIONS

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

* + 1. Section 05 50 00 - Metal Fabrications: Catwalks and fire escapes.
		2. Section 06 10 00 - Rough Carpentry: Blocking in metal wall studs and partitions for anchorage of access ladders
		3. Section 06 43 50 - Rolling Library Ladders.
	1. REFERENCES

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

* + 1. ANSI A14.3 - American National Standard for Ladders -- Fixed -- Safety Requirements; 1992.
		2. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2001.
		3. ASTM B 209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric); 2001.
		4. ASTM B 210 - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes; 2002.
		5. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2000.
		6. ASTM B 221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2000.
		7. ASTM B 308 - Standard Specification for Aluminum - Alloy T6061-T6 Standard Structural; 2002
		8. ASTM B 308M - Standard Specification for Aluminum - Alloy T6061-T6 Standard Structural; 2002
		9. OSHA 29 CFR Standard 1910.27 - Fixed ladders; Occupational Safety and Health Standards; current edition
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00.
		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: Detailed drawings showing complete dimensions, all materials, mounting attachments, and fabrication details.
	2. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in the engineering and manufacturing of metal ladders, with not less than fifty years of experience.
	3. WARRANTY
		1. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
		2. Provide manufacturer's standard limited five-year warranty against defects in materials and workmanship.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: ALACO Ladder Co., which is located at:5167 G St.Chino, CA 91710-5143Toll Free Tel: 888-310-7040Tel: 909-591-7561Fax: 909-591-7565Email: [request info (sales@alacoladder.com)](https://arcat.com/rfi?action=email&company=ALACO%252BLadder%252BCo.&message=RE%253A%2520Spec%2520Question%2520(05511alc)%253A%2520&coid=30245&spec=05511alc&rep=&fax=909-591-7565);Web: <http://alacoladder.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.
	1. MATERIALS
		1. Extruded Aluminum Profiles: ASTM B 221/B 221M, ASTM B 210, ASTM B 308/B 308M, Alloy 6061-T6; standard mill finish.
		2. Aluminum Sheet and Plate: ASTM B 209/B 209M, Alloy 6061-T6; standard mill finish.
		3. Fasteners: Aluminum solid aircraft rivets rated at 300 lbs (1335 N) shear strength.
		4. Cast fittings, connectors and rung ends: Cast Aluminum alloy 356
	2. LADDERS
		1. Ladders - General: Comply with ANSI A14.3 and OSHA regulations.
		2. Fixed Wall Ladders: Extruded aluminum; serrated rungs 1-1/8 inches (29 mm) in diameter, connected to 2-7/8 inch (73 mm) side rail channels with cast aluminum rung connectors, each secured to rails by means of four solid aircraft rivets.

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

* + - 1. Walk-Through and Parapet Railings: Aluminum extrusions; extend not less than 42 inches (1,067 mm) above landing, 24 in (610 mm) between side rails at step through.

\*\* NOTE TO SPECIFIER \*\* The following paragraph is for ladders over 20 feet in height. Delete if not required.

* + - 1. Cage: Aluminum hoops 1/4 by 2 inches (6 by 51 mm) and seven aluminum vertical bars 3/16 by 1-1/2 inches (5 by 38 mm) riveted rigidly together.

\*\* NOTE TO SPECIFIER \*\* The following paragraph is for ladders over 30 feet in height; platforms are required at 30 ft intervals. Delete if not required.

* + - 1. Rest Platforms: Aluminum Grip Strut grating and aluminum toe boards 0.63 in (1.6 mm) thick by 4 inches (102 mm) wide; railings of 1-1/4 inch (32 mm) round serrated tube with cast aluminum railing fittings.

\*\* NOTE TO SPECIFIER \*\* The following paragraph is for roof access ladders in locations that are accessible by the public. Delete if not required.

* + - 1. Security Doors: Form from aluminum sheet 0.188 inch (4.8 mm) in thickness; secure with stainless steel piano hinges and hasps.

\*\* NOTE TO SPECIFIER \*\* The following paragraph is for roof hatch access ladders. Delete if not required.

* + - 1. Hatch Access: Provide ladder side rail with rubber end caps and end with sufficient clearance for hatch to properly close.
		1. Ship's Ladders: 24 inches (610 mm) wide.

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two capacity paragraphs.

* + - 1. Capacity: 500 lbs (225 kg).

\*\* NOTE TO SPECIFIER \*\* Delete two of the following three paragraphs.

* + - * 1. Slope: 60 degrees; 6-inch (152 mm) wide aluminum steps mounted on 10-13/32 inches (264 mm) centers to 5-1/4 inch (133 mm) aluminum side rails.
				2. Slope: 70 degrees;

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs.

For Ladders Less Than 10 Feet: 3-inch (76 mm) wide aluminum steps mounted on 12 inch (305 mm) centers to 2-7/8 inch (73 mm) aluminum side rails.

For Ladders 10 Feet and Greater: 4-inch (102 mm) wide aluminum steps mounted on 12 inch (305 mm) centers to 4-1/8 inch (105 mm) aluminum side rails.

* + - * 1. Slope: 80 degrees; 3-inch (76 mm) wide aluminum steps mounted on 12 inch (305 mm) centers to 2-7/8 inch (73 mm) aluminum side rails.
			1. Capacity: 1000 lbs (450 kg).

\*\* NOTE TO SPECIFIER \*\* Delete three of the following four paragraphs.

* + - * 1. Slope: 60 degrees; 6-inch (152 mm) wide aluminum steps mounted on 12 inch (264 mm) centers to 5-5/8 inch (133 mm) aluminum side rails.
				2. Slope: 65 degrees; 6-inch (152 mm) wide aluminum steps mounted on 12 inch (264 mm) centers to 5-5/8 inch (133 mm) aluminum side rails.
				3. Slope: 70 degrees; 6-inch (152 mm) wide aluminum steps mounted on 12 inch (264 mm) centers to 5-5/8 inch (133 mm) aluminum side rails.
				4. Slope: 75 degrees; 6-inch (152 mm) wide aluminum steps mounted on 12 inch (264 mm) centers to 5-5/8 inch (133 mm) aluminum side rails.
			1. Fasten each step with not less than eight aluminum aircraft rivets.
			2. Provide handrails of 1-1/4 in (32 mm) round serrated aluminum tubing with cast or extruded aluminum fittings.
			3. Furnish ladder with four mounting brackets.
		1. Folding Wall Ladders: 24 inches (610 mm) wide.

\*\* NOTE TO SPECIFIER \*\* Delete three of the following four paragraphs.

* + - 1. Slope: 60 degrees; 6-inch (152 mm) wide aluminum nonslip steps mounted on 10-13/32 inches (264 mm) centers to 5-1/4 inch (133 mm) aluminum side rails.
			2. Slope for Ladders Less than 10 Feet: 70 degrees; 3-inch (76 mm) wide aluminum steps mounted on 12-inch (305 mm) centers to 2-7/8 inch (73 mm) aluminum side rails.
			3. Slope for Ladders 10 feet and Greater: 70 degrees; 4-inch (102 mm) wide aluminum steps mounted on 12 inch (305 mm) centers to 4-1/8 in (105 mm) aluminum side rails.
			4. Slope: 80 degrees; 3-inch (76 mm) wide aluminum steps mounted on 12 inch (305 mm) centers to 2-7/8 inch (73 mm) aluminum side rails.

\*\* NOTE TO SPECIFIER \*\* Handrails are optional for folding ladders; delete the following paragraph if not required.

* + - 1. Provide handrails of 1-1/4 in (32 mm) round serrated aluminum tubing with cast or extruded aluminum fittings and four mounting brackets.
			2. Fasten each step with not less than eight aluminum aircraft rivets.
			3. Furnish with mounting bracket-slide assemblies to allow flat storage against wall and non-marking solid rubber feet for secure installation.
		1. Retractable Wall Ladders:
			1. Extruded aluminum profiles.
			2. Serrated rungs 1-1/8 inches (29 mm) in diameter, connected to 2-78 inch (73 mm) side rail channels with cast aluminum rung connectors, each secured to rails by means of four solid aircraft rivets.
			3. Furnish with retractable mounting bracket assemblies for flat storage against the wall, non-marking solid rubber feet, and rubber plugs to provide closed end protection at top of side rails.
	1. FINISHES

\*\* NOTE TO SPECIFIER \*\* Mill finish aluminum is standard. Custom coatings and surface treatments are available by special order.

* + 1. Provide all aluminum in standard mill finish.
		2. Factory finish all aluminum surfaces with manufacturer's standard powder coating system.
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. INSTALLATION
		1. Install in accordance with manufacturer's instructions and approved shop drawings, and in compliance with ANSI A14.3 and OSHA 1910.27.
	3. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION