SECTION 07 41 13

METAL ROOF PANELS

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\*\* NOTE TO SPECIFIER \*\* Lester Building Systems; pre-engineered wood framed metal clad industrial and agricultural buildings.
This section is based on the products of Lester Building Systems, which is located at:
1111 2nd Ave. S.
Lester Prairie, MN 55354
Toll Free Tel: 800-826-4439
Tel: 320-395-2531
Fax: 320-395-2969
Email: [request info (sbeste@lesterbuildings.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Lester+Building+Systems&coid=33790&rep=&fax=320-395-2969&message=RE:%20Spec%20Question%20(07411lbs):%20%20&mf=)
Web: [www.lesterbuildings.com](http://www.lesterbuildings.com)
 [ [Click Here](http://www.arcat.com/arcatcos/cos33/arc33790.html) ] for additional information.
Lester Buildings is one of the largest manufacturers of engineered, wood frame building systems in the United States. Our buildings cover a broad range of customer needs, from simple pole barns to custom, one-of-a-kind structures... and everything in between. Nearly 150,000 Lester buildings dot the American landscape today.
See our SpecWizard: HYPERLINK "http://www.arcat.com/specwizard/13121lbs/index.htm"Click Here

1. GENERAL
	1. SECTION INCLUDES

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

* + 1. Concealed-fastener, lap-seam, metal roof panels.
		2. Exposed-fastener, lap-seam, metal roof panels.
		3. Roofing accessories.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required. Include only sections needed to clarify responsibility for work which might be unclear otherwise.

* + 1. Section 13 34 23 - Fabricated Structures.
	1. REFERENCES

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

* + 1. ASTM International (ASTM):
			1. ASTM A792 / A792M - Standard Specification for Steel Sheet, 55 percent Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
	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. Manufacturer's specifications and installation instructions for roofing components and accessories.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
		3. Sustainable Design Submittals:
			1. Product test reports indicating Solar Reflectance Index (SRI).
			2. Manufacturer's product data and costs for metals having recycled content.
		4. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors and textures.
		5. Verification Samples:
			1. Sheet Metal Roofing: Minimum 12 inches (305 mm) long by full width including finished seams, fasteners, cleats, closures, and other accessories.
			2. Finishes: minimum size 6 by 6 inches (152 by 152 mm) for each finish specified.
			3. Accessories: Full-size sample.
		6. Qualifications: For installer and manufacturer.
		7. Close Out Submittals:
			1. Maintenance Data.
			2. Warranty.
	2. QUALITY ASSURANCE
		1. Source Limitations: Obtain components for roofing system from or approved by roofing system manufacturer.
		2. Sheet Metal Roofing Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings.
		3. Manufacturer Qualifications: Minimum 5 years experience manufacturing similar products.
		4. Installer Qualifications: Minimum 2 years experience installing similar products.
		5. Pre-Installation Meeting: Convene at the Project site minimum two weeks prior to starting work of this section. Review methods and procedures related to roofing system installation, insurance, and warranty requirements.
	3. DELIVERY, STORAGE, AND HANDLING
		1. Store products in manufacturer's unopened packaging until ready for installation. Follow manufacturer's recommended storage procedures. Do not allow steel roofing to contact the ground.
		2. Unload, store, and handle to prevent twisting, bending, abrasion, scratching and denting. Do not allow standing moisture on panels, elevate one side for moisture to drain off.
	4. PROJECT CONDITIONS
		1. Anticipate environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
		2. Do not proceed with installation of sealants unless sealant manufacturer's requirements can be met including extreme temperature conditions that would cause joint openings to be minimum or maximum widths, or if heavy wind loads are forecast.
	5. WARRANTY
		1. Roofing System Warranty: Provide manufacturer's standard limited paint warranty 40 years for film integrity, 30 years for chalk and fade. Refer to warranty document for complete details.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Lester Building Systems, which is located at: 1111 2nd Ave. S.; Lester Prairie, MN 55354; Toll Free Tel: 800-826-4439; Tel: 320-395-2531; Fax: 320-395-2969; Email: [request info (sbeste@lesterbuildings.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Lester+Building+Systems&coid=33790&rep=&fax=320-395-2969&message=RE:%20Spec%20Question%20(07411lbs):%20%20&mf=); Web: [www.lesterbuildings.com](http://www.lesterbuildings.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 if not required.

* 1. CONCEALED FASTENER, LAP-SEAM, METAL ROOF PANELS
		1. Basis of Design: Eclipse panel as manufactured by Lester Building Systems. Metal roof panels with side edges lapping adjacent panels. Secured to supports using fasteners through the major ribs. Fasteners concealed with snap-on batten. Include accessories required for weathertight installation.
			1. Configuration
				1. Roll-formed; 36 inch (915 mm) coverage width. Provide panels covering up to 35 foot (10.5 m) lengths in single pieces.
				2. Rib profile, 1 inch (25 mm) inch high trapezoidal major ribs 18 inches on center. Reversed minor ribs 3 inch (75 mm) wide on centers spaced symmetrically.
				3. One outboard corrugation as overlapping.
				4. Opposite outboard corrugation as underneath corrugation with full return leg to support side lap.
				5. Outboard side Lap Height with Batten (H by W): 1.5 by 1 inches (38 by 25 mm).
				6. Factory cut to required length.

\*\* NOTE TO SPECIFIER \*\* Choose one of the four subparagraphs below. Delete those not required.

* + - * 1. Eave: Hemmed.
				2. Eave: No extension.
				3. Eave: 4 inch (102 mm).

\*\* NOTE TO SPECIFIER \*\* Typically select material below for buildings housing livestock. Delete if not required.

* + - 1. Material and Finish: 28 gauge steel, ASTM A 792 ClassAZ50 Galvalume, coated both sides, 0.0157 inches (.398 mm) thick.
				1. Exterior Surface Finish: Bonderize and provide baked-on primer and Valspar Weather-XL (silicone modified polyester) finish coat, 0.7 - 0.8 mil minimum dry film thickness.

\*\* NOTE TO SPECIFIER \*\* Colors below meet Energy Star reflectivity standards except for Antique Brown, Black Burgundy, Dark Blue and Quaker Gray. Delete colors not required.

Color: Lester Antique Brown.

Color: Lester Barn Red. \*

Color: Lester Black.

Color: Lester Bone White. \*

Color: Lester Burgundy.

Color: Lester Clay. \*

Color: Lester Colony Green.

Color: Lester Dark Blue.

Color: Lester Earth Brown. \*

Color: Lester Evergreen. \*

Color: Lester Pewter Gray. \*

Color: Lester Quaker Gray.

Color: Lester Rawhide. \*

Color: Lester Sandstone. \*

Color: Lester Slate Blue. \*

Color: Lester Snow White. \*

Color: Lester White Sand. \*

Color: As selected by Architect.

\* Meets Energy Star reflectivity standards.

\*\* NOTE TO SPECIFIER \*\* Typically select material below for general construction. Delete if not required.

* + - 1. Material and Finish: 26 gauge steel, ASTM A 792 Class AZ50 Galvalume, coated both sides, 0.0187 inches (.474 mm) thick.

\*\* NOTE TO SPECIFIER \*\* Delete exterior surface finish type not required.

* + - * 1. Exterior Surface Finish: Bonderize and provide baked-on primer and Valspar Weather-XL (silicone modified polyester) finish coat, 0.7 - 0.8 mil minimum dry film thickness.
				2. Exterior Surface Finish: Bonderize and provide baked-on primer and factory applied baked-on 70 percent Kynar 500 or Hylar 5000 PVDF fluropolymer resin based paint coating manufactured by Valspar, with a minimum dry film thickness of 0.7 - 0.8 mil..

\*\* NOTE TO SPECIFIER \*\* Colors below meet Energy Star reflectivity standards except for Antique Brown, Black, Burgundy, Dark Blue and Quaker Gray, Metallic Champagne and Metallic Copper. Delete colors not required.

Color: Lester Antique Brown.

Color: Lester Barn Red. \*

Color: Lester Black.

Color: Lester Bone White. \*

Color: Lester Burgundy.

Color: Lester Clay. \*

Color: Lester Colony Green.

Color: Lester Dark Blue.

Color: Lester Earth Brown. \*

Color: Lester Evergreen. \*

Color: Lester Metallic Champagne (only available in PVDF paint). \*

Color: Lester Metallic Copper (only available in PVDF paint). \*

Color: Lester Pewter Gray. \*

Color: Lester Quaker Gray.

Color: Lester Rawhide. \*

Color: Lester Regal Red (only available in PVDF paint). \*

Color: Lester Sandstone. \*

Color: Lester Slate Blue. \*

Color: Lester Snow White. \*

Color: Lester White Sand. \*

Color: As selected by Architect.

\* Meets Energy Star reflectivity standards.

* + 1. Fasteners: DS2000coated No. 14piercing screws with 3/8inch (9.5mm) hex head pre-assembled to 1/2 inch (13 mm) O.D. dome seal or bond seal galvanized steel ASTM A153, and EPDM washers.

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

* 1. EXPOSED FASTENER, LAP-SEAM, METAL ROOF PANELS
		1. Basis of Design: Eclipse panel as manufactured by Lester Building Systems. Metal roof panels with side edges lapping adjacent panels. Secured to supports using fasteners through themajor ribs.
			1. Configuration:
				1. Roll-formed; 36 inch (915 mm) coverage width. Provide panels covering up to 35 foot (10.5 m) lengths in single pieces.
				2. Three major corrugations, 7/8 inch (25 mm) high, spaced 18 inches (457 mm) on center with 3 minor corrugations, 1/8 inch (3mm) high, spaced 3 inches (76 mm) on center between each major corrugation.
				3. Form one outboard corrugation as overlapping corrugation.
				4. Form opposite outboard corrugation as underneath corrugation with full return leg to support side lap and a continuous anti-siphon drain channel.
				5. Factory cut to required length.

\*\* NOTE TO SPECIFIER \*\* Typically select material below for buildings housing livestock. Delete if not required.

* + - 1. Material and Finish: 28 gauge steel, ASTM A 792 Class AZ50 Galvalume, coated both sides, 0.0157 inches (.398 mm) thick.
				1. Exterior Surface Finish: Bonderize and provide baked-on primer and Valspar Weather-XL (silicone modified polyester) finish coat, 0.7 - 0.8 mil minimum dry film thickness.

\*\* NOTE TO SPECIFIER \*\* Colors below meet Energy Star reflectivity standards except for Antique Brown, Black Burgundy, Dark Blue and Quaker Gray. Delete colors not required.

Color: Lester Antique Brown.

Color: Lester Barn Red. \*

Color: Lester Black.

Color: Lester Bone White. \*

Color: Lester Burgundy.

Color: Lester Clay. \*

Color: Lester Colony Green.

Color: Lester Dark Blue.

Color: Lester Earth Brown. \*

Color: Lester Evergreen. \*

Color: Lester Pewter Gray. \*

Color: Lester Quaker Gray.

Color: Lester Rawhide. \*

Color: Lester Sandstone. \*

Color: Lester Slate Blue. \*

Color: Lester Snow White. \*

Color: Lester White Sand. \*

Color: As selected by Architect.

\* Meets Energy Star reflectivity standards.

\*\* NOTE TO SPECIFIER \*\* Typically select material below for general construction. Delete if not required.

* + - 1. Material and Finish: 26 gauge steel, ASTM A 792 Class AZ50 Galvalume, coated both sides, 0.0187 inches (.474 mm) thick.

\*\* NOTE TO SPECIFIER \*\* Delete exterior surface finish type not required.

* + - * 1. Exterior Surface Finish: Bonderize and provide baked-on primer and Valspar Weather-XL (silicone modified polyester) finish coat, 0.7 - 0.8 mil minimum dry film thickness.
				2. Exterior Surface Finish: Bonderize and provide baked-on primer and factory applied baked-on 70 percent Kynar 500 or Hylar 5000 PVDF fluropolymer resin based paint coating manufactured by Valspar, with a minimum dry film thickness of 0.7 - 0.8 mil..

\*\* NOTE TO SPECIFIER \*\* Colors below meet Energy Star reflectivity standards except for Antique Brown, Black, Burgundy, Dark Blue and Quaker Gray, Metallic Champagne and Metallic Copper. Delete colors not required.

Color: Lester Antique Brown.

Color: Lester Barn Red. \*

Color: Lester Black.

Color: Lester Bone White. \*

Color: Lester Burgundy.

Color: Lester Clay. \*

Color: Lester Colony Green.

Color: Lester Dark Blue.

Color: Lester Earth Brown. \*

Color: Lester Evergreen. \*

Color: Lester Metallic Champagne (only available in PVDF paint). \*

Color: Lester Metallic Copper (only available in PVDF paint). \*

Color: Lester Pewter Gray. \*

Color: Lester Quaker Gray.

Color: Lester Rawhide. \*

Color: Lester Regal Red (only available in PVDF paint). \*

Color: Lester Sandstone. \*

Color: Lester Slate Blue. \*

Color: Lester Snow White. \*

Color: Lester White Sand.

Color: As selected by Architect.

\* Meets Energy Star reflectivity standards.

* + 1. Fasteners: DS2000coated No. 14piercing screws with 3/8 inch (9.5 mm) hex head pre-assembled to 1/2 inch (13 mm) O.D. dome seal or bond seal galvanized steel and EPDM washers.
	1. ROOFING ACCESSORlES
		1. Steel Ridge Cap: Match the roof steel materials and construction.

\*\* NOTE TO SPECIFIER \*\* Verify required accessories below are shown on drawings, including necessary sizes, and options. Delete if not required.

* + 1. Translucent Ridge Light: Acrylic, standard ridge profile, acrylic and polyester resins with gel coat UV protective layer.; ASTM D3841, minimum 8 ounces per square foot, 65 percent visible light transmission.
		2. Vents: Ridge vent, and low profile ridge ventilator as shown on Drawings.

\*\* NOTE TO SPECIFIER \*\* Cupola available in 24 inches (610 mm), 36 inches (914 mm), and 48 inches (1219 mm) base size; Available with Louvered or Windowed sides; Pre-painted 29 gauge steel construction; Roof, Sides, and Base in choice of standard Lester colors. Delete if not required.

* + 1. Cupola: Provide manufacturer's standard cupola as shown on Drawings.
		2. Cupola and Weathervane: Provide manufacturer's standard cupola and weathervane as shown on Drawings.
		3. Eave Overhang Fascia Flashing:
			1. Size: 12 inches nominal.
			2. Size: 24 inches nominal.
			3. Fascia Flashing Color: \_\_\_\_\_\_.
			4. Vented Soffit Color: \_\_\_\_\_\_\_.
		4. End Overhang Fascia Flashing:
			1. Size: 12 inches nominal.
			2. Size: 24 inches nominal.
			3. Fascia Flashing Color: \_\_\_\_\_\_.
			4. Vented Soffit Color: \_\_\_\_\_\_\_.
		5. Gutters and Downspouts: Provide manufacturer's standard gutters and downspouts as shown on Drawings.
		6. Closure Strips: Closed cell, 2 pcf density polyethylene foam, premolded to match configuration of panels.

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

* 1. JOINT SEALANT MATERlALS
		1. Sealant: Manus 75-A for applications that will not be painted, contains no solvents or isocyanates, non-yellowing.

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

* + - 1. Color: Manus Clear.
			2. Color: Manus White.
			3. Color: Manus Bronze.
		1. Sealant: Manus 75-AM for applications that will be painted, contains no solvents or isocyanates, non-yellowing. Use white or bronze color for nearest match to adjacent substrate.

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

* + - 1. Color: Manus Clear.
			2. Color: Manus White.
			3. Color: Manus Bronze.
		1. Sealant Tape: Manus-Bond 64-A Polysul Grip tape.
1. EXECUTION
	1. EXAMINATION
		1. Verify that site conditions are acceptable. Commencement of work by erector/installer is acceptance of site conditions.
	2. INSTALLATION
		1. Metal Roofing:
			1. General: Install in accordance with manufacturer's instructions. Secure to structural framing aligned, level and plumb. Space fasteners as shown on Erection Drawings.
			2. Sidelap: Minimum one full corrugation.

\*\* NOTE TO SPECIFIER \*\* Choose one of the three subparagraphs below. Delete those note required.

* + - 1. Accessories: Install as shown on approved submittals.
			2. `END OF SECTION