

SECTION 07 41 13

CSI-LG-FLAT LOCK™

LIGHT GAUGE FLAT LOCK TILE ROOFING SYSTEM

Manufacturer Specification

CSI Architectural Metal LLC

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes

Provide a complete CSI-LG-FLAT LOCK™ Light Gauge Flat Lock Tile Roofing System, including:

1. Factory-fabricated interlocking flat lock roofing tiles.
2. Concealed attachment clips.
3. Fixed and sliding attachment clips.
4. Starter courses.
5. Ridge assemblies.
6. Hip assemblies.
7. Valley flashings.
8. Rake trim.
9. Eave trim.
10. Counter flashings.
11. Roof penetrations fabricated by CSI.
12. Expansion components.
13. Closures.
14. Fasteners.
15. Fabricated sheet metal accessories furnished as part of the roofing system.

B. Related Sections

Coordinate Work with:

- 06 10 00 Rough Carpentry
- 07 21 00 Thermal Insulation
- 07 25 00 Weather Barriers
- 07 27 00 Air Barriers
- 07 60 00 Flashing and Sheet Metal
- 07 92 00 Joint Sealants

C. Work Not Included

Unless specifically included within CSI's proposal, the following are by others:

- Structural framing
- Roof deck
- Roof sheathing
- Waterproofing membrane
- Underlayment

- Air barrier
 - Vapor barrier
 - Roof drainage
 - Lightning protection
 - Snow retention systems
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1.02 REFERENCES

Comply with the latest applicable editions of:

- ASTM
 - AAMA
 - ASCE 7
 - SMACNA Architectural Sheet Metal Manual
 - Aluminum Association Design Manual
 - International Building Code
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1.03 PERFORMANCE REQUIREMENTS

Provide a roofing system capable of resisting:

- Design wind loads
- Dead loads
- Thermal movement
- Snow loads where applicable
- Seismic movement where applicable

Design attachment system in accordance with project-specific engineering.

Provide concealed clips allowing unrestricted thermal movement without distortion of finished surfaces.

1.04 SUBMITTALS

Submit:

- Product Data
 - Shop Drawings
 - Roof Layout Drawings
 - Engineering Calculations
 - Finish Samples
 - Tile Samples
 - Flashing Details
 - Attachment Details
 - Installation Instructions
 - Warranty Documents
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1.05 QUALITY ASSURANCE

Manufacturer shall demonstrate documented experience producing architectural sheet metal roofing systems.

Installer shall demonstrate successful completion of comparable projects.

Conduct preinstallation conference.

Provide project mock-up when required.

1.06 DELIVERY, STORAGE AND HANDLING

Deliver materials with protective covering.

Store materials elevated above ground.

Protect finishes from damage.

Prevent distortion during transportation and storage.

Handle finished materials using clean gloves.

1.07 WARRANTY

Provide:

- Material Warranty
 - Finish Warranty
 - Fabrication Warranty
 - Installer Workmanship Warranty where required
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PART 2 - PRODUCTS

2.01 MANUFACTURER

Basis of Design:

CSI Architectural Metal LLC

Odessa, Florida

Product:

CSI-LG-FLAT LOCK™

Light Gauge Flat Lock Tile Roofing System

2.02 SYSTEM DESCRIPTION

Factory-fabricated architectural flat lock roofing tiles.

Mechanically interlocking four-sided connection.

Installed over continuous solid substrate.

Concealed fastening.

Sequential installation.

Suitable for:

- Steep slope roofs
 - Decorative roofs
 - Curved roofs
 - Conical roofs
 - Domes
 - Turrets
 - Canopies
 - Custom architectural roof applications
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2.03 MATERIALS

Available materials:

- Aluminum
- Stainless Steel
- Copper
- Titanium Zinc
- Galvanized Steel
- Galvalume

Material thickness shall be as indicated on Drawings.

2.04 TILE DIMENSIONS

Typical tile sizes:

- 8" x 8"
- 10" x 10"
- 12" x 12"
- 16" x 16"
- 18" x 18"
- 20" x 20"

Custom dimensions available.

Tile configurations:

- Flat Lock
 - Diamond
 - Square
 - Rectangular
 - Custom
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2.05 ATTACHMENT

Provide concealed attachment clips.

Provide fixed clips.

Provide sliding clips where required.

Clip spacing shall be determined by engineering calculations.

Exposed fasteners shall not be permitted unless specifically indicated.

2.06 ACCESSORIES

Provide:

- Starter strips
- Ridge assemblies
- Hip flashings
- Valley flashings
- Eave trim
- Rake trim
- Counter flashings
- Expansion joints

- Penetration flashings
 - Closures
 - Fasteners
 - Sealants furnished within CSI scope
 - Miscellaneous fabricated sheet metal
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2.07 FINISHES

Available finishes include:

- PVDF coating complying with AAMA 2605
 - Anodized
 - Mill Finish
 - Stainless Steel
 - Copper
 - Titanium Zinc
 - Custom RAL colors
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2.08 FABRICATION

Fabricate in accordance with approved Shop Drawings.

Use CNC fabrication equipment where applicable.

Maintain consistent tile dimensions.

Provide uniform folded edges.

Provide radiused bends.

Do not permit cracked bends.

Fabricate flashings and accessories from matching material and finish.

Fabricate components to minimize visible oil canning and maintain consistent joint alignment.

2.09 QUALITY CONTROL

Inspect:

- Material
- Dimensions
- Finish
- Fabrication
- Packaging
- Shipping

Document non-conforming work prior to shipment.

PART 3 - EXECUTION

3.01 EXAMINATION

Verify:

- Roof substrate is complete.
- Dimensions are correct.
- Adjacent work is ready.

- Unsatisfactory conditions have been corrected before installation.
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3.02 INSTALLATION

Install in accordance with:

- Approved Shop Drawings
- Manufacturer's written instructions
- Project-specific engineering

Maintain uniform coursing.

Maintain proper interlocking engagement.

Allow for thermal movement.

Protect finished surfaces during installation.

Replace damaged components before completion.

3.03 FLASHING

Install flashings true to line.

Coordinate flashing installation with roofing tiles.

Provide continuous water-shedding transitions.

Maintain proper overlap and drainage.

3.04 FIELD QUALITY CONTROL

Inspect completed installation.

Verify:

- Tile alignment
- Joint consistency
- Secure attachment
- Flashing installation

Replace damaged components.

Correct deficiencies.

3.05 CLEANING

Remove protective film promptly after installation.

Clean finished surfaces in accordance with manufacturer's recommendations.

Remove debris.

Protect completed work until Substantial Completion.

3.06 WARRANTY CLOSEOUT

Submit:

- Manufacturer's Warranty
- Finish Warranty
- Maintenance Recommendations
- Cleaning Instructions

- Record Drawings where required