



Mole Roof Gutter & Downspout System

— Roof Drainage System Manufacturing Specialist —

Green Materials Investment Import Export Joint Stock Company

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Corporate Culture

We are adhering to the Corporate Philosophy :honest and trustworthy, respect for science, service foremost, continuous innovation.carry forward the Entrepreneurship: hard work, diligence and pragmatic in line with the steadfast working attitude, we will continue to do a good job on each project.

Our quality slogan:always make the customers at ease.
Our values: to rely on science and technology, strengthen the management, lean production, Keeping the customers satisfied.
Our behavior goal: fine, transparency and standardization.
Our work style: positive attitude, steadfast responsible spirit, rigorous habit of collaboration.
Our core advantages: the perfect combination of mass production and customization development to fully meet your requirements.



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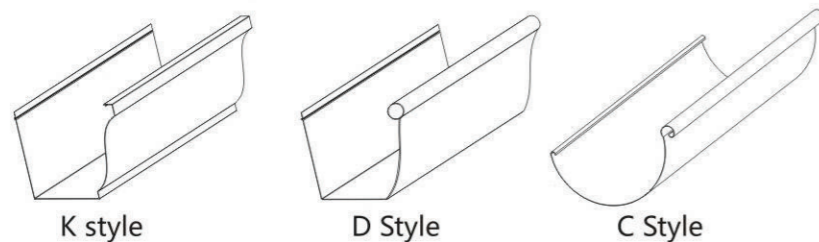
MATERIAL INTRODUCTION



Roof drainage system

It is an inalienable part of roof system. The roof drainage system is the optimal choice for most villa、multi-storeyed apartment、commercial building.it is easy to install , having beautiful appearance and all kinds of colors.it makes the house both more beautiful and accomplish the drainage.

Main shapes of aluminum rain gutter:



Factor for gutter & downspout size:

Gutter & downspout size depends on roof displacement. And roof displacement depends on the roof area, gradient, and local rainfall intensity. It Causes unnecessary waste when you determine the gutter & downspout size according to the roof area.

Research results from NIST of US show that:

Gradient	Roof drainage Coefficient
0~3/12(0° ~ 16°)	1.00
4~5/12(16° ~ 24°)	1.05
6~8/12(24° ~ 36°)	1.1
9~11/12(36° ~ 45°)	1.2
12/12(>45°)	1.3

INSTALLATION

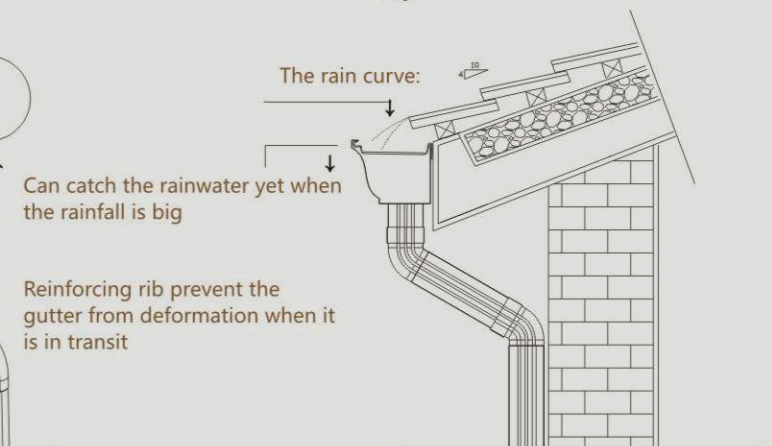
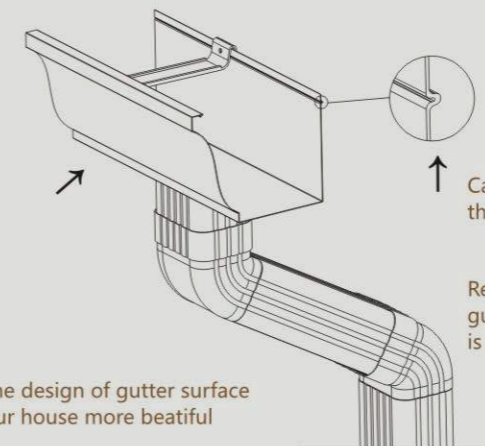
Different from seamed pipe that is not tight and cause leakage

No convergent traces makes the downspout have smooth and beautiful surface

One-step pipe elbow is easily installed, no-leak, no folds,make the appearance look more smooth

Aluminum skew tee is easy to install and not easy to leak,meanwhile ,it also has smooth and beautiful appearance.

Aluminum pipe side elbow is easy to install and has good drainage effect.at the same time it is not easy to leak.



Streamline design of gutter surface make your house more beatiful

Reinforcing rib prevent the gutter from deformation when it is in transit

Different from seamed pipe that is not tight and cause leakage

No convergent traces makes the downspout have smooth and beautiful surface

The clip design is conductive to reduce the leakage and make the install more easily

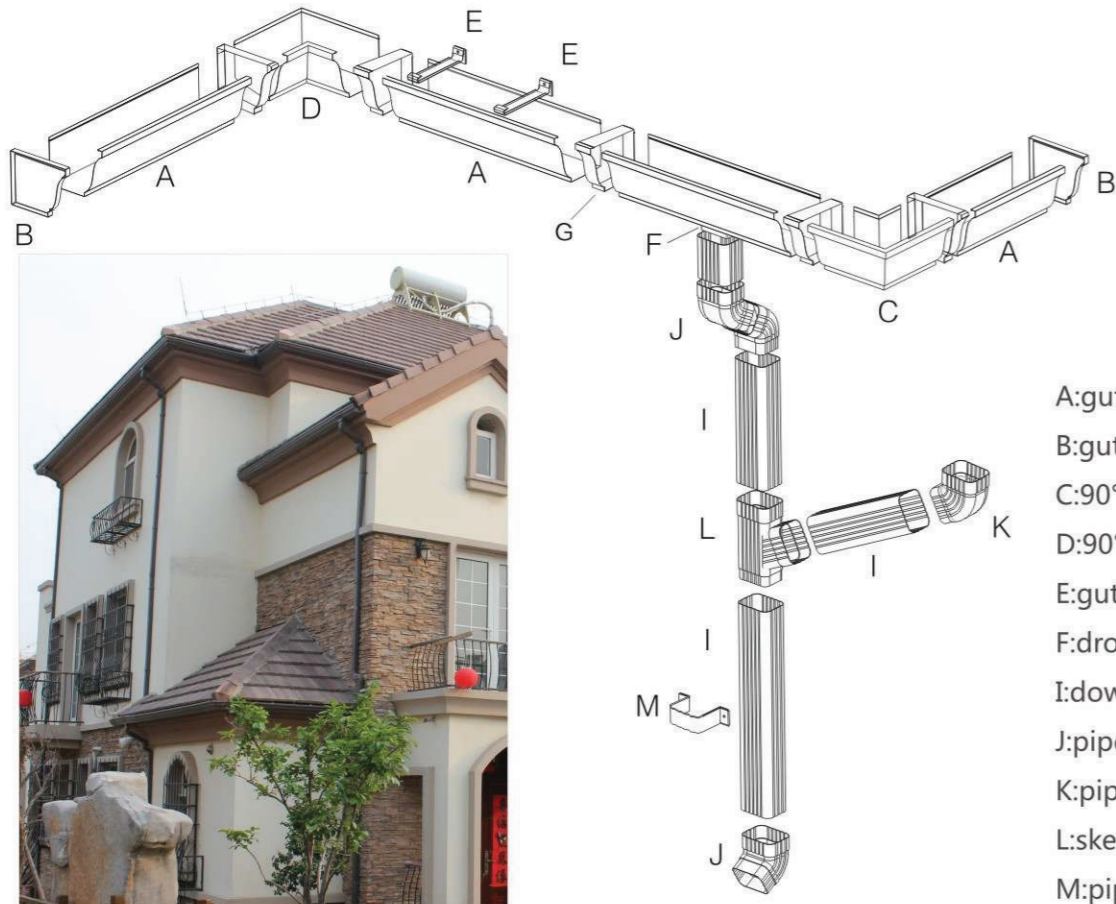
One-step pipe elbow is easily installed, no-leak, no folds,make the appearance look more smooth

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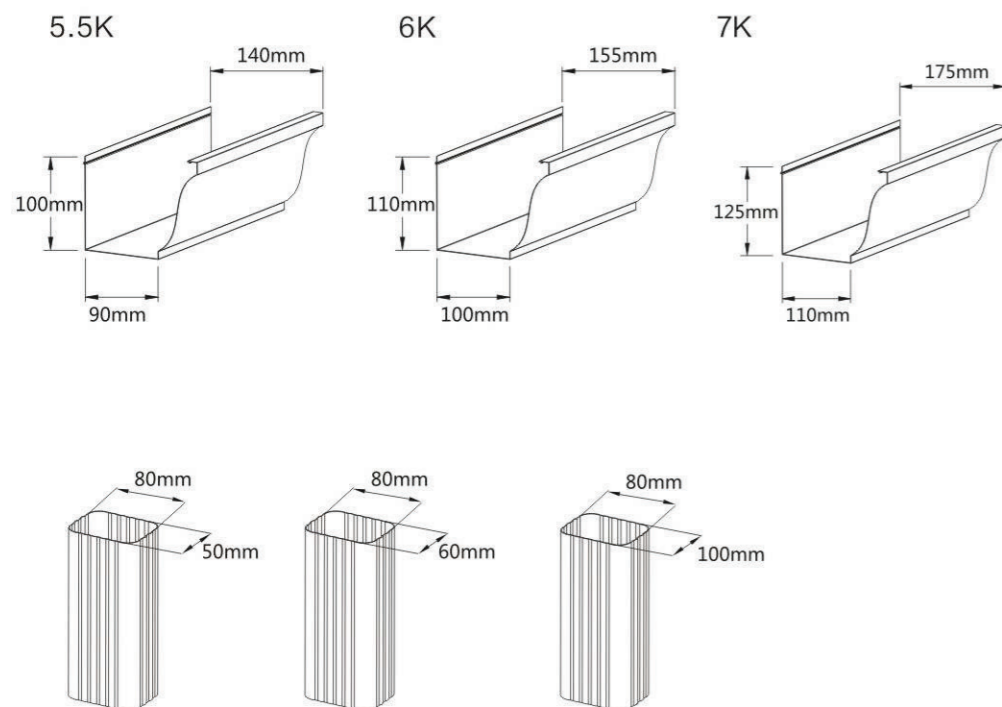
Aluminum pipe side elbow is easy to install and has good drainage effect.at the same time it is not easy to leak.

Color aluminum roof drainage system

Structure of K-Style roof drainage system



A:gutter
B:gutter end cap
C:90°outside corner
D:90°inside corner
E:gutter hanger
F:drop outlet
I:downspout
J:pipe elbow
K:pipe side elbow
L:skew tee
M:pipe clip



Some important points of installation for the color aluminum rain gutter

1. Gutter interface should be compacted, and no loosen, otherwise it will influence the effect of installation
2. The whole gutter should be level, the error range must less than 2cm. because the gutter installation will have a 2cm tilt to the downspout position. so that it will make a result that the roof and the gutter are not suit.
3. The distance between the roof tile and the gutter must be less than 4cm, 3cm is the best distance, otherwise rain will flow over the gutter and drop down the ground directly.
4. The gutter painting should be finished before the gutter installation, otherwise it will cause the installation more difficult and some pollution to the gutter.
5. The distance between gutter and the position of scaffold must be more than 30cm, otherwise there will be no space for the installation of gutter.

Product process

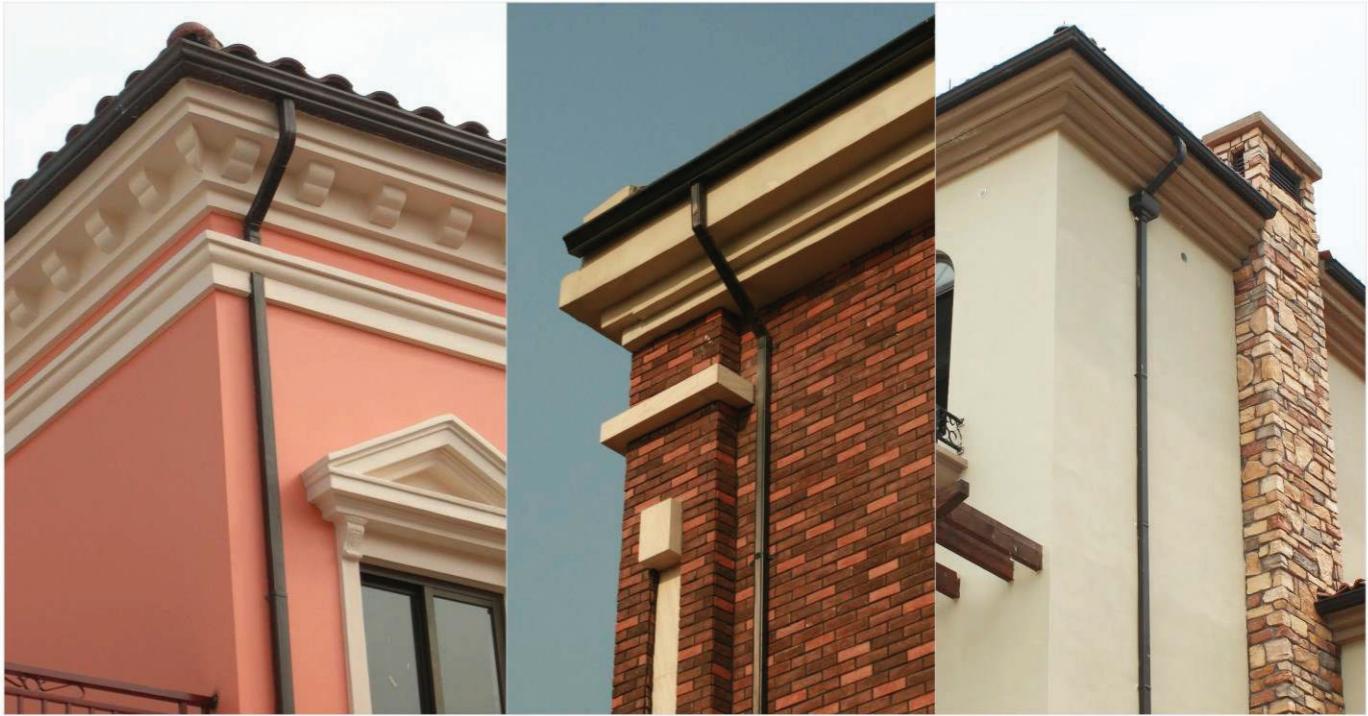
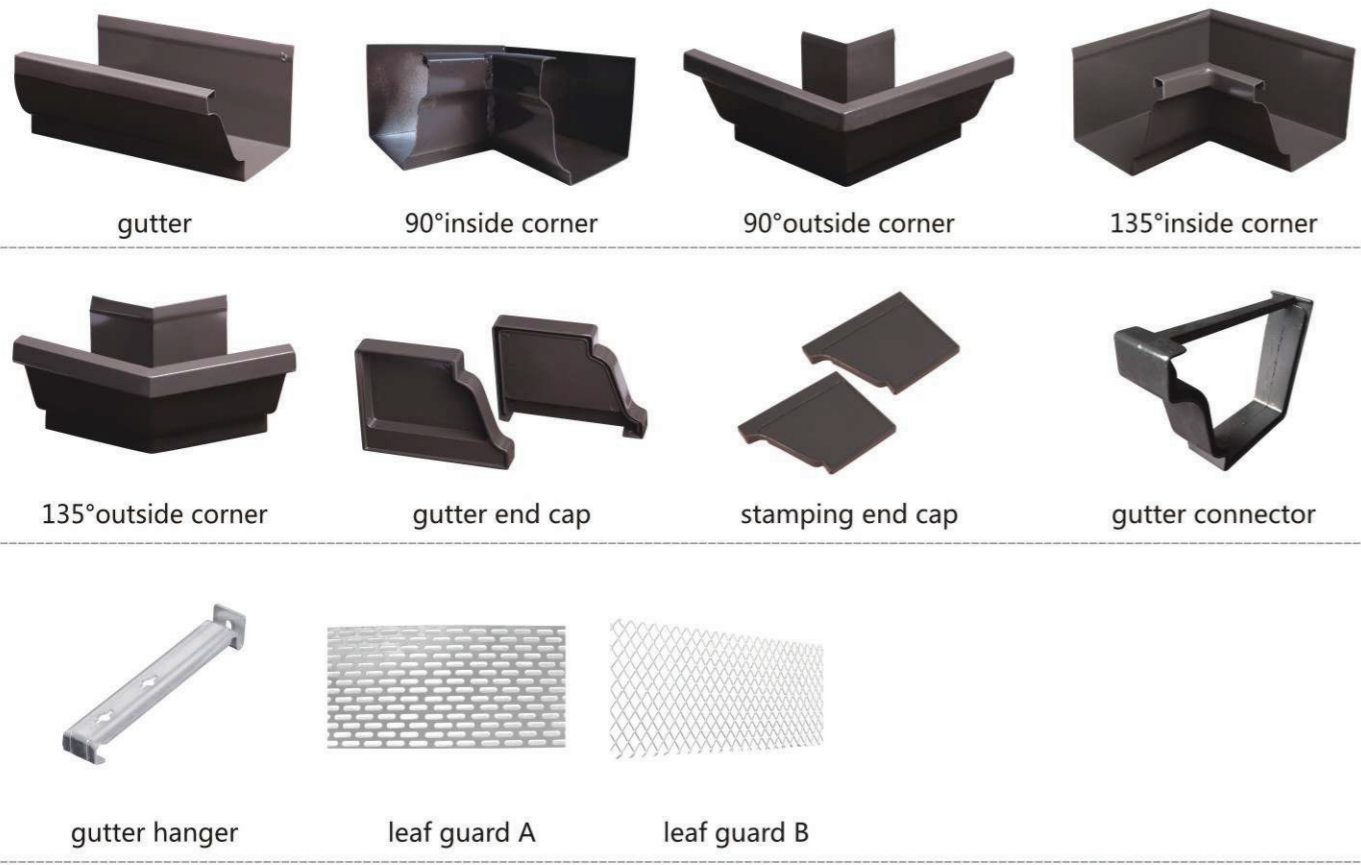
Traditional K-style roof drainage system
Unique one-step molding technology, seamless, avoid cracking
Increase the wall thickness, effectively reduce the noise

Color

Colored high weather resistant polyester outside paint
Pure color
Anti-aging
ANTI-UV



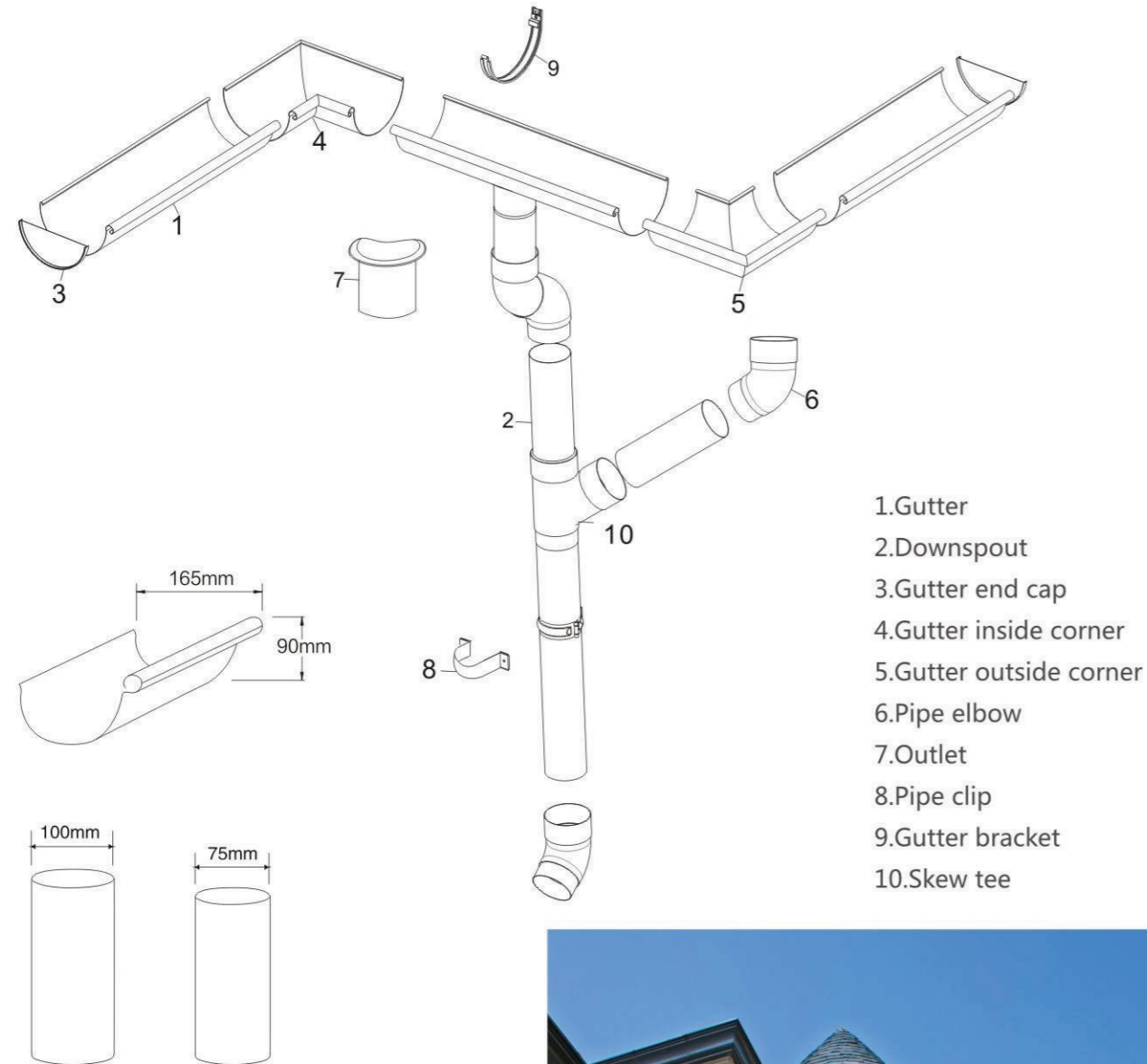
K-style rain gutter series



Square downspout series



6.5inch aluminum half-round roof drainage system



Product process

1. Traditional half-round rainwater system
2. Unique one-step molding technology, seamless, avoid cracking
3. Increase the wall thickness, effectively reduce the noise

Color

1. colored outside high weather--resistant polyester paint
2. Pure color
3. Anti-aging
4. ANTI-UV



Half-round rain gutter series



half-round (U shape) rain gutter 90° inside corner 90° outside corner 135° inside corner



135° outside corner gutter end cap gutter bracket

Round downspout series



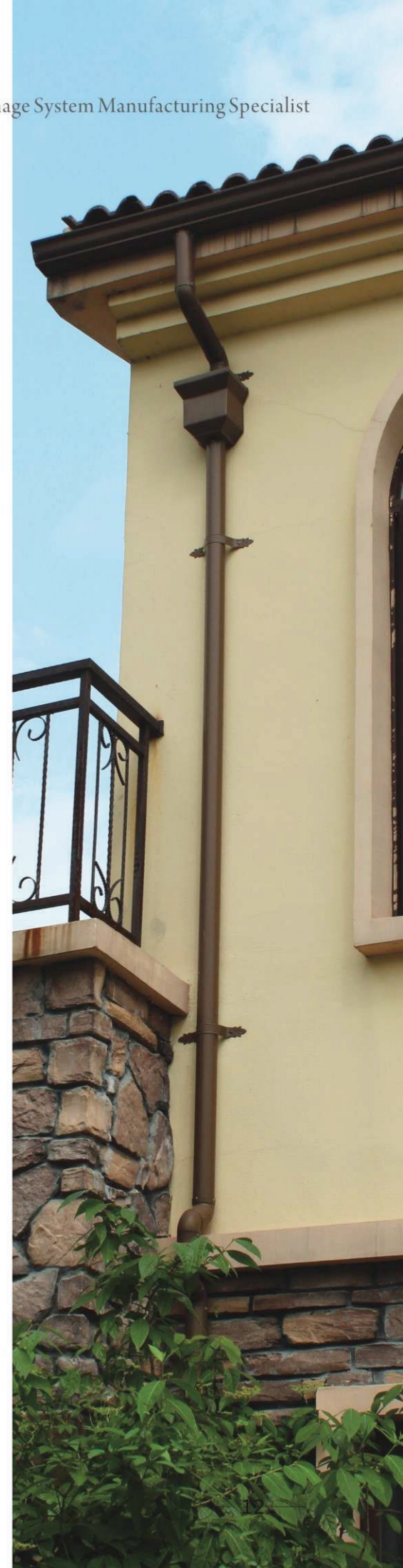
round downspout Φ100 outlet Φ75 outlet



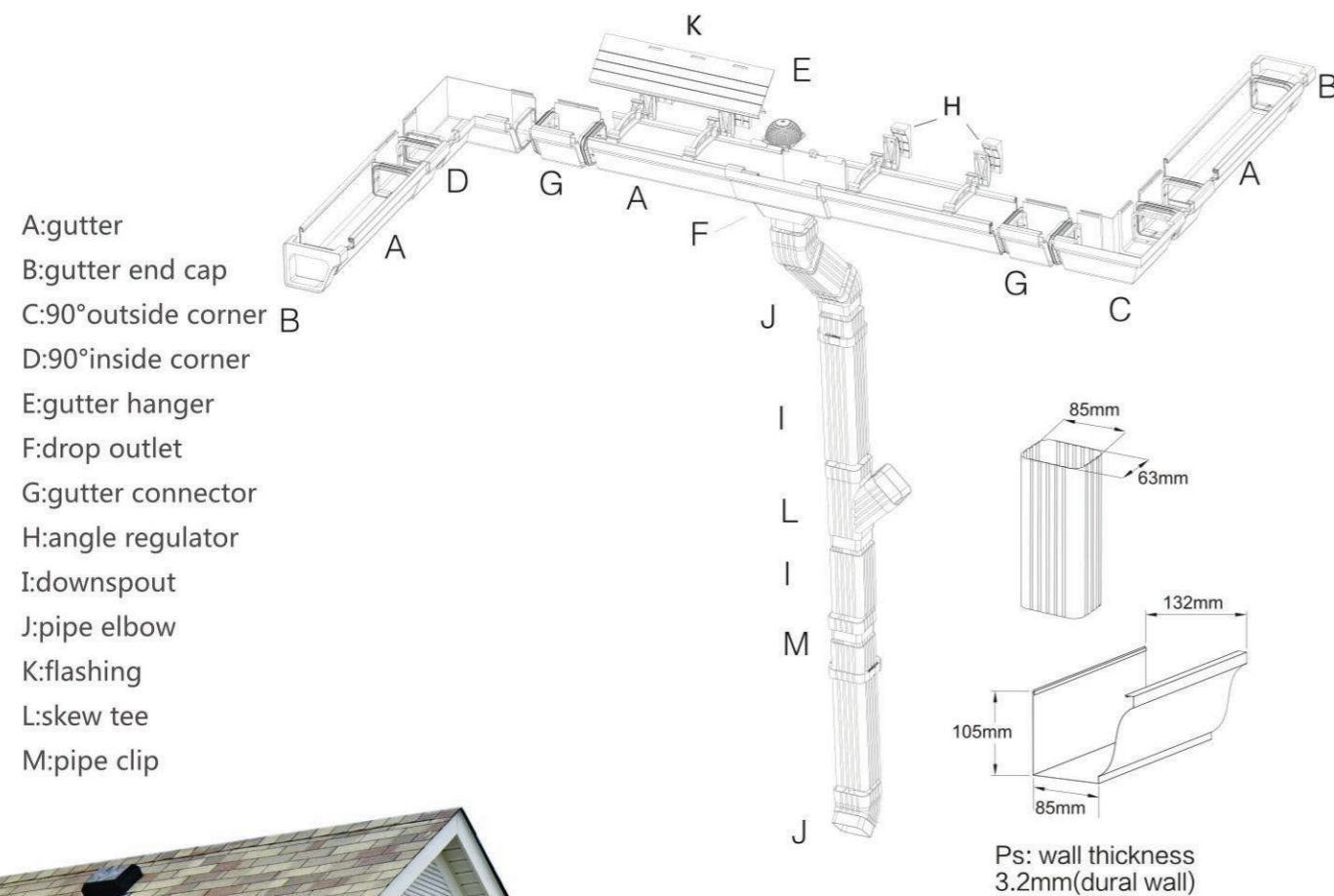
skew tee 65° pipe elbow 90° pipe elbow



pipe joint pipe clip(double) fancy pipe clip



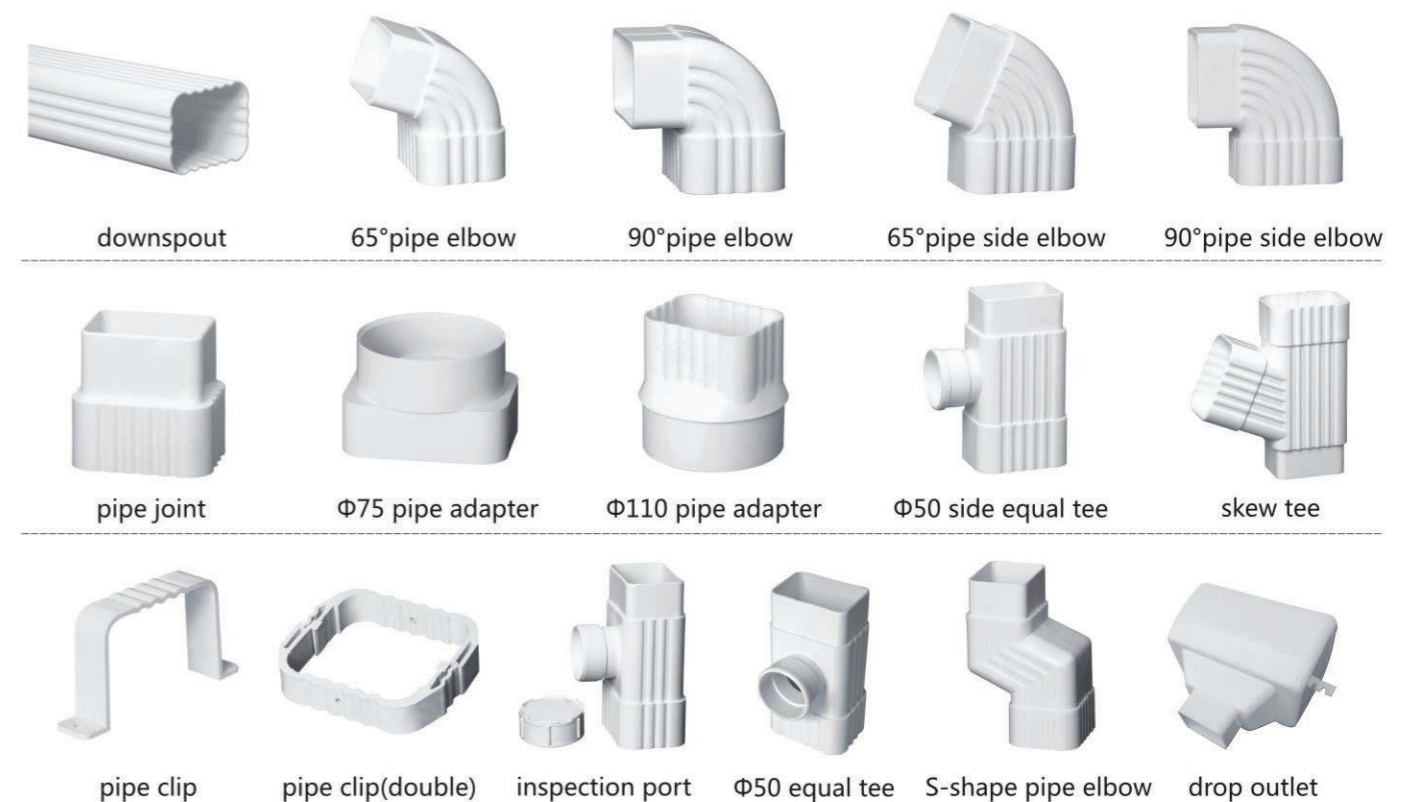
5.2inch PVC roof drainage system



Gutter

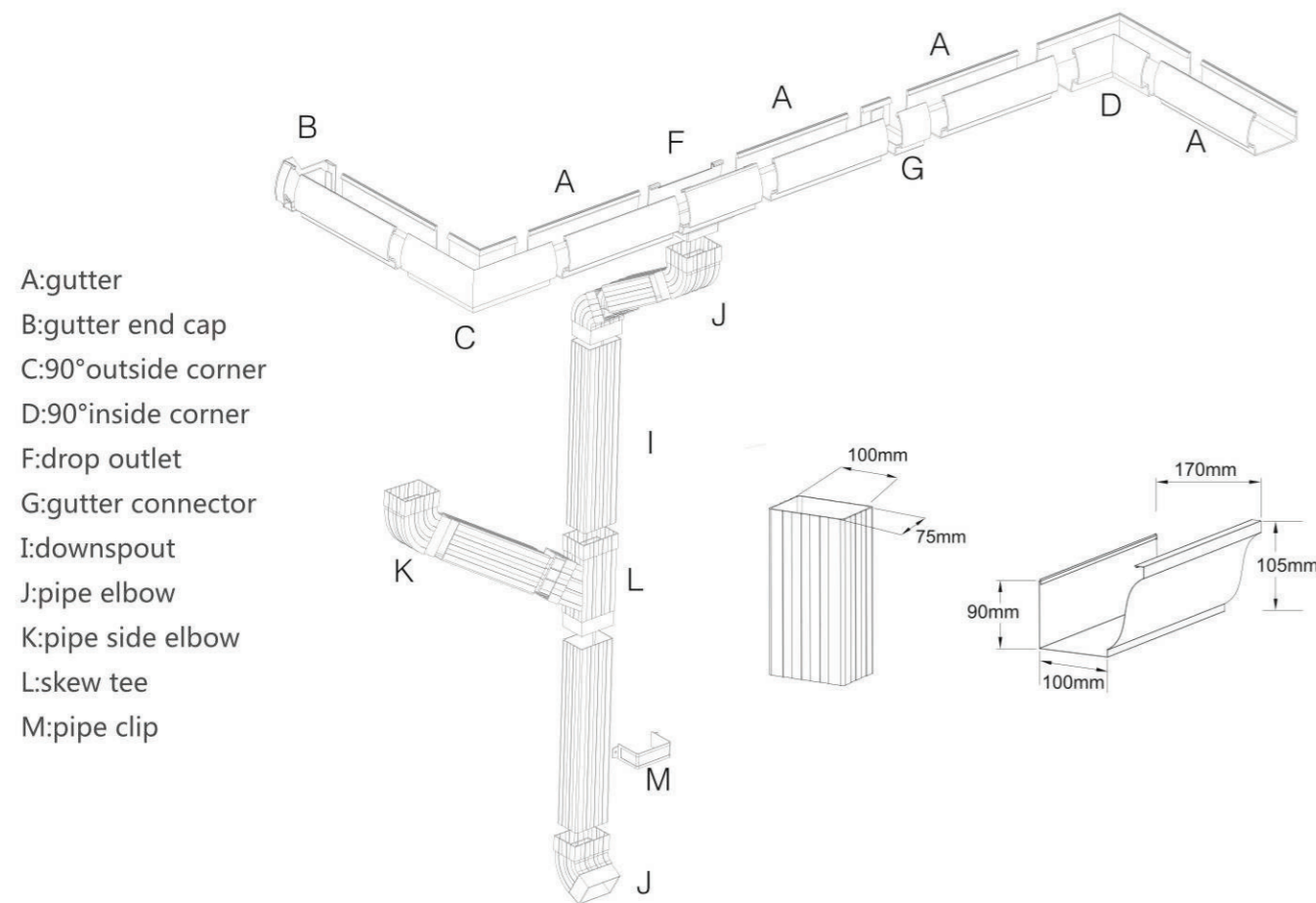


Downspout





7inch PVC roof drainage system



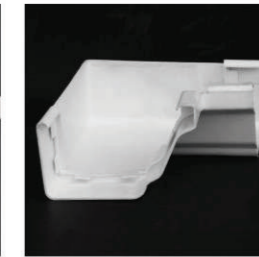
Gutter



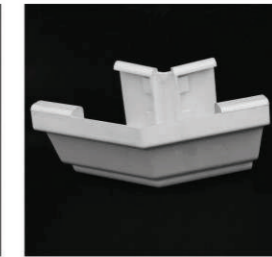
gutter



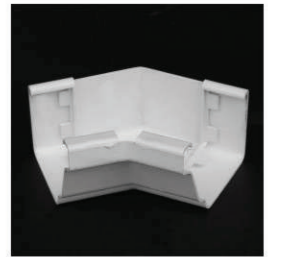
90°outside corner



90°inside corner



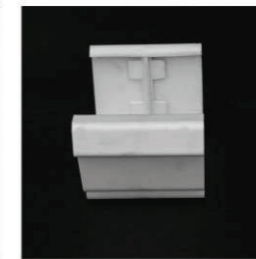
135°outside corner



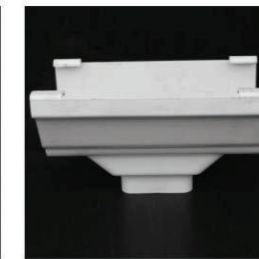
135°inside corner



gutter end cap



gutter connector

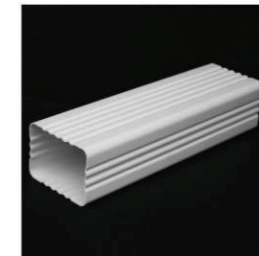


drop outlet



gutter hanger

Downspout



downspout



65° pipe side elbow



65° pipe elbow



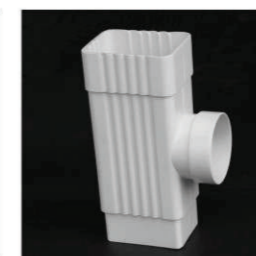
90° pipe side elbow



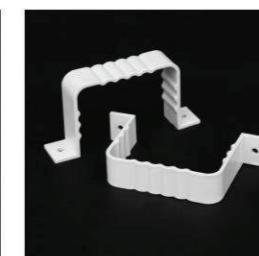
90° pipe elbow



inspection port



equal tee×Φ50



pipe clip



pipe adapter
(square to round)
Φ110



drop outlet



pipe joint
(with telescopic joint)

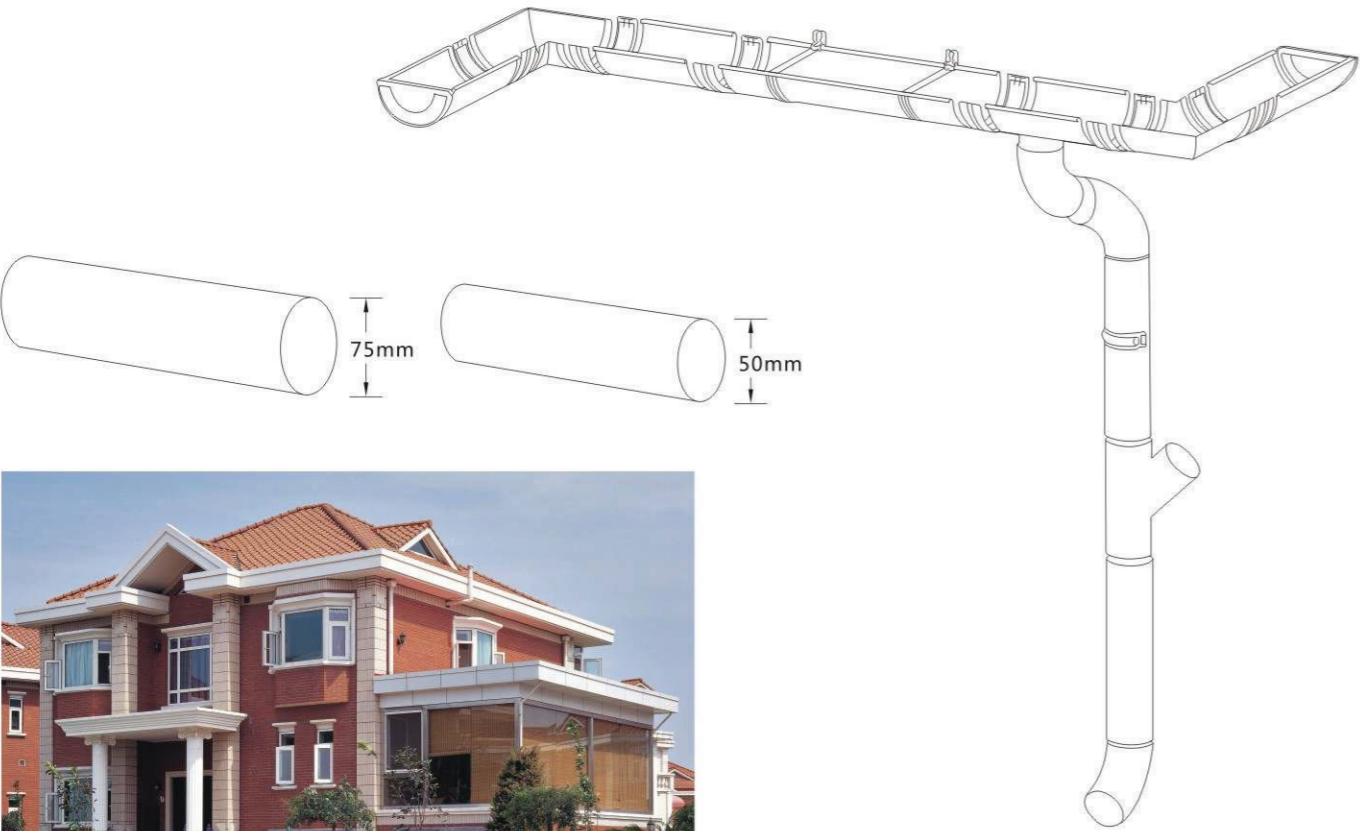


pipe joint



skew tee

PVC round rain gutter system



PVC round rain gutter system



Gutter installation

◆Determine the downspout location

Choose the right location of downspout according to the drawing

◆Draw the gutter leading line

Vertical down 30mm from the top of the gutter as the datum point, draw the ink line along the horizontal direction;or draw the gutter leading line from the datum point to the downspout direction on the basis of declining 6mm per 3m

◆Determine the length of the bottom of gutter

The gutter length must be equal with the eave length

the gutter length should be 130mm longer than the eave length when the gutter has a 90° corner.the gutter length should be 54mm longer than the eave length when the gutter has a 135°corner. each joining part length is 50mm if the gutter is piecewise connection

◆Gutter connection

Cut the gutter, make the gutter connected cut, connect the gutters with 4mm×16mm pulling rivet on the ground or roof

◆Gutter installation

- A. According to the following distribution requirement of the gutter hanger, drill a hole which has Φ6mm and depth 50mm(at least) Along the gutter leading line vertically down about 20mm. And meanwhile embed the Φ6mm plastic expansion bolt
- B. The distribution requirement of the gutter hanger
 - a) Install the first gutter hanger to the gutter from the gutter conversion or the gutter end cap
 - b) Install gutter hangers 150mm away from either side of the gutter end cap and the gutter conversion
 - c) The maximum interval between two hangers should be less than 600mm
- C. Use 4.2mm twist drill to penetrate the inside wall of gutter through the hanger hole
- D. Fix the gutter on the eave with 4mm×400 stainless steel skew which penetrates through the hanger hole
- E. Inner and outer corner should have a trial assembly firstly on the roof or the ground: firstly connect the corner to one side of gutter then adjust the angle, sencondly the other side of gutter
- F. Daub the weather-proof special sealant evently on the gutter joint, gutter end cap joint and other joints

Downspout installation

◆Make the downspout outlet

According to the location of downspout outlet,drill a Φ60mm hole , you should use the weather-proof special sealant when install the concealed drop outlet

◆Install the pipe elbow

After the installation of the concealed drop outlet and 2.5hours later,then you can rivet the radius of 4mm×16mm brick on the downspout outlet.

◆Determine the position of the pipe clip

- A. According to the location of the downspout outlet,use the plumb to determine the vertical position of the pipe clip
- B. The maximum interval must be less than 1.5meter between two pipe clips.and you must put a clip under the pipe elbow which is connected with gutter
- C. Install a clip on the location which is 30cm above the bottom of the downspout
- D. Install a clip on the downspout interface to cover the seam

◆How to connect the downspout

Cut the downspout, then make a socket end by special tube pliers, the socket length must be 30mm in order to insert the downspout, rivet the connection with the pulling rivet. and the same as the connection of the pipe elbow and downspout

◆Downspout installation

Drill a 6mm radius hole on the right place of the outer wall, Embed the 6mm radius plastic expansion bolt, Use the sides of clip to defend the downspout, Fix the downspout on the wall with radius of 4mm×40mm galvanized self-tapping screw (not suggest using stainless steel self-tapping screw). If the outer wall has insulating layer,you must lengthen the expansion bolt and self-tapping screw to make the the gutter steady

ps:

- a)The material of accessories must be copper if you use the copper gutter.Use the tin welding to cover the inner seam and the clips should be fixed with stainless steel screw or copperized screw.
- b)If you use European style half-round gutter,the downspout shoud outfit the round tube,the clip should also be round.Install the clip before the downspout installation. Firstly drill a 8mm radius hole on the right location of the outer wall.Embed the 8mm radius of plastic expansion bolt ,unscrew the clip.Fix it on the outer wall by radius 5mmX60mm of copperized screw or stainless steel screw; At last screw the clip tightly.



Color Card



coffee



speckle copper



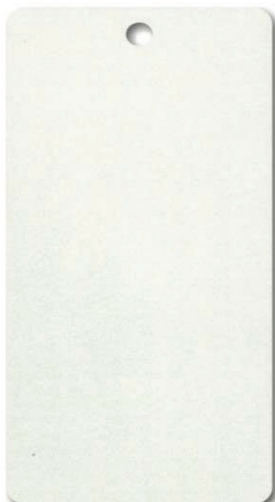
grit streak grey



ellachick grey



grit streak black



ivory white



chestnut brown



deep brown



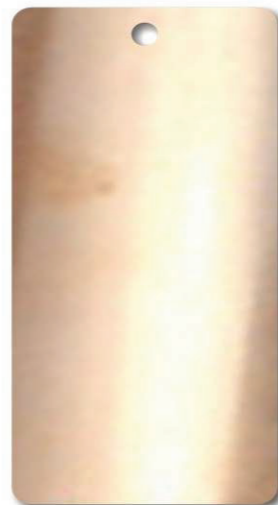
light tan



ancient ceramic



antique brass



pure copper

Color can be customized according to the customers.these colors are for reference only.
Color card is free!

Project Case



Project Case

