Andhra Pradesh State Skill Development Corporation

Skill AP
APSSDC

ARCHITECTURAL MODELING USING REVIT

STAIRCASE

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A staircase or stairway is one or more flights of stairs leading from one floor to another, and includes landings, newel posts, handrails, balustrades and additional parts

- Stairs may be in a straight run, leading from one floor to another without a turn or change in direction.
- Stairs may change direction, commonly by two straight flights connected at a 90-degree angle landing.
- Stairs may also return onto themselves with 180-degree angle landings at each end of straight flights forming a vertical stairway commonly used in multistory and high-rise buildings.

Let's know few important components of staircase

Components of Staircase:

Thread:
A stair tread is the horizontal portion of a set of stairs on which a person walk

Riser:
A stair riser is the near-vertical element in a set of stairs, forming the space between one step and the next

Nosing
It is an edge part of the tread that protrudes over the riser beneath

Landing or Platform
A landing is the area of a floor near the top or bottom step of a stair

Baluster
It is a term for the vertical posts that hold up the handrail. Sometimes simply called guards or spindles

Stringer
It is a structural member that supports the treads and risers in standard staircases

Creating stair by sketch using run

1. First of all Activate floor plans view.
2. In the Architecture Tab go to the circulation panel.
3. Click on the staircase.
4. We can draw stairs in 2 ways one is using stair by sketch the other is using the in-built stair components.

Staircase using stair by sketch

Procedure:

1. After activating the tool specify the location line in the options bar. i.e. nothing but choosing the method of drawing the staircase.

There are various types of location line as displayed on the screen

Location line is nothing but the reference line to draw the staircase
For example if we choose the location line as run center then the reference line snaps at center

2. After that specify the offset(to the location line if required) and run width as per the requirements
3. Then in the properties palette choose type of staircase from type selector
4. Specify the properties like base level, base offset, top level and top offset as per the requirement
5. Here base level is nothing but the bottom level from where the stair starts and top level is about the level where the stair ends
6. In the dimensions we can change the no.of steps required otherwise it will be taken automatically with respect to the height of floor
7. We can also specify the tread depth in the instance parameters
8. To change the railing type in the staircase click on the railing option available in ribbon tools
9. As we click on railings a window pop-up and there we have to select the type of the railing by clicking on the dropdown arrow
10. Same wise we can specify the location of placing the railings on staircase in the position i.e either on threads or stringers
11. After specifying all the properties take the cursor in the drawing sheet and start drawing the staircase
12. The very first click leads to starting of the staircase, once the staircase is started we can see the no.of stairs remaining near the staircase
13. After drawing the required no.of stairs in first flight give a second click which stops the steps and then we have to specify the landing.
14. Third click will ends the landing portion and starts drawing the 2d flight in the specified direction
15. Then create remaining stairs and at the end specify one more click here ends drawing of staircase
16. After drawing the staircase click on finish in the mode panel to end the tool

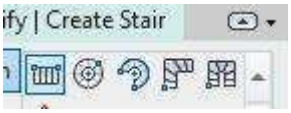
Note: If you click on cancel the changes will not be updated in the model.

Staircase by using the in-built stair components

Procedure:

1. Activate floor plans view

2. Activate staircase tool from circulation panel of architecture menu



3. In components we can find various types of staircases such as
   Full step spiral – creates a spiral run by specifying the start point and radius.
   Centre end spiral – creates a spiral run by specifying center point start point and end point.
   L-shape winder – creates an L-shaped winder run by specifying the lower end.
   U-shaped winder – creates a U- shaped winder by specifying the lower end
4. Select any one of the stairs.
5. Specify location line, offset(if required) and run width
6. After that choose the type of the staircase from properties palette and change the instance parameters as per the requirement
7. Then take the cursor to the location where you like to pace the staircase in the plan and click
8. After placing the staircase click on finish in the mode panel to update the changes in the model
9. If you want to rotate or move the staircase you can make use of modify tools and perform the modifications as per the requirement.

Edit type

To create a new staircase with different dimensions and materials of stair components we can make use of edit type in the properties palette.

1. Choose any staircase for reference from the type selector and click on edit type
2. A window pop-up namely type properties, as displayed on the screen
3. Click on duplicate and specify the name of the staircase
4. In the type parameters specify the properties of staircase as per the requirement
5. In calculation rules parameter we can specify the values for maximum riser height, minimum tread depth and minimum run width
6. To change the riser and tread material click on the value of run type in the construction parameter. Click on the box , immediately a window pop-up where we can change the material type
7. After performing required modifications click on ok
8. Similarly we can change the properties for supports as well
9. After performing required modifications click on ok.