



Building Owners Guide to **Commercial Gutters**

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Section 1: Introduction to The Basic Types of Commercial Gutters

Commercial gutter systems are not the same as residential gutters. While the gutter materials have similarities, the styles, sizes and durability requirements differ. Commercial buildings also normally have different legal or building code requirements, depending on city or county regulations.

Commercial Gutter Styles

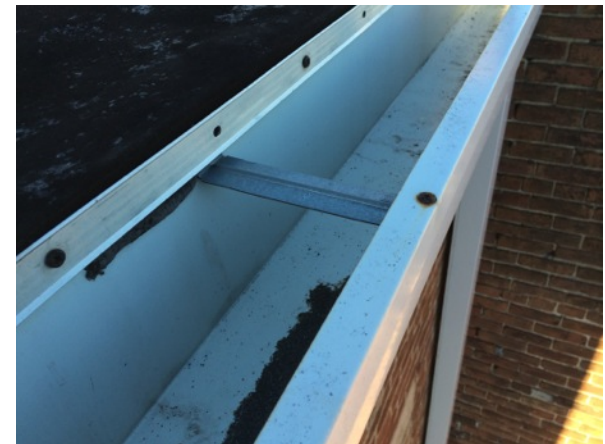
Gutters do come in several styles. K-style or U-shaped are often used for residences, with U-shaped a popular choice for copper guttering. The K-style has a profile that resembles a K and looks similar to crown molding when installed. This style can be used for commercial applications and does provide an attractive appearance.

Box gutters are frequently used in commercial installations. The shape allows for more water volume than a similarly sized K-style gutter. This shape gives additional protection for larger buildings with higher water run off. Box guttering is slightly more prone to collecting debris, but most commercial building do not have large trees overhead to present a problem. Box guttering can also be manufactured in larger sizes to meet greater volume needs. For commercial buildings that do have leaf or debris issues, guards can be added to reduce build up and maintenance problems.

Commercial Gutter Size

Gutters can be manufactured in a variety of sizes, but commonly come in five-inch and six-inch widths. The five-inch size is most frequently used in residential applications. Commercial buildings are normally larger, with a larger roof area. The extra run off requires the larger six-inch size gutter.

A small commercial building could use a smaller gutter, but the water volume is an important consideration. The larger gutter size will also provide the additional durability needed for commercial applications. The downspout size is also a factor. Five-inch gutters will normally use 2 x 3 inch downspouts; six-inch systems use 3 x 4 inch downspouts. Adaptations can be made.



Materials Used for Commercial Guttering

The highest durability comes from 24 gauge galvanized steel or heavy aluminum. Steel offers exceptional durability for commercial purposes. Steel guttering is heavy and must be installed properly to avoid pulling away from the building under heavy use. Aluminum is available in different gauges and thicknesses. It does provide a lighter weight gutter and will not rust.

Steel and aluminum guttering can have protective coatings added to reduce corrosion, add durability and provide color. This should be done by the manufacturer, painting gutters after installation is not recommended.

Copper guttering is an option for commercial use. It is more frequently used in residential applications due to its appearance. The copper develops a patina that adds a unique look to the property. However, copper can be used for commercial properties and may provide a distinct look that the building or area requires. Vinyl is not normally used for commercial gutters. This is a lower cost alternative for residential guttering.

Code Requirements

Codes do vary by location, but due to the size of commercial buildings, gutter systems are usually covered under building regulations. These requirements normally involve the size and material of the gutter used. Many areas also place restrictions on where the run off is directed in order to reduce flooding to nearby buildings or sewer systems.

When you work with a professional commercial gutter company, they will know the requirements for your building size and any regulations that apply for your location. You also have the benefit of commercial experience, which makes a difference in the installation and how well your gutters last.



Section 2: The purpose and Importance



Section 2: The Purpose and Importance of Commercial Guttering

Commercial property owners and managers are well aware of the importance of the roofing system installed on their buildings. A poor roof will end up leaking and creating property damage. Unfortunately, owners and managers may not be aware of the true importance of the guttering system and how gutters are designed to work.

How Commercial Gutters Work

Commercial guttering systems are normally larger than residential. While homes may use five-inch gutters, commercial designs are six-inches or larger. The roofing system on commercial buildings is larger and the gutters must handle larger volumes of water. The materials used in the manufacturing of the gutters must also be more durable to support the additional weight of the water.

One gallon of water at room temperature weighs just over eight pounds. This is considering the water is relatively pure. When debris from the roof is included, one gallon can weigh significantly more. At freezing temperature the water weighs the same, but it increases in density and decreases in volume.

In areas subject to freezing, the gutters become even more important. Water that cannot be evenly distributed away from the roof will build up and freeze. The gutter area holding one gallon of water now has room to hold more water and therefore more weight. This type of freezing damage may not be noticed immediately and can lead to significant problems later.

Installation

Just like commercial roofing installations, gutters for commercial building require professional installation by experts in the field. If gutters are not placed properly, water can run off between the roof edge and the gutter, or flow over the gutter edge straight to the foundation.

Gutter pitch is critical. Water runs downhill. The gutters must allow the water to flow correctly; an incorrect pitch will create build up before the rainfall is diverted. Anchoring is also a factor when the size and weight of the gutter and the weight of the increased water volume is considered. Without substantial support, the guttering will pull away from the building. Commercial specialists understand the different needs of commercial properties.



Downspouts

Downspouts are used to direct the water from the guttering and away from the foundation of the building. When water is not diverted properly, erosion to the foundation and landscaping become a problem. Flooding to adjoining buildings or areas is another danger. The size of the commercial guttering required, and the number of downspouts needed to protect a building will be calculated by the size of the roof. Additional factors may include the average rainfall pattern in the area. A location with a low weekly rainfall will not require as extensive a system as an area that receives rainfall in large volumes at one time.

A commercial roofing system is really only as good as the guttering attached to it. If the water cannot be efficiently diverted from the roof, leaking, flooding and damage will occur.



Section 3: Why Maintaining is Important



Section 3: Why Maintaining Your Commercial Gutters is Important

Maintaining your commercial gutter system is not a difficult process, but it is an important one. Poorly maintained gutters will fail and can cause significant damage to the property. You should also consider the investment in your commercial guttering; proper maintenance will protect both your building and the investment you have made.

Inspection

Commercial roofing should be inspected yearly, in some cases twice a year inspections are recommended. When you roof inspections are being performed, your guttering systems should be done. A commercial service is your best choice, but your own personnel can do the job if they have the required experience.

The inspection should include checking for blockage and corrosion damage. Gutter hangers and any support systems are critical in ensuring that your guttering does not pull away from the roof. Loose or rusted connectors can be replaced during an inspection to prevent problems in heavy rains.

Make sure that any guttering inspection includes checking for breaks or separations along any seams. If problems are detected early, they can often be repaired. Downspouts must be checked to make sure that they are securely attached and drain far enough away from the foundation.

Downspouts and splash blocks can normally be inspected from the ground, which allows for inspections that are more frequent. Because of their location, they are more prone to damage. Do have someone check these items on a monthly basis. If a part has been knocked out of position, having it restored is an easy process. Ignoring it will lead to flooding.



Cleaning

Commercial gutters do require cleaning. The larger openings allow more debris to enter. For buildings that do not have large trees overhead, the cleaning process can be performed less frequently. Buildings that tend to accumulate leaves, pine needles and other debris will need cleaning twice a year.

Early spring and late fall are usually the best times to have this work completed. This will reduce the blockage that interferes with run-off during spring rains and help reduce the possibility of ice formation during winter months. Inspect the ends of downspouts and clean out any accumulated debris, especially in areas with heavy foliage.

Commercial gutter guards can be installed to help keep excess debris from entering the system. Cleaning can also be performed to keep the guttering looking new. Mold or mildew can build on the exterior and become unsightly.

If you have questions regarding the maintenance your commercial gutters require, ask the professional who installed them. A commercial gutter company will be happy to provide you with the information you need and may be able to provide you with a service package to make the process worry-free.



Section 4: Troubleshooting and Repair Options



Section 4: Troubleshooting and Repair Options for Commercial Gutters

Maintenance will keep your commercial gutter system working properly. However, if a problem develops, it will help if you have an idea of the cause and the possible repair options. Many guttering problems can be solved without extensive work or complete gutter replacement.

Water not Flowing or Overflowing

Slow drainage or water spilling over the edge is normally caused by one of two problems. If rainwater is not being diverted, there is most likely a clog in the guttering system. An inspection and cleaning is the first step to take in this situation.

During the inspection, a professional should check the size of the gutters to ensure they are adequate for the size of the roof. Unfortunately, if the guttering is undersized it will need to be replaced.

Slope or Pitch Shifted

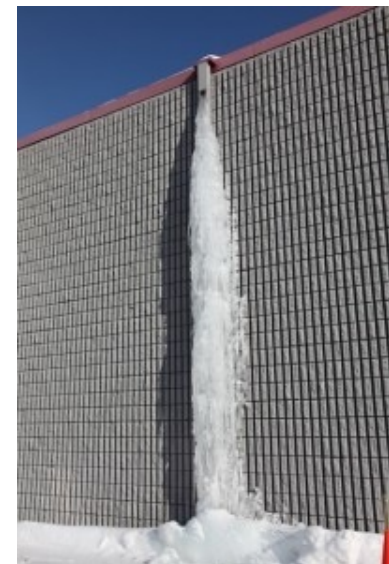
If your gutters are clean and sized appropriately, but still draining slowly, have the pitched checked. Guttering will slope downwards slightly to effectively draw water from the roof. The normal slope is between one to two inches over 40 linear feet.

This pitch can change as hangers become loose and allow the guttering to slope in the wrong direction. Newer buildings may also settle over a few years, changing the slope of the entire building. A simple adjustment will need to be made to lift the sagging gutter area to create the correct pitch.

Ice Dam Formation

Ice dams appear as large formations of icicles hanging off the edges of the roof and gutter. These dams tend to occur on sloped roofing systems, but can occur anywhere when ice melts and then refreezes before it is diverted from the guttering. On sloped residential roofs, the problem is often caused by insulation problems.

The same heating and cooling issues can occur on commercial roofs. Unfortunately, on large



buildings, insulating may not be a viable solution and a lack of insulation is not the only reason dams form. For sloped commercial roofs, heated panels along the drip edge can stop the ice formation. Heating systems for the guttering along flat roofs will keep the water flowing.

Do consult a professional commercial gutter company if your building has ice dam problems. The situation can lead to gutter and roof damage. Icicles breaking away from the gutter are also a hazard for individuals walking underneath the roof edge.

Storm Damage

Hail may chip away some of the protective coating on steel guttering. In most cases the coating will stand up to hail, but an inspection should be performed. Small dings or dents in the guttering normally do not present a problem as long as the structure itself is not damaged.

Breaks Along the Gutter

Seams and connecting sections of seamless gutter may come apart over time. If leaks are noticeable along the length of the gutter, an inspection should be made to locate the break. Water can run a long way along the side or bottom of a gutter, so accurate diagnosis is required. Seamed and seamless gutter can be resealed as long as no rust or corrosion is creating the problem. Once rust begins to form, the gutter section should be replaced.

When you have guttering problems that are beyond the expertise of your maintenance personnel, work with a commercial gutter company. Commercial systems require experienced professional to make sure that the gutters provide the designed level of protection.

