

Gutter System Installation Standards Product Specification



Property of:

Spectra Metal Sales

Gutters and Leaf Protection Introduction

A Rain Gutter System starts with a trough, called a gutter, which collects rainwater from the roofline of a house and diverts it away from the structure, using elbows and downspouts.

- The purpose of this diversion is to prevent water flow off the roof edge which can cause structural damage over time to the walls and/or foundation of a house.
- The gutter system is more important to the exterior of your home than the actual paint, siding, or even windows, because it protects your home from rot, mold, mildew, and flooding.
- This water damage, without a gutter system, occurs slowly, spreads quickly, and is unnoticeable until the damage repair is substantial.
- For your gutter system to work properly, it must be able to empty out the water faster than it fills up. In order to ensure the proper flow of water, a few are vital to the success of the overall gutter system:
 - 1) Seamless gutters
 - 2) Gutter and downspout sizing
 - 3) Slope or pitch of gutter
 - 4) Downspout placement
 - 5) Keeping the gutters debris free
 - 6) Using quality parts and accessories



Gutter Specifications

Scope of Guide

- A) The Rain-carrying system consists of all necessary components to complete installation with products manufactured or endorsed for use by Spectra Metal Sales.

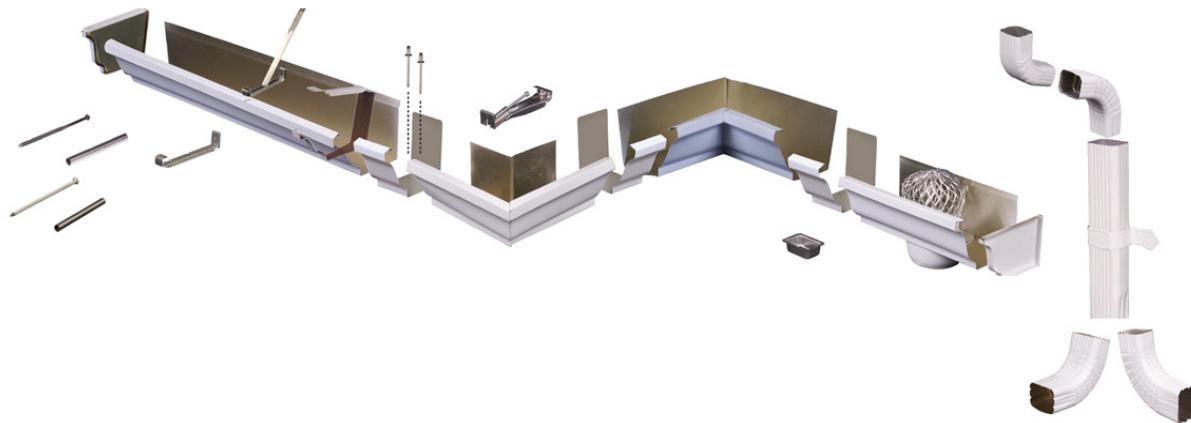
System Components

- A) Gutters shall be made of 3105-H24 aluminum and shall be continuous and seamless with a minimum thickness gauge of .032" or .027" (+/- .002" nominal).
- B) All pre-painted components will have an approved SMS Finish and Color.
- C) Prior to painting, all metal shall receive a pre-treatment to assure for maximum paint adhesion. The exterior finish shall be of a baked on enamel, one-coat system applied in a continuous process in a single operation, comprising a high-performance linear topcoat. The inside of the gutter shall be finished with a wash-coat finish.
- D) Downspouts, Elbows, Miters, End caps shall be made of 3105-H24 aluminum with a minimum thickness gauge of .019" (+/- .002" nominal).
- E) Sealant/Caulking
 - Seam Sealer, OSI ProSeries, Ruscoe, Geocel
- F) Hanging system for the standard K-style system will be the SMS Hidden Hanger with Screw attached for size as necessary.
- G) Lock-On Gutter Screen from SMS, sized as necessary.
- H) Solid Gutter Cover from SMS, to be the Leaf Protection Panels in an approved SMS color.
- I) All accessories used with the SMS Rain-carrying system will be procured from a SMS distribution or manufacturing facility.

Installation Guidelines

- A) Gutters shall be formed onsite from SMS gutter coil, which has been procured from an approved SMS distribution point.
- B) Gutters should have a minimum pitch of $\frac{1}{4}$ " for every 10 feet of single section.
- C) Downspouts should be installed every 40 feet.
- D) Outlets and Elbows will be screwed or riveted to the adjoining section for security.
- E) Miters will be screwed or riveted to the adjoining section with an approved sealant. Field cut miters, Box miters, and Strip miters are all acceptable forms of installation.
- F) Hangers will be spaced a maximum 24"-36" inches apart on any continuous gutter run for strength and stability of the overall system.

Gutter System Installation Instructions



1. The first thing to do is determine how much material you will need. Obtain the linear footage measurements of the roofline. Also, decide where you want your downspouts. Be sure to practice ladder safety.
2. Begin measuring the roofline where the gutter will be installed, adding together the lengths of each fascia. Take the measurement from the outer edge of the shingle. Mark the measurements and make an outline on graph paper. Next, mark the locations of the downspouts with an "X.". Plan on one downspout per gutter per 20 foot run. Finally, measure and add the heights from the ground to the roofline in the locations where the downspouts will go.
3. If you are replacing an existing gutter system, once the old system is removed check for rot along the fascia board. If there is damage, replace the fascia plate or fascia cover over it or just replace the fascia board.
4. For every 10 feet of gutter, you need at least a quarter-inch of drop. This will ensure that the water flows towards the downspout.
5. Begin by driving a nail into the fascia at one end of the gutter-run wall a half-inch below the top of the fascia. Stretch a mason's line from the nail. To properly align the slope (using a line level on the mason's line) drop one end of the line a quarter-inch for every 10 feet of fascia length, then mark that point with a pencil. Snap a chalk line from the marks to show where the top of the gutter will be attached.
6. Remember to pitch longer runs toward an outlet at either end, as opposed to just one end. The gutters should always be pitched away from the front valleys and towards the corners.
7. Using the chalk line to keep the gutters flush with the slope line. Remember to slope towards the outlet and downspout. Continue this process with all gutter sections.
8. The end cap section is the piece you will start with when applying the gutters to the fascia. Working from the end of the fascia, use hidden fasteners to attach the gutter to the fascia. Hidden fasteners are slipped into the gutter run, and then the gutter is screwed into the fascia with a drill and screws. Hidden fasteners are placed every 24 inches along the gutter run.

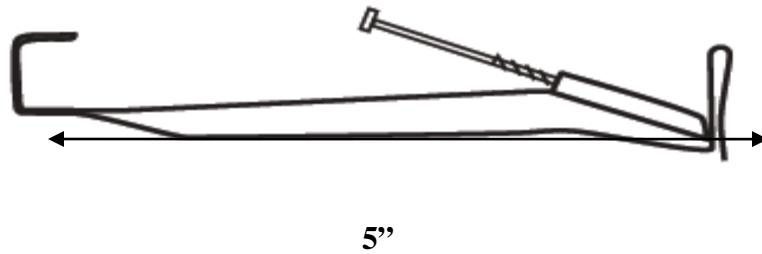
9. To attach a downspout, assemble an elbow and a short length of downspout to carry the run to the wall. Anchor the downspout to the wall with two brackets while attaching the top of the downspout into the exposed outlet. Attach another elbow at the bottom of the downspout to divert water away from the foundation. Place a splash guard underneath it to keep water from eroding the soil.
10. Check all joints and seams to verify the proper amount of sealant has been applied to prevent potential leaks.
11. Clean all scrap metal and trimmings from the jobsite.

Letter of Certification

5 Inch Speed Screw Hanger 5SSH

Spectra Metal Sales, Inc. is a member of the National Coil Coating Association and uses the NCCA's standards as guidelines for physical testing.

- The Aluminum used is alloy 3105-H24 or 3105-H25 which meets the specifications set forth in the "Aluminum Standards and Data 2006" published by the Aluminum Association. The finished gauge of the Aluminum for this coil is .048, +/- .002.
- The attached screw is a #10 High Grade core hardened industrial fastener, with a hex washer for solid contact with the driver. The screw has a sharp cut point to easily bite through aluminum or steel gutter or fascia.



Letter of Certification

3" x 4" Aluminum Downpipe .019 Gauge Aluminum

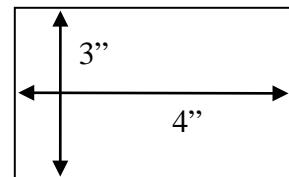
Spectra Metal Sales, Inc. is a member of the National Coil Coating Association and uses the NCCA's standards as guidelines for physical testing.

- The Aluminum used is alloy 3105-H15 or 3105-H25 which meets the specifications set forth in the "Aluminum Standards and Data 2006" published by the Aluminum Association. The gauge of the Aluminum for this coil is .019, +/- .002.
- The Aluminum's inside and outside coating is a thermo polyester paint which is roll coated and baked per manufactures specifications.
- The paint specifications used for our smooth white polyester coated trim coil are as follows:

| | |
|------------------------|---|
| Dry Film Thickness: | .80 +/- .05 mils |
| Gloss (60'): | 10 +/- 2 Units |
| Solvent Resistance: | 100 Double rubs (M.E.K.) |
| Flexibility: | .019 (+/- .003) 2 T Bend minimum |
| Impact (N.T.O.): | 1-1/2 Times metal thickness in Inch-Lbs (ASTM D 2794) |
| Pencil Hardness: | F - 2H |
| Humidity Resistance: | No blistering, loss of adhesion after 1,000 hours exposure to 100% relative humidity. (ASTM D 2247) |
| Salt Spray Resistance: | No field blistering and no more than 1/16" creep from a score line after neutral salt spray testing for 1,000 Hours (ASTM B |

117)

| | |
|------------------------|--|
| Weathering Resistance: | Will withstand ten years outdoor southern exposure in South Florida, without cracking, blistering, splitting or pealing. |
|------------------------|--|



Specifications & Features of the finished Product

12. Overall Length is 10 Feet, standard.
13. The pipe opening is 3 x 4 inches.
14. The finished of this product is covered by a 20 year limited warranty.
15. Made in the USA, using 97% post consumer material.

Letter of Certification

.027 x 11.75 & 15 Aluminum Coil 5" & 6" Gutter Coil

Spectra Metal Sales, Inc. is a member of the National Coil Coating Association (NCCA) and uses the NCCA and/or the Aluminum Association's standards as guidelines for the physical testing of the material.

- The Aluminum used is alloy 3105-H24 or 3105-H25 which meets the specifications set forth in the "Aluminum Standards and Data 2006" published by the Aluminum Association. The finished gauge of the Aluminum for this coil is .027, +/- .002. The 3105 alloy is building sheet grade consisting of approximately 97% recycled materials
- The Aluminum's inside and outside coating is a thermo polyester paint which is roll coated and baked on per the Paint Manufacturers specifications.
- The paint specifications used for our aluminum gutter coil are as follows:

| | |
|-------------------------|---|
| Top Dry Film Thickness: | .65 +/- .05 mils |
| Gloss (60°): | 10 +/- 2 Units (varies by color) |
| Solvent Resistance: | 100 Double rubs (M.E.K.) |
| Flexibility: | .027 (+/- .002) 2 T Bend minimum |
| Impact (N.T.O.): | 1-1/2 Times metal thickness in Inch-Lbs (ASTM D 2794) |
| Pencil Hardness: | F - 2H |
| Humidity Resistance: | No blistering, loss of adhesion after 1,000 hours exposure to 100% relative humidity. (ASTM D 2247) |
| Salt Spray Resistance: | No field blistering and no more than 1/16" creep from a score line after neutral salt spray testing for 1,000 Hours (ASTM B 117) |

Spectra Metal Sales

Spectra Metal Sales Inc., is a family owned and operated company that has been in business for more than 30 years. Spectra is a manufacturer of aluminum, copper and steel rainware systems. We are also a manufacturer of metal building construction products used in residential and commercial markets.

Spectra is a vertically integrated company, combining its own coil coating line, fully automated slitting line, packaging line, and stamping division. This allows Spectra to distribute directly to the contractor's door in a quick and efficient manner. Spectra purchases only the highest rated raw materials to ensure the best parts make it to your location.

With our eye set on producing the highest quality gutter and downspouts, Spectra has 18 manufacturing/distribution centers throughout the United States, servicing over 5,000 active contractor accounts on a weekly basis. Spectra can be counted on for predictable and reliable deliveries to all of your locations. Spectra stocks over 22 premium colors in a full line of 5", 6" and 7" rainware systems which allows us to meet the requirements set by builders, architects and homeowners alike.

Everyone at Spectra Metal Sales realizes that your name is at stake every time you take on a job. That is why the combination of customer service, superior products, and nationwide distribution, will ensure that you will have the best buying experience dealing with Spectra Metal Sales.

The Spectra Advantage

Spectra Metal Sales offers, in addition to our standard 5" and 6" gutter systems, offers a wide range of upgrades and building materials that can accent or complete any project. These products are all manufactured by Spectra and are available in our locations nationwide.

- Accessories- in order to put the finishing touches on a professional gutter job, SMS offers multiple sizes and color matching on all our accessories:
 - Strip Miters
 - Box Miters
 - Round and Rectangular Outlets
 - Hidden Hangers
 - Speed Screw Hangers
 - Downpipe Bands
 - Pop Rivets
 - Screw Fasteners
 - Touch-up Paint
 - End Caps
- Ornamental 4" Round Downpipe and Elbows (available in 22 colors and Copper)
- Ornamental 6" Half-Round Gutters (available in 22 colors and Copper)
- 4" x 5" Commercial downpipe and Elbows (available in 22 colors and Copper)
- Trim Coil – 24" painted aluminum used for trimming on vinyl siding and replacement window projects
- Drip Edge (available in 4 Styles in 22 colors)

- Designer Series Copper –an alternative to pricey copper, this painted aluminum aged copper color is comparable to the real copper
- Copper – SMS offers premium copper in all our products lines
- 7" Commercial Gutter- this heavy duty gutter is used on commercial buildings
- Gutter Machines- 5",6" and Combo machines are available from all the major manufacturers, along with Spectra's unique trade-in program
- Below Deck Systems- attractive system that collects water that runs through decks, allowing for a dry, livable area underneath deck (available in 22 colors and Copper)
- Gutter Screens- available in aluminum, steel, and powder coated steel in multiple varieties: drop in and hinged
- Gutter Covers- available in multiple solid aluminum designs in any of Spectra's colors
- Sealants- available from quality producers like Ruscoe, Geocel, and OSI
- Direct Flow Pipe- flexible tubing that connects to downspouts and diverts water away from the house (in 3 colors)
- Splash Blocks- this product preserves landscaping underneath downspouts, while blending into any terrain with 3 color options
- Starter Strip- necessary on any vinyl siding job, SMS offers aluminum and steel parts in narrow and wide form

Spectra Metal's Gutter Color Plan

Spectra Metal Sales is the industry leader in rainware manufacturing and distribution. A large reason for the success is the Spectra Color Perfect System. Spectra works extensively with Valspar Corporation in managing Spectra Color Perfect System, a system which gives our contractors the confidence that all the products they install will be color matched from our coating facility. From gutter coil to downpipe to end caps to strip miters, you can count on our complete line of gutter products to match perfectly year-in and year-out.

Stocking Colors at all Spectra Metal Sales

1. 30 White
2. 80 White
3. Antique Ivory
4. Almond
5. Bronze
6. Clay
7. Cream
8. Forest Green
9. Linen
10. Musket Brown
11. Royal Brown
12. Tux Grey
13. Terratone
14. Wicker White
15. Colonial grey
16. Dove Grey
17. Eggshell
18. Pearl Grey
19. Traditional Blue

20. Cocoa Brown
21. Scotch Red
22. Black

Specialty Colors also available by Special Order:

- Designer Series Copper
- Copper
- Galvanized Steel
- Painted Steel
- Galvalume

Contact Locations:

Birmingham, AL
205-591-9680 / 877-321-5571
Fax: 205-591-9681

Little Rock, AR
501-955-2800
Fax: 501-955-2878

Denver, CO
303-227-3392 / 888-333-2945
Fax: 303-227-3612

Charlotte, NC
888-750-2645 / 704-376-6679
Fax: 704-376-2339

Tampa Bay, FL
727-530-5435 / 800-678-5305
Fax: 727-530-5439

Atlanta, GA
800-299-5305 / 404-574-6550
Fax: 404-574-6565

Indianapolis, IN
317-822-8291 / 888-723-2645
Fax: 317-822-8294

Addison, IL
630-543-5700 / 800-935-6664
Fax: 630-543-5703

Kansas City, MO
816-474-1311
Fax: 816-474-1331

Forestville, MD
301-736-4900
Fax: 301-736-0052

Nashville, TN
615-627-1368 / 866-236-2645
Fax: 615-627-1370

Nashville, TN
615-627-1368 / 866-236-2645
Fax: 615-627-1370

Dallas, TX
972-556-2564 / 866-730-2645
Fax: 972-556-9511

Frequently Asked Questions

Why do I need rain gutters?

Uncontrolled rain water can cause serious damage to a home's exterior and eventual interior. Exposure to constant moisture can lead to structural rotting and decay, mold, mildew, and foundation and landscape damage.

When should I replace my gutters?

If you have steel, vinyl or seamed aluminum gutter systems chances are you need to replace them. Steel gutters will rust, creating holes in the bottom of the gutter, prohibiting proper water flow, while vinyl and seamed systems are inadequately pitched, trapping water at the seams, creating multiple leaks.

What do seamless gutters mean?

A seamless gutter is a single piece of gutter formed on the jobsite to match the exact measurements of a particular job. Gutters can be run in lengths up to 100'.

Can you paint over pre-painted aluminum gutters?

Yes, spray or brushed on house paint will adhere to our pre-painted aluminum gutters. However, it will void Spectra's paint finish warranty.

What is tiger striping?

Black vertical lines on the face of gutters are sometimes called 'tiger striping'. These dirt lines are difficult to remove, even with special cleaners.

What is galvanic corrosion?

Metals are rated according to their nobility ratings. When dissimilar metals are in contact with each other in the presence of oxygen and moisture, the more noble metal will corrode the less noble. Contact between dissimilar metals should always be avoided. For example steel and aluminum are on the opposite ends of the nobility charts and should be treated as such.

What is the difference between 5" and 6" gutter? And how are they sized?

5" gutters are 5" in diameter across the top and are predominantly used on standard residential installations. 6" gutters are 6" in diameter across the top of the piece, allows 40% more water flow than 5", and are used predominantly on large or steep pitch roofs.

What kind of paint finish and warranty is on Spectra's gutter and cover material?

All of our gutter material and accessories are coated with a polyester based, baked-on enamel finish, which includes a 20 year manufacturer's warranty.

What gauges are standard for residential gutters? And downspouts?

Residential gutters are standard .027 gauge, with a heavier gauge .032 used in colder climates. Downspouts are standard .019 gauge, and come corrugated to add strength and rigidity.

Why are hangers better than spike and ferrules?

Hidden hangers are fastened to a home's fascia, using screw fasteners, which hold the gutters in place allowing the gutter system to function properly. Spikes are hammered into the fascia, but over time always pull out of the wood taking the gutter with it. This allows the water and debris coming off the roof to go behind the gutter and collect directly on the home's structure, causing damage.

What gauge are the hidden hangers?

Hidden hangers are made of aluminum and are .063 in gauge.

How far apart do you need to install hidden hangers?

SMACNA requires a 36" spacing between hangers, however we recommend a 24" spacing.

Is Leaf Protection Panels nailed into the roof?

No. Our gutter cover does not interfere with the roof decking or roof shingles. Most gutter guards are applied under the first or second row of roof shingles, which can lead to roof warranty issues, broken shingles during installation, and costly uninstall and re-install problems when roof repairs are needed.

Do I need gutter covers if I don't have any trees?

Yes. Any objects that could gather on a roof, like balls, twigs, or leaves blown in from trees around the home, will eventually find its way into the gutters, causing flow issues and overflow problems.