

rxDuplicator

User Guide

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Installation

There are two ways to install the tool:

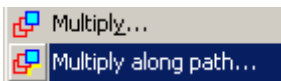
- § Copy the “rxDuplicator.apx” file of the tool to the Add-Ons folder that is normally located in your ArchiCAD folder. The tool will be available immediately after you launch ArchiCAD.
- § Copy the “rxDuplicator.apx” file of the tool to any location on your disk and load the Add-On using Add-On Manager. You can get more details about “Managing Add-Ons” in the ArchiCAD documentation. The tool will be available immediately after you load the Add-On.

Introduction

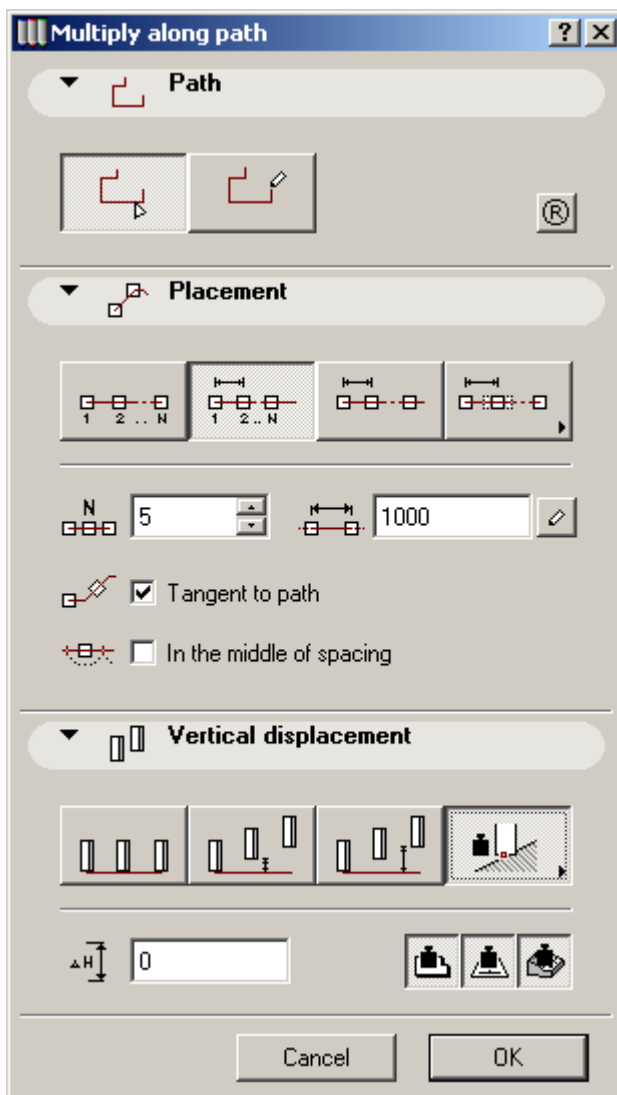
The **rxDuplicator** tool allows you to create and place several copies of the selected elements along a path. A path is an open or closed curve or its part. As a path, you can use any 2D drawing elements: line, open and closed polyline, circle, arc, elliptic arc, open and closed spline. Grouped segments of 2D elements. Any contour of polygonal elements: slab, zone, hatch, mesh, roof.

Using tool settings, you can distribute duplicates along the path according to the number of duplicates or the distance between them. You can also apply vertical displacement to the created duplicates either at the specified step or up to a certain value as well as automatically place each duplicate at the level of the slab, roof or mesh below it. Besides, each duplicate can be rotated at a tangent to the path.

Interface



After you install the tool, find the additional “Multiply along path...” command in the “Edit” menu. To use the command, you should select one or several editable elements for duplication. The selected elements will serve only as models for duplication, they are never modified and can be located anywhere in your drawing and relative to the path. The created copies will be grouped, if the ArchiCAD “autogroup” tool menu option switched on.



The dialog contains all the tool settings divided into three panels.

Path panel – one of the two path modes, they make it possible either to use an existing curve as a path (Existing Path) or enter the path while executing the command (Create Path).

Note: The ® button opens “About” dialog in the registered version of the tool.

Placement panel – the method and parameters defining the position and orientation of duplicates on the path.

Vertical displacement panel – the method and value of vertical displacement for duplicates



Path panel

You can select one of the two path modes.



"Existing Path" mode.

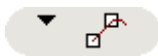
In this mode a curve existing in your drawing will be used. You should either have or create a curve before executing the command. You can use any 2D drawing element, a group of connected segments of 2D elements or a polygonal element as a curve. Grouped segments will be considered as a continuous path only when ArchiCAD grouping is active.

While executing the command, you will have to click the start and end points on the curve to define the path.



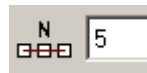
"Create Path" mode.

In this mode the path for duplication is defined interactively in the process of executing the command. You will have to enter all nodes of an open or closed polyline.

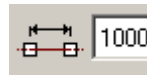


Placement panel

Several methods can be used to distribute the duplicates along the path. Spacing between duplicates is always the same and is defined by the selected method and the specified values of:



- the number of duplicates;

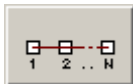


- and/or the distance between the duplicates.

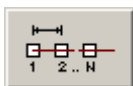


The distance can be entered graphically when executing the command.

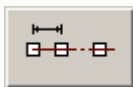
Distribution methods make it possible to:



Evenly distribute the specified number of duplicated along the entire path.

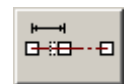


Create the specified number of duplicates at the specified distance from one to another. The number of the created duplicates can be less than the specified one if the path length is not long enough.



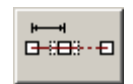
Create duplicates at the specified distance one from another. The spacing between duplicates will be exactly the same as the specified distance value.

Evenly distribute duplicates along the entire path. The spacing between duplicates will be maximally close to the specified distance value taking into account one of the three restrictions.



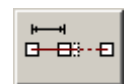
Maximal.

The spacing will be not larger than the specified distance value;



Average.

The spacing can be smaller or larger than the specified distance value;



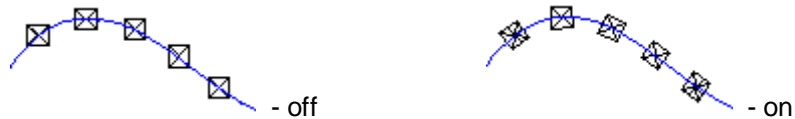
Minimal.

The spacing will not be smaller than the specified distance value;

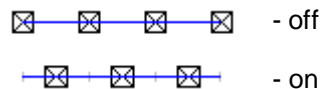


Additional options

Each duplicate can be rotated at a tangent to the path at the point of its placement.

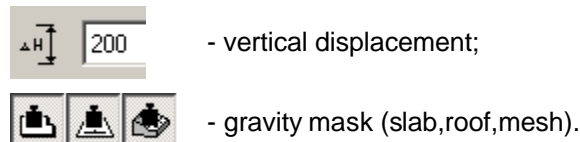


Duplicates can be placed in the middle of spacing.



Vertical displacement panel

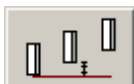
The created duplicates can be vertically displaced. The displacement value is defined by the selected method and the specified values of:



Vertical displacement methods make it possible to:



Don't change the elevation of duplicates.



Change the elevation of every duplicate at the specified step.



Equally change the elevation of each duplicate up to the specified value.

Automatically place each duplicate at the level of the slab, roof or mesh below it (gravity). You can switch on/off a gravity to a slab, roof, mesh using the appropriate button of the gravity mask. The vertical displacement value will be added to a calculated elevation. You can select one of the three options to calculate the elevation of each duplicate.



Path point.
The elevation is a placement point level on the path.



Lowest.
The elevation is a minimal value of bottom point levels of the duplicate.



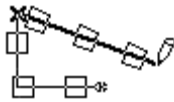
Highest.
The elevation is a maximal value of bottom point levels of the duplicate.

Using

After you close the settings dialog, you should make additional steps to complete the command. The next step is to enter the reference point for the selected elements. This point is the origin and the rotation point for the selected elements during duplication.



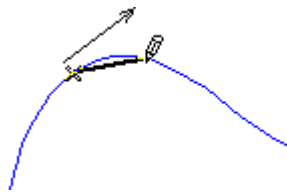
To enter the reference point, you should click the position of this point in your drawing. The next steps in the command depend on the selected mode of defining the path.



If you have selected the mode of creating the path, you should enter all nodes in the path polyline ending the input with a double-click on the last node or clicking the start point for a closed polygon.

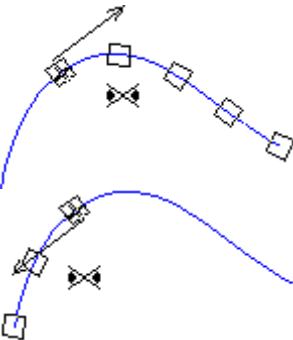


If you use the mode of the existing path, you should click the start point on an existing curve. You will hear a sound if there is no suitable curve at this point.



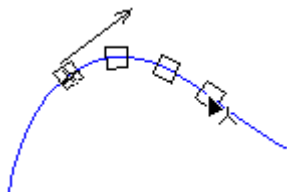
If you have selected to input the distance graphically in the settings dialog, you may need an additional step.

To enter the distance, click at the necessary distance from the start point. If the clicked point is located on the path curve, the distance is calculated as the length of the curve from the start point to this point. The arrow displays the direction in which the length is measured. If the clicked point is not located on the curve, the distance is calculated as the length of a straight line from the start point to this point.



The last step in the command is choosing the direction in which duplicates will be placed along the path and the end point if necessary.

To choose the direction, move the cursor from the start point in the needed direction.



To limit the path to a part of the curve, click the path curve at the end point. If you click anywhere outside the curve, duplicates will be placed from the start point of the path till the end of the curve in the selected direction.