



BIM user manual

Lindab **Rainline** BIM for Revit

Rainline BIM for Revit is a rainwater system
BIM object library available for the Autodesk
Revit platform





Summary

Gutters in 125 and 150 dimension are the most common in practice, therefore they are available as “Gutter Systems” in the current release of Rainline BIM for Revit.

Downpipes in 75, 87 and 100 are included in the “Downpipe Systems” in various combinations with the 125 and 150 gutters, with complete specification information, as well.

Gutters in 100 and 190 with brackets, stop ends and gutter joints in 2D and 3D are also included in the current release, with support on item level.

We will continue our work to increase the number of items, product sizes, support and functionality for the future versions of Rainline BIM for Revit.

The BIM objects are designed for Autodesk Revit 2016.



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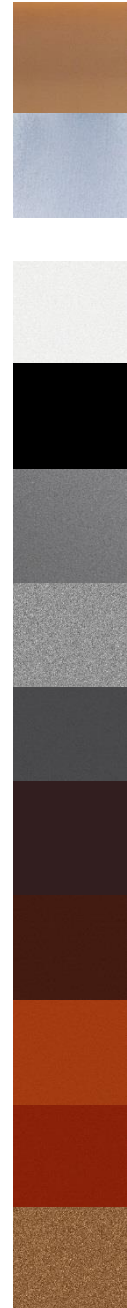
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1. General

The rainwater system are available in multiple dimensions and comes in pre-painted steel in 10 different colors, also copper and Magestic. For size and availability in your country, please visit your local Lindab website.

- Copper – Plain copper material: 99,9% Cu
- Magestic – Steel with Zinc-Magnesium-Aluminum alloy coating
-
- 001 Antique White – High Build Polyester
Nearest NCS: S 1002-G50Y
- 015 Black – High Build Polyester
Nearest NCS: S 9000-N
- 044 Anthracite Metallic – High Build Polyester
Nearest RAL: 9007
- 045 Silver Metallic – High Build Polyester
Nearest RAL: 9006
- 087 Dark Grey – High Build Polyester
Nearest NCS: S 7005-B20G
- 387 Coffee Brown – High Build Polyester
Nearest NCS: S 8502-Y
- 434 Brown – High Build Polyester
Nearest NCS: S 8005-Y80R
- 742 Tile Red – High Build Polyester
Nearest NCS: S 5030-Y80R
- 758 Dark Red – High Build Polyester
Nearest NCS: S 5040-Y80R
- 778 Copper Metallic – High Build Polyester
Nearest RAL: 8001

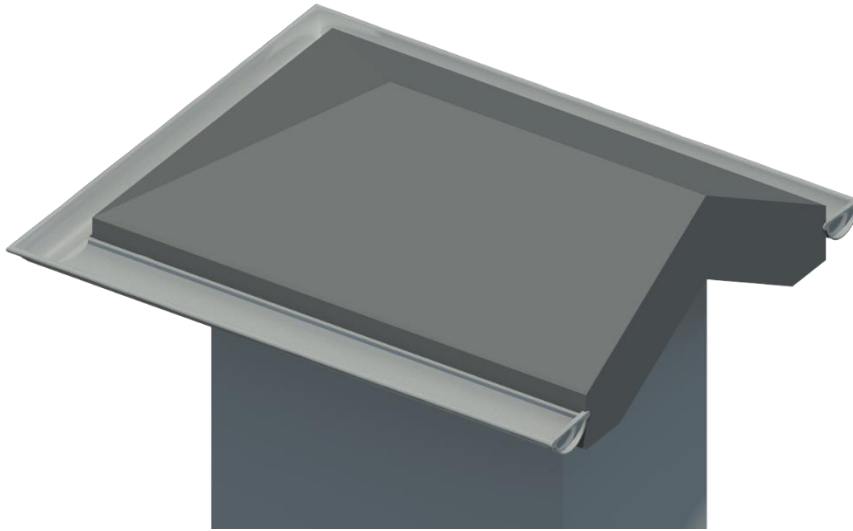


Due to printing limitations, the shown colors on this chart are not exact. Request a material sample if a precise color match is required.



2. Gutter Systems

This package contains gutter systems that includes a gutter with optional gutter accessories on the left and right side of the gutter. The available accessories are stop ends and outer and inner gutter angles. These are the families to use when a specification and a correct buildup of a rainwater system is needed.



Family category in 3D: Line Based Generic Model

Sub category in 3D: Gutter System

The following gutter systems are available:

- Gutter System 125
- Gutter System 150

The gutter systems comes with a set of type parameters showing material quality, coating and color. There are also parameter links to other valuable resources on the Lindab website.

Use the '*Vertical Profile Offset*' and '*Horizontal Profile Offset*' instance parameters to adjust the gutter system into the correct position. Our gutter system have a 5 mm horizontal offset built in to fit the gutter accessories directly without modification.

The gutter systems are standard Revit component families which means that they can be loaded with the '*Load Family*' tool. The available types for each of these gutter systems are given in the corresponding type catalogues.



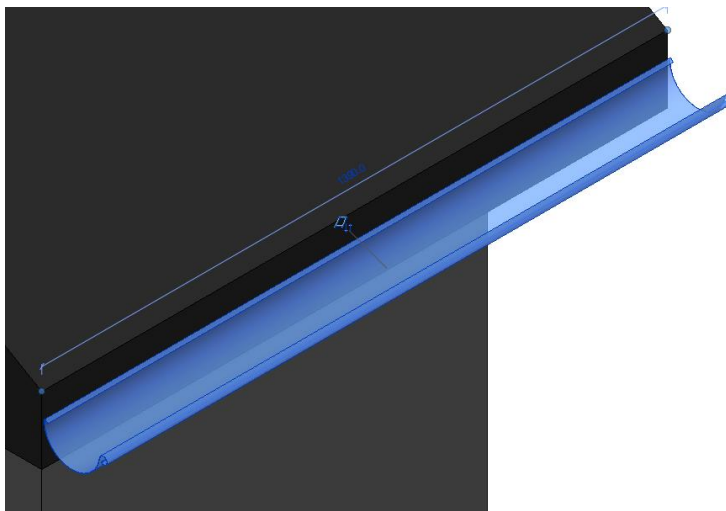
Example:

Insert a gutter system:

1. Run the 'Component > Place a Component' tool located under the 'Architecture' tab in the ribbon menu.
2. Choose the gutter system type in the 'Properties' palette.
3. Select the option 'Place on Work Plane' found in the 'Modify | Place Component' ribbon menu.
4. Select the new work plane by clicking 'Placement Plane: > Pick...'
5. Choose 'Pick a plane' followed by 'OK' to select the new work plane.
6. Select the vertical face of the roof edge.
7. Click the start and end point of the gutter system, somewhere along the top edge of the roof fascia, Always work from left to right.
8. Select the gutter system to adjust its position using the 'Vertical Profile Offset' and 'Horizontal Profile Offset' instance parameters.

Add stop ends to a gutter:

1. Select the gutter

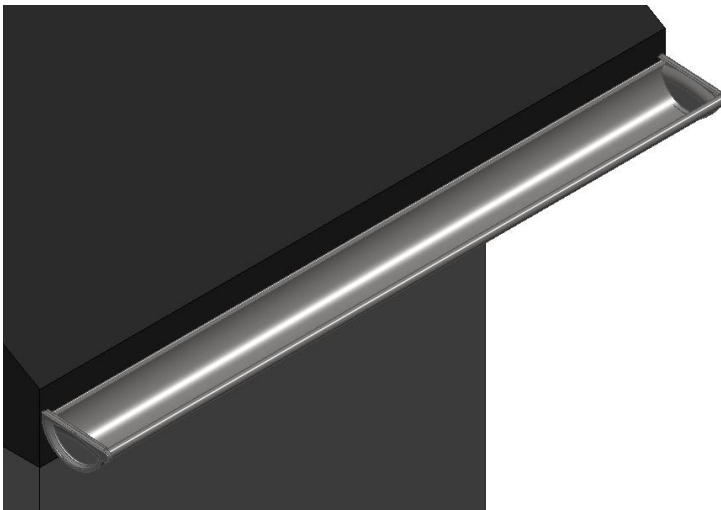


2. Configure the parameters as follows

Construction	
Gutter Accessory Left<Generic Models>	Left-Stop End-125
Gutter Stop End Left	<input checked="" type="checkbox"/>
Gutter Angle Outer Left	<input type="checkbox"/>
Gutter Angle Inner Left	<input type="checkbox"/>
Gutter Accessory Right<Generic Models>	Right-Stop End-125
Gutter Stop End Right	<input checked="" type="checkbox"/>
Gutter Angle Outer Right	<input type="checkbox"/>
Gutter Angle Inner Right	<input type="checkbox"/>

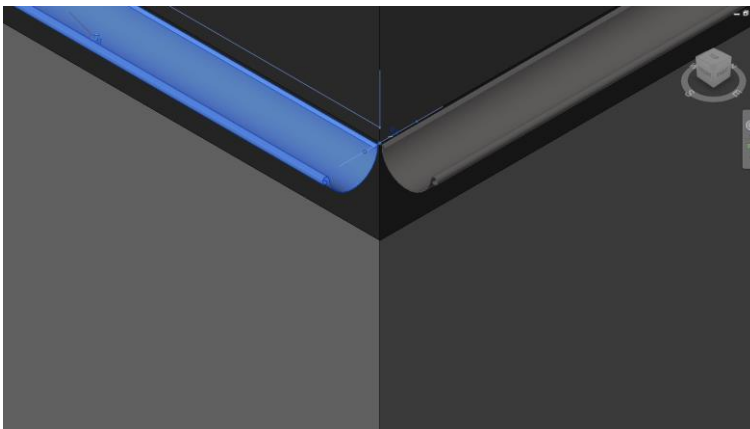


3. Gutter with stop ends!



Configure an outer gutter corner:

1. Select the gutter to the left of the outer corner

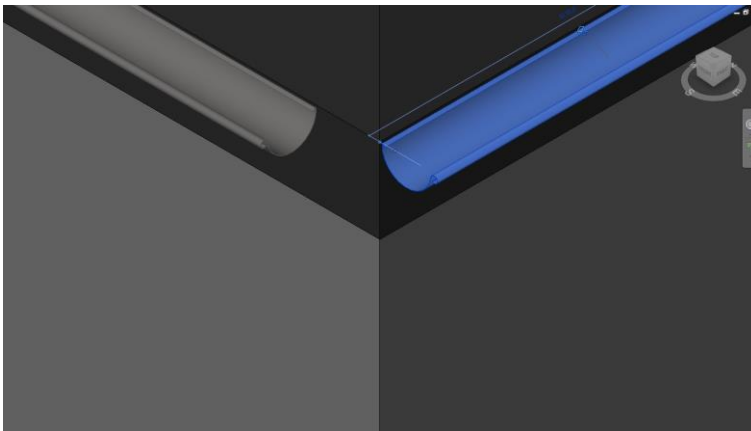


2. Configure the parameters as follows

Construction	
Gutter Accessory Left<Generic Models>	None
Gutter Stop End Left	<input type="checkbox"/>
Gutter Angle Outer Left	<input type="checkbox"/>
Gutter Angle Inner Left	<input type="checkbox"/>
Gutter Accessory Right<Generic Models>	None
Gutter Stop End Right	<input type="checkbox"/>
Gutter Angle Outer Right	<input checked="" type="checkbox"/>
Gutter Angle Inner Right	<input type="checkbox"/>



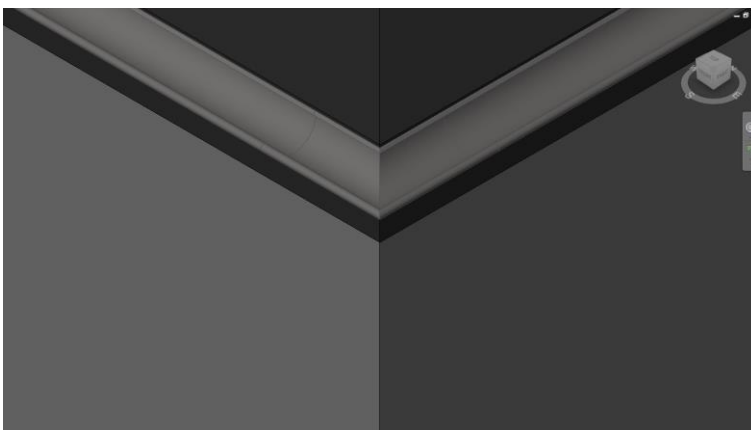
3. Select the gutter to the right of the outer corner



4. Configure the parameters as follows

Construction	
Gutter Accessory Left<Generic Models>	Left-Angle Outer-125
Gutter Stop End Left	<input type="checkbox"/>
Gutter Angle Outer Left	<input checked="" type="checkbox"/>
Gutter Angle Inner Left	<input type="checkbox"/>
Gutter Accessory Right<Generic Models>	None
Gutter Stop End Right	<input type="checkbox"/>
Gutter Angle Outer Right	<input type="checkbox"/>
Gutter Angle Inner Right	<input type="checkbox"/>

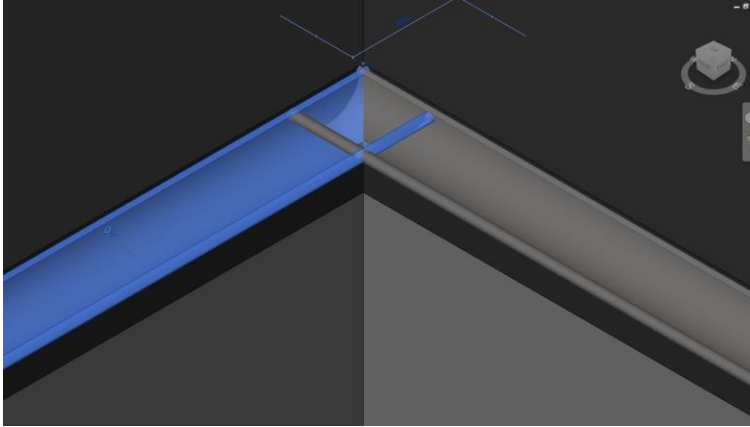
5. Outer gutter corner!





Configure an inner gutter corner:

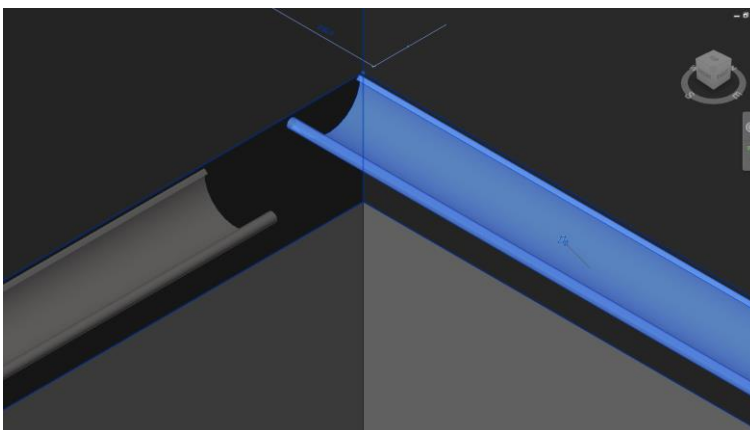
1. Select the gutter to the left of the inner corner



2. Configure the parameters as follows

Construction	
Gutter Accessory Left<Generic Models>	None
Gutter Stop End Left	<input type="checkbox"/>
Gutter Angle Outer Left	<input type="checkbox"/>
Gutter Angle Inner Left	<input type="checkbox"/>
Gutter Accessory Right<Generic Models>	None
Gutter Stop End Right	<input type="checkbox"/>
Gutter Angle Outer Right	<input type="checkbox"/>
Gutter Angle Inner Right	<input checked="" type="checkbox"/>

3. Select the gutter to the right of the inner corner

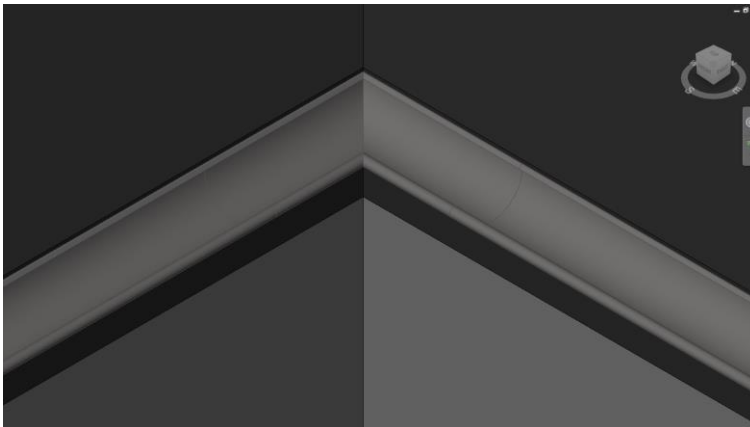




4. Configure the parameters as follows

Construction	
Gutter Accessory Left<Generic Models>	Left-Angle Inner-125
Gutter Stop End Left	<input type="checkbox"/>
Gutter Angle Outer Left	<input type="checkbox"/>
Gutter Angle Inner Left	<input checked="" type="checkbox"/>
Gutter Accessory Right<Generic Models>	None
Gutter Stop End Right	<input type="checkbox"/>
Gutter Angle Outer Right	<input type="checkbox"/>
Gutter Angle Inner Right	<input type="checkbox"/>

5. Inner gutter corner!





3. Downpipe Systems

This package contains downpipe systems including everything in between the nozzle and the available outlets in the bottom of the downpipe. The available outlets are shoes, drain traps, drain shoes and self cleaning leaf traps. These are the families to use when a specification and a correct buildup of a rainwater system is needed.



Family category in 3D:

Face Based Generic Model

Sub category in 3D:

Downpipe System



The following downpipe systems are available:

- Downpipe System 125/75
- Downpipe System 125/87
- Downpipe System 125/100

- Downpipe System 150/87
- Downpipe System 150/100

The downpipe systems comes with a set of type parameters showing material quality, coating and color. There are also parameter links to other valuable resources on the Lindab website.

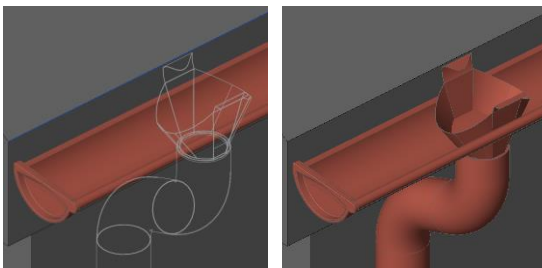
Use the '*Vertical Profile Offset*' and '*Horizontal Profile Offset*' instance parameters to adjust the downpipe system into the correct position. Our downpipe system have a 5 mm horizontal offset built in to fit the gutters directly without modification.

The downpipe systems are standard Revit component families which means that they can be loaded with the '*Load Family*' tool. The available types for each of these downpipe systems are given in the corresponding type catalogues.

Example:

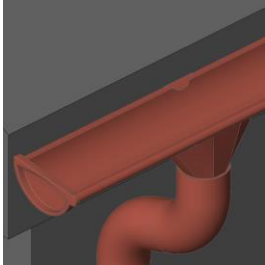
Insert a downpipe system:

1. Run the '*Component > Place a Component*' tool located under the '*Architecture*' tab in the ribbon menu.
2. Choose the downpipe system type in the '*Properties*' palette.
3. Select the option '*Place on Work Plane*' found in the '*Modify | Place Component*' ribbon menu.
4. Select the new work plane by clicking '*Placement Plane: > Pick...*'
5. Choose '*Pick a plane*' followed by '*OK*' to select the new work plane.
6. Select the vertical face of the roof edge.
7. Position the nozzle somewhere along the top edge of roof fascia and click it in.





- Adjust it to fit the gutter using the instance parameters '*Vertical Profile Offset*' and '*Horizontal Profile Offset*'.

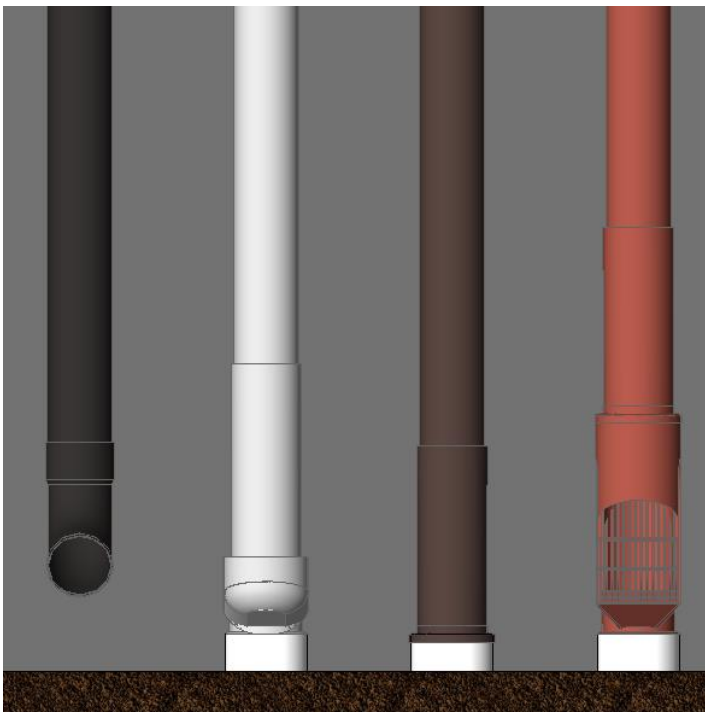


- Make the final adjustments to the downpipe system by changing any of the available instance parameters:

Construction

Choose accessory in the bottom of the downpipe by selecting one out of these four options:

- ✓ Shoe UTK
- ✓ Drain Trap PRT + RT
- ✓ Drain Shoe BUTK
- ✓ Self Cleaning Leaf Trap BUTK + SLS (only SLS for 75 mm downpipes)



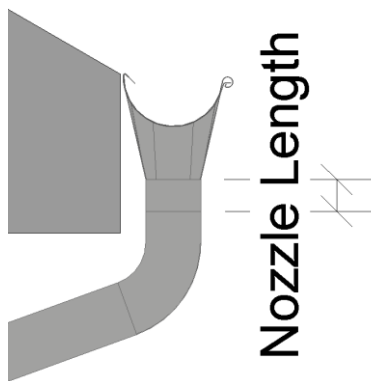
Graphics

- ✓ Show Pipe Holders
Toggle the visibility of the pipe holders On/Off.



Dimensions

- ✓ Vertical Profile Offset
Offset the complete system vertically using this parameter.
- ✓ Horizontal Profile Offset
Offset the complete system horizontally using this parameter.
- ✓ Nozzle Length
Distance between the nozzle and the first bend. Setting this parameter to a value above 0 will add an additional piece of intermediate pipe in-between the nozzle and the first bend. If the '*Roof Overhang*' is set to 0, this parameter has no function. This measure affects the '*Intermediate Pipe Length 1*' parameter.



- ✓ Roof overhang:
Current roof overhang. Could be set to 0, or to a distance equal to or higher than the stated values in the table:

Downpipe System 125/75:	192 mm
Downpipe System 125/87:	198 mm
Downpipe System 125/100:	204 mm
Downpipe System 150/87:	182 mm
Downpipe System 150/100:	188 mm

This measure affects the '*Intermediate Pipe Length 2*' parameter.

- ✓ Downpipe System Height:
Full height of the system, from top to bottom. This parameter can be set manually, but it is more useful to stretch the system into its correct size. This can be done in any side view using stretch grips.

If the system is stretched or edited in a way that causes the downpipe length parameter to be less than 500 mm, the pipe holders will end up in the wrong position due to its constraints. So keep the downpipe length above 500 mm all the time.



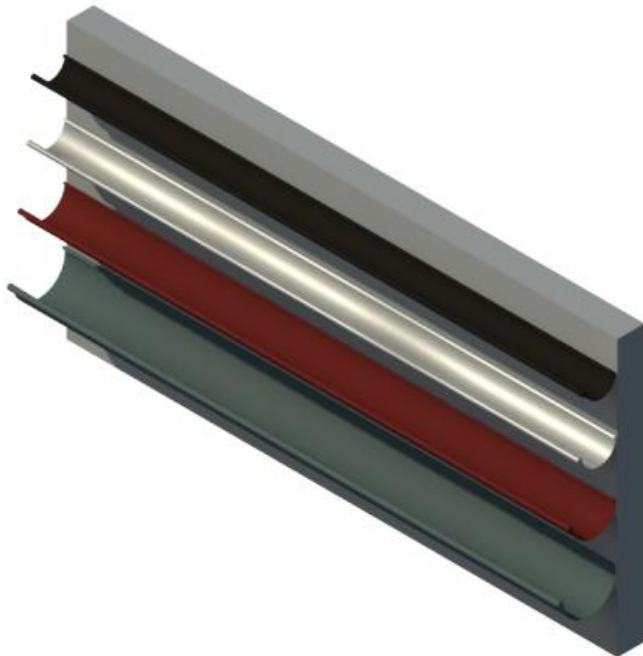
4. Gutter Types

This package includes 46 gutter types that are included in the Revit project file 'Lindab_Gutter_System_Family_Types.rvt'.

The gutters are available in 4 dimensions:

- 100, 11 types available. Example: Lindab_R_100_Magestic
- 125, 12 types available. Example: Lindab_R_125_Magestic
- 150, 12 types available. Example: Lindab_R_150_Magestic
- 190, 11 types available. Example: Lindab_R_190_Magestic

The article code for Lindab Gutters are 'R'.



The gutters comes with a set of type parameters showing material quality, coating and color. There are also parameter links to other valuable resources on the Lindab website.

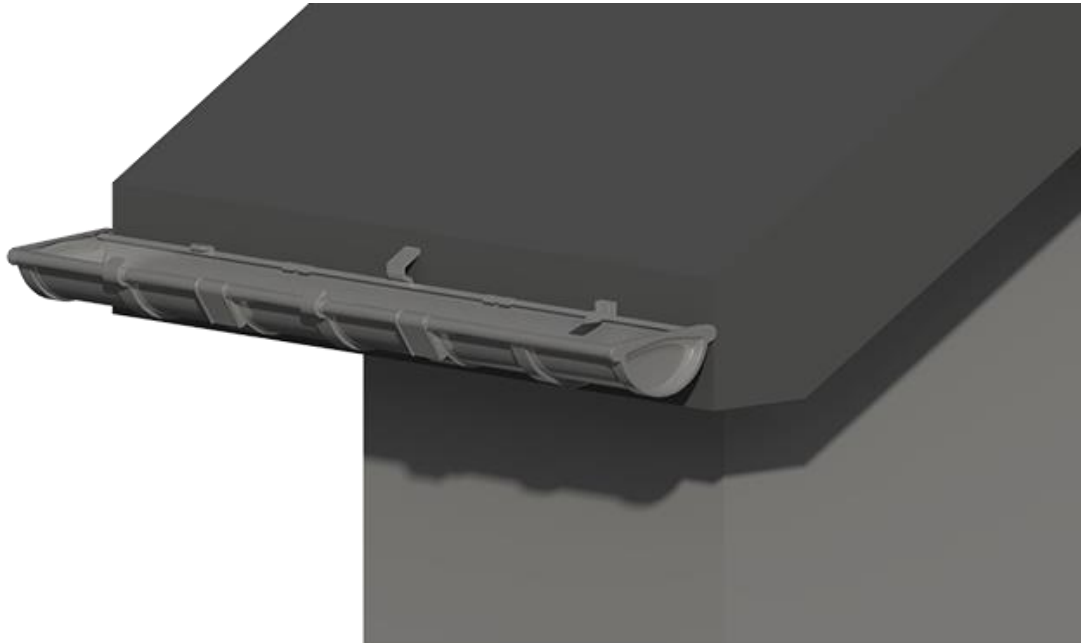
Use the '*Vertical Profile Offset*' and '*Horizontal Profile Offset*' instance parameters to adjust the gutter into the correct position. Our gutter types have a 5 mm horizontal offset built in to fit the fascia and rafter brackets directly without modification.

Gutters in Revit are classed as system families which means that they cannot be added to a project using the '*Load Family*' tool. The easiest way to add gutter types to a project is to use '*Copy/Paste*' between the source and destination file. Insert the gutters using the built-in '*Roof: Gutter*' tool in Revit.



5. Gutter Accessories

This package contains families for brackets, gutter joints and stop ends.



Brackets in 2D and 3D:

Family category in 2D:	Detail Component
Family category in 3D:	Face Based Generic Model

Sub category in 2D and 3D:	Gutter System
----------------------------	---------------

The following brackets are available:

- | | |
|-----------|----------------|
| - KFK 100 | Fascia Bracket |
| - KFK 125 | Fascia Bracket |
| - KFK 150 | Fascia Bracket |
| - KFL 100 | Rafter Bracket |
| - KFL 125 | Rafter Bracket |
| - KFL 150 | Rafter Bracket |



The KFL bracket has three additional instance parameters:

- ✓ Show Rafter Bracket Shaft:
Toggle the visibility of the shaft On/Off.
- ✓ Height:
Adjust the length of the vertical part of the bracket above the gutter.
- ✓ Roof Slope:
Adjust the slope of the shaft to fit the current roof slope.



- K33 190 Rafter Bracket

- ✓ Show Rafter Bracket Shaft:
Toggle the visibility of the shaft On/Off.
- ✓ Height:
Adjust the length of the vertical part of the bracket above the gutter.
- ✓ Roof Slope:
Adjust the slope of the shaft to fit the current roof slope.



- KLK 100 Adjustable Bracket
- KLK 125 Adjustable Bracket
- KLK 150 Adjustable Bracket



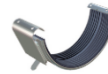
Gutter Joints:

Family category in 3D: Face Based Generic Model

Sub category in 3D: Gutter System

The following gutter joints are available:

- RSK 100
- RSK 125
- RSK 150



Stop Ends:

Family category in 2D: Detail Component
Family category in 3D: Face Based Generic Model

Sub category in 2D and 3D: Gutter System

The following stop ends are available:

- RG 100 Universal
- RG 125 Universal
- RG 150 Universal

- RGV 190 Left
- RGH 190 Right



The gutter accessories comes with a set of type parameters showing material quality, coating and color. There are also parameter links to other valuable resources on the Lindab website.



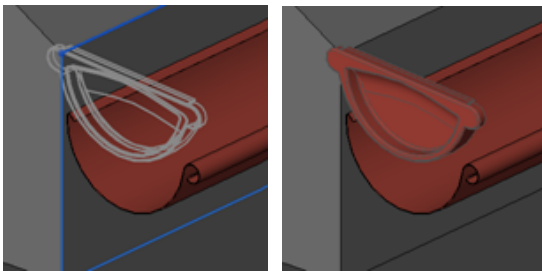
Use the '*Vertical Profile Offset*' and '*Horizontal Profile Offset*' instance parameters to adjust the gutter accessories into the correct position. Our gutter accessories have a 5 mm horizontal offset built in to fit the gutter directly without modification.

The gutter accessories are standard Revit component families which means that they can be loaded with the '*Load Family*' tool. The available types for each of these gutter accessories are given in the corresponding type catalogues.

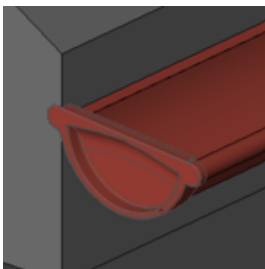
Example:

Insert a 3D gutter stop end on the left side of the gutter:

1. Run the '*Component > Place a Component*' tool located under the '*Architecture*' tab in the ribbon menu and choose a stop end type in the '*Properties*' palette..
2. Position the stop end in the top left corner of the roof fascia and click it in.



3. Adjust it to fit the gutter using the instance parameters '*Vertical Profile Offset*' and '*Horizontal Profile Offset*'.



If the stop end should be inserted on the right side of the gutter, select it and press '*Spacebar*' after it has been inserted to have it mirrored. Brackets and gutter joints are symmetrical and has no need of a mirror operation.



6. Specification

All families that are available in 3D under chapter 2,3 and 5 in this manual can be specified using standard Revit schedules.

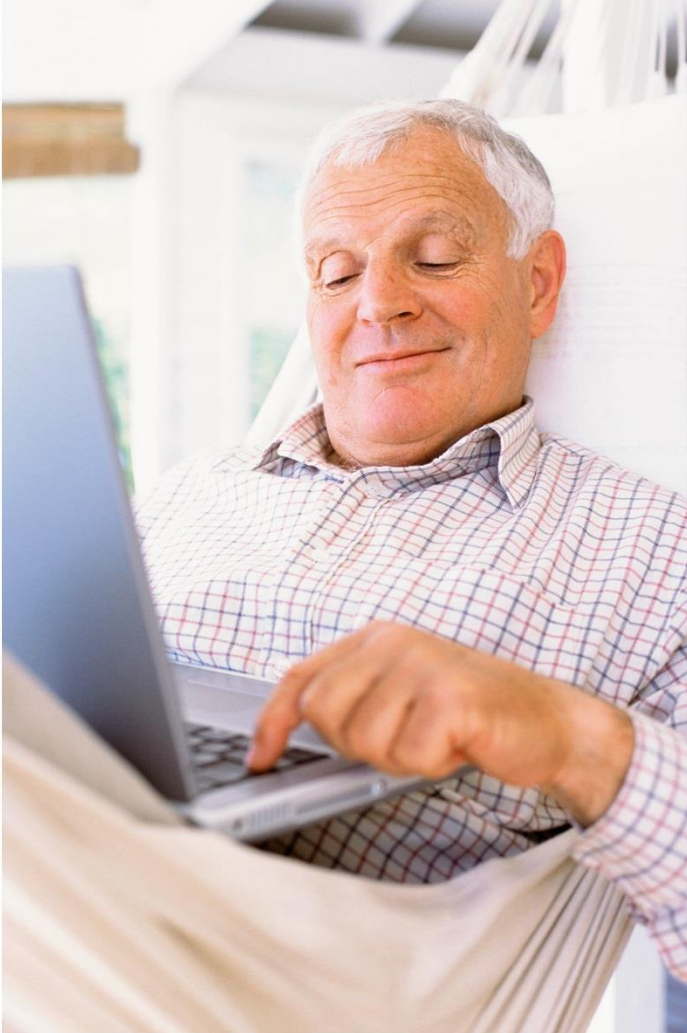
In each of these families, there are one or more shared parameters available under the 'Data' tab.

Their names start with either 'Amount' or 'Length' and ends with the article code.

Add these parameters to a Revit schedule to get the specification of the rainwater system.

Example:

<Lindab Gutter System 125>					
A	B	C	D	E	F
Gutter System	R 125	KFK 125	RSK 125	RG 125	RVY 125
Lindab Gutter System 125 High Build Polyester 015 Black	11227 mm	21	2	1	0.5
Lindab Gutter System 125 High Build Polyester 015 Black	21480 mm	39	5	0	1
Lindab Gutter System 125 High Build Polyester 015 Black	11227 mm	21	2	1	0.5
	43934 mm	81	9	2	2



At Lindab we simplify construction for our customers. We do that by designing easy-to-use products and solutions, as well as offering efficient availability and logistics. We are also working on ways to reduce our impact on our environment and climate. We do that by developing methods to produce our solutions using a minimum of energy and natural resources, and by reducing negative effects on the environment. We use steel in our products. It's one of few materials that can be recycled an infinite number of times without losing any of its properties. That means less carbon emissions in nature and less energy wasted.

We simplify construction

Support

For support please contact:
informationgateway@lindab.com

www.lindab.com

