

Lindab Rainline BIM for Revit

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





Summary

Half Round and Rectangular Gutters are available as "Gutter Systems" in the current release of Rainline BIM for Revit. The Half Round Gutters come in 100, 125, 150, 190mm dimensions, and the Rectangular Gutter in 140mm dimension.

Downpipes in 75, 87, 100 and 120mm dimension are included in the "Downpipe Systems" in various combinations with the half round and rectangular gutters, with complete specification information, as well.

Gutters in 100, 125, 140, 150 and 190mm 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.

New features in version 2.3:

- 778 Copper Metallic removed from the product range.
- 044M Matt Anthracite Metallic has a new RAL code, 9007.

New features in version 2.2:

- VATK water hoppers added.
- SOKN one piece bends added.
- VANDAL reinforced downpipes added.

New features in version 2.1:

- Rectangular gutter system 140 added, with corresponding round downpipe systems in 87, 100 and 120 dimensions.
- RTK07 and RTK21 brackets in 2D and 3D.
- RTVI and RTVY gutter angles.
- RTSK gutter joint.
- RTGH and RTGV stop ends in 2D and 3D.

New features in version 2:

- New material parameters in all products and systems (Quality, Coating, Colour, NCS and RAL).
- Two new colours added to the product range 035 Graphite Grey and 044M Matt Anthracite Metallic.





- Shared families available in gutter and downpipe system families for improved scheduling. Simplified versions are also available.
- The nozzle can be switched On/Off in the downpipe systems.





Table of contents

1.	General	5
2.	Gutter Systems	6
	Downpipe Systems	
4.	Gutter Types	17
	Gutter Accessories	
6.	Downpipe Accessories	24
	Specification	





1. General

The rainwater system comes in pre-painted steel in 12 different colours, also copper and Magestic. For availability in your country, please visit your local Lindab website.

- Copper Plain copper material: 99,9% Cu Nearest NCS: N/A
 Nearest RAL: N/A
- Magestic Steel with Zinc-Magnesium-Aluminium alloy coating Nearest NCS: N/A
 Nearest RAL: N/A
- 001 Antique White High Build Polyester Nearest NCS: S 1002-G50Y Nearest RAL: 9002
- 015 Black High Build Polyester Nearest NCS: S 9000-N Nearest RAL: 9011
- 035 Graphite Grey High Build Polyester
 Nearest NCS: S 7502-B
 Nearest RAL: 7016
- 044 Anthracite Metallic High Build Polyester Nearest NCS: N/A Nearest RAL: 9007
- 044M Matt Anthracite Metallic High Build Polyester Nearest NCS: S 6000-N Nearest RAL: 9007
- 045 Silver Metallic High Build Polyester Nearest NCS: N/A Nearest RAL: 9006
- 087 Dark Grey High Build Polyester
 Nearest NCS: S 7005-B20G
 Nearest RAL: 7043
- 387 Coffee Brown High Build Polyester Nearest NCS: S 8005-Y80R Nearest RAL: 8019
- 434 Brown High Build Polyester
 Nearest NCS: S 7010-Y70R Nearest RAL: 8017
- 742 Tile Red High Build Polyester
 Nearest NCS: S 4040-Y80R Nearest RAL: 8004
- 758 Dark Red High Build Polyester
 Nearest NCS: S 5040-Y80R Nearest RAL: 3009

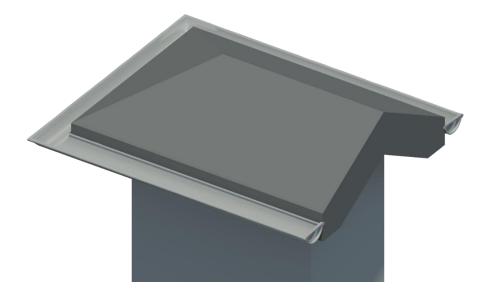
Due to printing limitations, the shown colours on this chart are not exact. Request a material sample if a precise colour match is required.





2. Gutter Systems

This package contains half round and rectangular 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 build-up of a rainwater system is needed. The families are available in two versions - one with shared nested families and one without.



Family category in 3D: Line Based Generic Model

Sub category in 3D: Gutter System

The following gutter systems are available:

- Half Round Gutter System 100
- Half Round Gutter System 125
- Half Round Gutter System 150
- Half Round Gutter System 190
- Rectangular Gutter System 140

The gutter systems come with a set of type parameters showing material quality, coating, and colour, nearest NCS and nearest RAL.

Use the 'Vertical Profile Offset' and 'Horizontal Profile Offset' instance parameters to adjust the gutter system into the correct position. Our gutter system has 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 the families 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



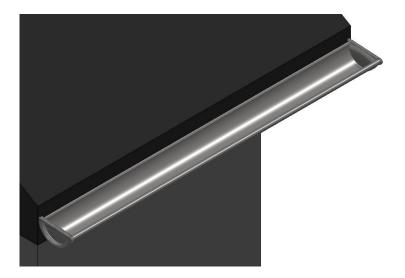
2. Configure the parameters as follows

Construction	
Gutter Stop End Left (default)	~
Gutter Angle Outer Long Left (default)	
Gutter Angle Outer Short Left (default)	
Gutter Angle Inner Long Left (default)	
Gutter Angle Inner Short Left (default)	
Gutter Stop End Right (default)	~
Gutter Angle Outer Long Right (default)	
Gutter Angle Outer Short Right (default)	
Gutter Angle Inner Long Right (default)	
Gutter Angle Inner Short Right (default)	



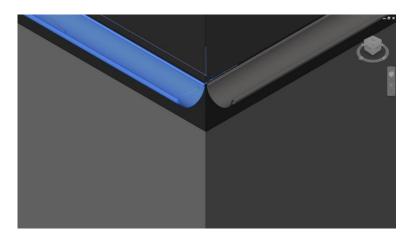


3. Gutter with stop ends!



Configure an outer gutter corner:

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



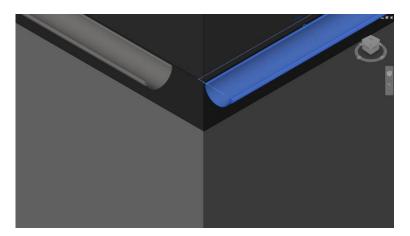
2. Configure the parameters as follows

Construction	
Gutter Stop End Left (default)	
Gutter Angle Outer Long Left (default)	
Gutter Angle Outer Short Left (default)	
Gutter Angle Inner Long Left (default)	
Gutter Angle Inner Short Left (default)	
Gutter Stop End Right (default)	
Gutter Angle Outer Long Right (default)	
Gutter Angle Outer Short Right (default)	☑
Gutter Angle Inner Long Right (default)	
Gutter Angle Inner Short Right (default)	

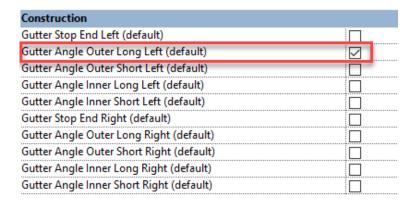




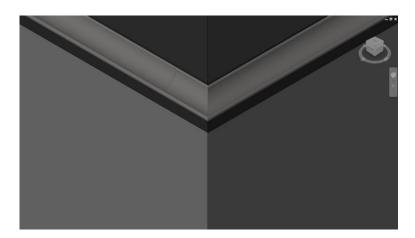
3. Select the gutter to the right of the outer corner



4. Configure the parameters as follows



5. Outer gutter corner!

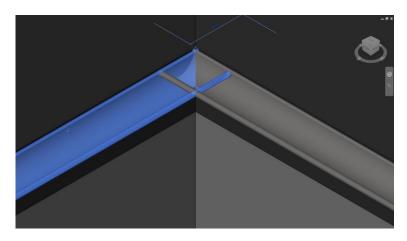






Configure an inner gutter corner:

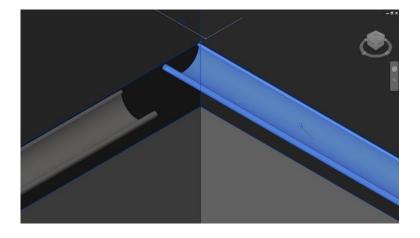
1. Select the gutter to the left of the inner corner



2. Configure the parameters as follows

onstruction
utter Stop End Left (default)
utter Angle Outer Long Left (default)
utter Angle Outer Short Left (default)
utter Angle Inner Long Left (default)
utter Angle Inner Short Left (default)
utter Stop End Right (default)
utter Angle Outer Long Right (default)
utter Angle Outer Short Right (default)
utter Angle Inner Long Right (default)
utter Angle Inner Short Right (default)

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



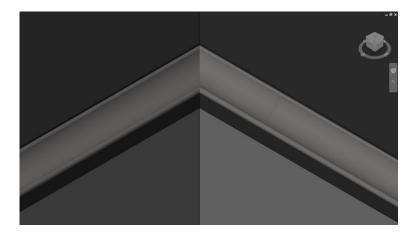




4. Configure the parameters as follows

Construction	
Gutter Stop End Left (default)	
Gutter Angle Outer Long Left (default)	
Gutter Angle Outer Short Left (default)	l
Gutter Angle Inner Long Left (default)	3
Gutter Angle Inner Short Left (default)	
Gutter Stop End Right (default)	
Gutter Angle Outer Long Right (default)	
Gutter Angle Outer Short Right (default)	
Gutter Angle Inner Long Right (default)	
Gutter Angle Inner Short Right (default)]

5. Inner gutter corner!

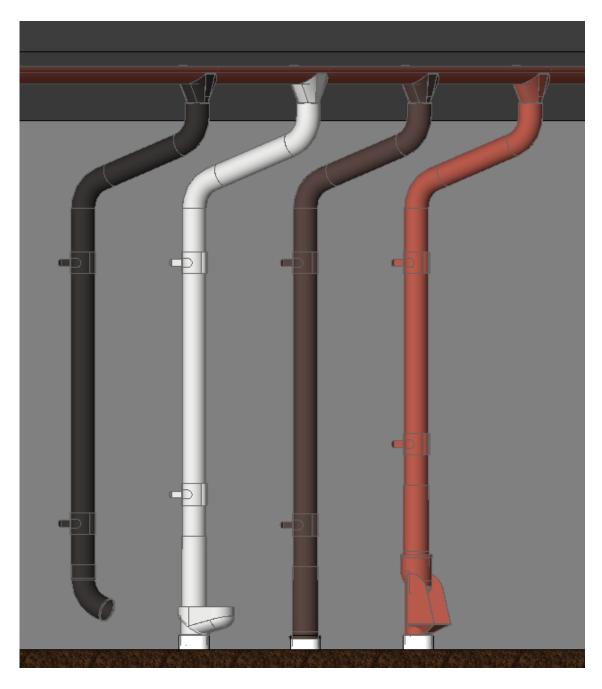






3. Downpipe Systems

This package contains downpipe systems including everything in between the nozzle and the available outlets at 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 build-up of a rainwater system is needed. The families are available in two versions – one with shared nested families and one without.



Family category in 3D: Face Based Generic Model

Sub category in 3D: Downpipe System





The following downpipe systems are available:

- Round Downpipe System 75 for half round gutter 100
- Round Downpipe System 87 for half round gutter 100
- Round Downpipe System 75 for half round gutter 125
- Round Downpipe System 87 for half round gutter 125
- Round Downpipe System 100 for half round gutter 125
- Round Downpipe System 87 for half round gutter 150
- Round Downpipe System 100 for half round gutter 150
- Round Downpipe System 120 for half round gutter 150
- Round Downpipe System 100 for half round gutter 190
- Round Downpipe System 120 for half round gutter 190
- Round Downpipe System 87 for rectangular gutter 140
- Round Downpipe System 100 for rectangular gutter 140
- Round Downpipe System 120 for rectangular gutter 140

The downpipe systems come with a set of type parameters showing material quality, coating and colour, nearest NCS and nearest RAL.

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 the families are given in the corresponding type catalogues.

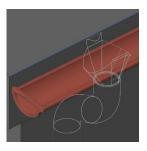
Example:

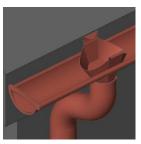
Insert a downpipe system:

- 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.

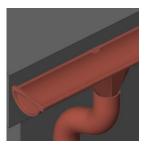








8. Adjust it to fit the gutter using the instance parameters 'Vertical Profile Offset' and 'Horizontal Profile Offset'.



9. 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:

1.	Shoe	UTK	75	87	100	120
2.	Drain Trap	PRT + RT	75	87	100	
3.	Drain Shoe	BUTK	75	87	100	120
4.	Self Cleaning Leaf Trap	BUTK + SLS	75	87	100	







Graphics

- ✓ Show Nozzle

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

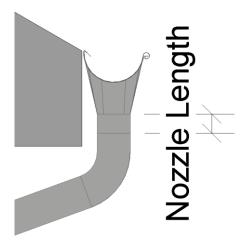
 Toggle the visibility of the pipe holders On/Off.

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. Could be set a value inbetween 0 and 1000mm. If the parameter value is above 0mm, an additional piece of intermediate pipe in-between the nozzle and the first bend will be added. If the 'Roof Overhang' is set to zero, this parameter has no function.







✓ Roof overhang:

Current roof overhang. Could be set to zero (0mm) or to a distance equal to or higher than the stated values in the table:

Round Downpipe System 75 for half round gutter 100: Round Downpipe System 87 for half round gutter 100:	200 mm 206 mm
Round Downpipe System 75 for half round gutter 125:	192 mm
Round Downpipe System 87 for half round gutter 125:	198 mm
Round Downpipe System 100 for half round gutter 125:	204 mm
Round Downpipe System 87 for half round gutter 150:	182 mm
Round Downpipe System 100 for half round gutter 150:	188 mm
Round Downpipe System 120 for half round gutter 150:	198 mm
Round Downpipe System 100 for half round gutter 190:	171 mm
Round Downpipe System 120 for half round gutter 190:	181 mm
Round Downpipe System 87 for rectangular gutter 140:	200 mm
Round Downpipe System 100 for rectangular gutter 140:	206 mm
Round Downpipe System 120 for rectangular gutter 140:	216 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 5 different Revit project files. A gutter type is defined with a profile and a material and can be inserted using the built-in *'Roof: Gutter'* tool.

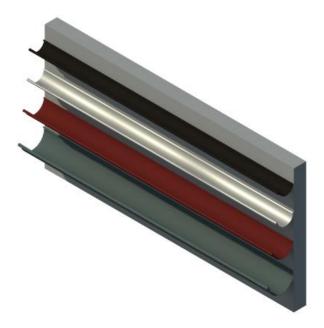
The half round gutters are available in four dimensions:

- 100mm, 11 types available. Example: Lindab R 100 Magestic
- 125mm, 14 types available. Example: Lindab R 125 Magestic
- 150mm, 14 types available. Example: Lindab R 150 Magestic
- 190mm, 11 types available. Example: Lindab R 190 Magestic

The article code for Lindab Half Round Gutters are 'R'.

The rectangular gutters are available in one dimension:

- 140mm, 13 types available. Example: Lindab RTRA 140 Magestic



The gutter types come with a set of type parameters showing material quality, coating and colour, nearest NCS and nearest RAL.

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.

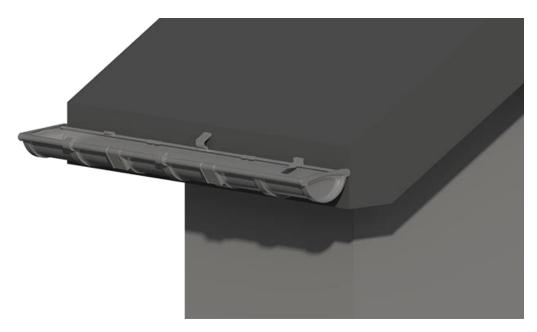
Gutter types in Revit are system families, which means that they cannot be added to a project using the 'Load Family' tool. The easiest way to add gutter types to a project is to use 'Copy/Paste' between the source and destination file. Insert the gutters using the built-in 'Roof: Gutter' tool in Revit.





5. Gutter Accessories

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



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 for half round gutters
-	KFK 125	Fascia Bracket for half round gutters
-	KFK 150	Fascia Bracket for half round gutters



The KFK bracket has no additional instance parameters.

-	KFL 100	Rafter Bracket for half round gutters
-	KFL 125	Rafter Bracket for half round gutters
-	KFL 150	Rafter Bracket for half round gutters



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 for half round gutters

The K33 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.

-	KLK 100	Adjustable Bracket for half round gutters
-	KLK 125	Adjustable Bracket for half round gutters
-	KLK 150	Adjustable Bracket for half round gutters



The KLK bracket has one additional instance parameters:

✓ Roof Slope:

Adjust the slope of the bracket to fit the fascia angle.

The KLK bracket needs a 9mm horizontal offset from the fascia.

-	K16 100	Rafter Bracket for half round gutters
-	K16 125	Rafter Bracket for half round gutters
-	K16 150	Rafter Bracket for half round gutters



The K16 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.
- K11P 150 Wall Application Bracket for half round gutters



The K11P bracket has no additional instance parameters.

The K11P bracket needs a 35mm horizontal offset from the fascia.





Round Eaves Bracket for half round gutters **RSKR 125 RSKR 150**

Round Eaves Bracket for half round gutters



The RSKR bracket has no additional instance parameters.

The RSKR bracket needs a 4mm horizontal offset from the fascia.

KRD 125 Decking Bracket for half round gutters

The KRD bracket has no additional instance parameters.

The KRD bracket needs a 33mm horizontal offset (negative) from the fascia.

RTK07 140 Fascia Bracket for rectangular gutters

The RTK07 bracket has no additional instance parameters.



RTK21 140 Rafter Bracket for rectangular gutters

The RTK21 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.

Gutter Joints in 3D:

Family category in 3D: Face Based Generic Model

Sub category in 3D: **Gutter System**

The following half round gutter joints are available:

- **RSK 100**
- **RSK 125**
- **RSK 150**

The RSK gutter joint has no additional instance parameters.





The following rectangular gutter joint is available:

- RTSK 140



The RTSK gutter joint has no additional instance parameters.

Stop Ends 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 stop ends for half round gutters are available:

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



The RG stop end has no additional instance parameters.

RGV 190 LeftRGH 190 Right



The RGV and RGH stop ends has no additional instance parameters.

The following stop end for rectangular gutters is available:

- RTGH 140 Left - RTGV 140 Right



The RTGH and RTGV stop end has no additional instance parameters.

Gutter Angles in 3D:

Family category in 3D: Face Based Generic Model

Sub category in 3D: Gutter System

The following inner and outer gutter angles for half round gutters are available:

-	RVI 100	Inner
-	RVI 125	Inner
-	RVI 150	Inner
-	RVI 190	Inner







-	RVY 100	Outer
-	RVY 125	Outer
-	RVY 150	Outer
-	RVY 190	Outer



The RVI and RVY gutter angles has no additional instance parameters.

The following inner and outer gutter angles for rectangular gutters is available:

-	RTVI 140	Inner		
-	RTVY 140	Outer	· ·	

The RTVI and RTVY gutter angles has no additional instance parameters.

The gutter accessories come with a set of type parameters showing material quality, coating and colour, nearest NCS and nearest RAL.

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 the families are given in the corresponding type catalogues.

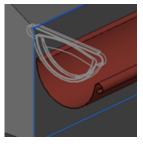


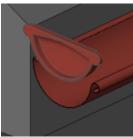


Example:

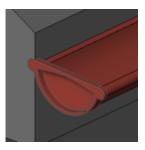
Insert a 3D gutter stop end on the left side of the gutter:

- 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. Downpipe Accessories

This package contains families for water hoppers, one piece bends and reinforced pipes.

Accessories in 3D:

Family category in 3D: Face Based Generic Model

Sub category in 2D and 3D: Gutter System

The following water hoppers are available:

-	VATK 75	Water hopper for round downpipes
-	VATK 87	Water hopper for round downpipes
-	VATK 100	Water hopper for round downpipes
-	VATK 120	Water hopper for round downpipes



The water hopper has additional instance parameters to handle the offset from the wall. These parameters are named:

✓ Round-Downpipe-System-Gutter Dim-Downpipe Dim Use these parameters to create the right offset for the hopper.

The water hopper shall be used together with the downpipe system families for half-round gutters.

The following one piece bends are available:

-	SOKN 75	One piece bend for round downpipes
-	SOKN 87	One piece bend for round downpipes
-	SOKN 100	One piece bend for round downpipes
-	SOKN 120	One piece bend for round downpipes



The bends have two additional instance parameters:

✓ Flip:

Toggle between positive and negative offset.

✓ Surface offset:

Adjust the offset from the surface.





The following reinforced pipers are available:

VANDAL STD 2000

VANDAL SLS 300
 VANDAL SLS 850
 VANDAL SLS 2000
 VANDAL UTK 850
 VANDAL UTK 2000
 Pipe with SLS in the bottom – 2000mm
 Pipe with SLS in the top – 2000mm
 Pipe with UTK – 850mm
 Pipe with UTK – 2000mm

Pipe – 2000mm







7. Specification

All families in Rainline BIM for Revit can be specified using standard Revit schedules. The families are built up using real products and all "systems" contain shared families (optional), which means that each and one of them can be specified separately.

All families contain five material parameters (Quality, Coating, Color, NCS, RAL) and the ones that are length based also have an additional length parameter as well.

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

<lindab rainwater="" system=""></lindab>							
A	В	С	D	E	F	G	Н
Gutter System	Quality	Coating	Color	NCS	RAL	Pipe Length	Count
Construction_Roof-Accessories_Lindab_BK-87-70	Z275	High Build Polyester	Lindab 015 Black	S 9000-N	9011		1
Construction_Roof-Accessories_Lindab_BK-87-70	Z275	High Build Polyester	Lindab 015 Black	S 9000-N	9011		1
Construction_Roof-Accessories_Lindab_BUTK-87	Z275	High Build Polyester	Lindab 015 Black	S 9000-N	9011		1
Construction_Roof-Accessories_Lindab_MST-87	Z275	High Build Polyester	Lindab 015 Black	S 9000-N	9011	150	1
Construction_Roof-Accessories_Lindab_MST-87	Z275	High Build Polyester	Lindab 015 Black	S 9000-N	9011	371	1
Construction_Roof-Accessories_Lindab_OMV-125-87	Z275	High Build Polyester	Lindab 015 Black	S 9000-N	9011		1
Construction_Roof-Accessories_Lindab_SROR-87	Z275	High Build Polyester	Lindab 015 Black	S 9000-N	9011	2181	1
Construction_Roof-Accessories_Lindab_SSVU-87	Z275	High Build Polyester	Lindab 015 Black	S 9000-N	9011		2
Lindab Round Downpipe System 125/87 High Build Polyester 015 Black	Z275	High Build Polyester	Lindab 015 Black	S 9000-N	9011		1





Good Thinking

At Lindab, good thinking is a philosophy that guides us in everything we do. We have made it our mission to create a healthy indoor climate - and to simplify the construction of sustainable buildings. We do that by designing innovative products and solutions that are easy to use, 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



For support please contact: informationgateway@lindab.com www.lindab.com

