OBJECT LIBRARY

MODELING

The object library allows the user to model predefined 3 dimensional elements in viskar. The object library contains various predefined 3 dimensional structural elements like the footings, columns, beams, etc.,.

The Material filter in object library filters the library with only the elements of the selected material. A 3d object from the object library can be modelled by the following procedure,

➢ Select the modelling tab →object library →select a material from the material filter → select the category → select the element → draw selected

A new object can be modelled by selecting the draw new option from the object library
There are three methods to model a 3 dimensional object.

   Note: The Material details available in Environment Setting , also it can be added / deleted & edited in same location

Extrusion method
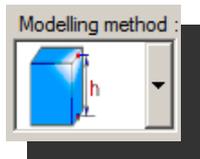
The extrusion method, allows to extrude an object perpendicular to the work plane. The section for the object can either be a custom or a parametric section.The extrude direction, decides the direction of the extrusion for the 3 dimensional object. The height of an object, can be extruded perpendicularly above the insertion point, in between the insertion point, and below the insertion point. The values for the height and thickness of the object, the rotational axis and the offset can be entered if required.

   ➢ Select modelling tab →object library →select category →draw new →select modelling method → enter element name and part →select the section →select extrude direction →enter height, thickness, rotation, offset →draw

Path method
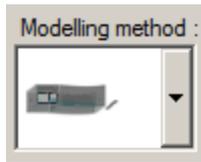
The Path method allows the user to model an object along a selected path. The path option is allows to choose the desired path for the object; the path can be a custom or a parametric section. The section option allows to choose the 2d section for the object to be modelled. Path objects can be modelled using a single section or multiple sections.

> ➢ Select modelling tab → material filter →object library →select category → draw new →enter element name and part →select path method →pick section and path→ draw new→ select path points

To model a multi section object,

> ➢ Select modelling tab →object library →select category → draw new →enter element name and part →select path method →pick section → select multi selection→ select path →draw new→select path points

> ➢ To select a multi section
>   Select ___ to add a parametric section
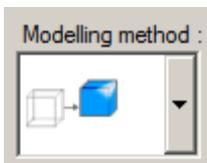>   Select ___ to add a catalogue section
>   Select ___ to remove a selected section
>   Select ___ to interchange the selected sections

Note: sections with the same number of vertices must be selected to model a multi section object.

Wire frame to 3D

This method is used to convert a wire frame section into a solid 3 dimensional object. Any complicated sections can be modelled using this method. The wire frame model can be created using the guide options.

Depending on guide type chosen, various inputs are required as described below

- RECT – Rectangle. Pick one corner point and then pick the diagonally opposite corner point. RGS consider add pick options to second point.

- CRECT – Center Rectangle. Pick the center point of the rectangle and then one of the corners .RGS consider add pick options to second point.

- TAB – Table. Draws a shape based on a table of X, Y and Z values given. Open or Closed.

- DRAW – Poly line. Draws a single or multi-segmented line. Several options for second and third pick points that can be changed with each segment. Open or Closed.

- SPIRAL – Spiral. Pick start point, end point, enter spiral radius and enter the spiral pitch.

- A – Arc. Pick the center point, pick the start point (and radius) and pick the endpoint. Note the arc sweeps counter-clockwise.

- S – Steps. Pick the start point (can be either the very top or very bottom riser), enter the riser value, enter the tread value and pick the total run of stair

  ➢ Select modelling tab → object library → select category → draw new → enter element name and part → select wire frame to 3D method → draw → select closed segments

In general the options such as OFF, NOFF, MID, ONL are used to pick the points for placing a model

- OFF- offset, is the method of picking a point from a single first point, pick the first point, and enter the X, Y and Z directions respectively by placing the mouse over the directions

- NOFF - new offset, it is similar to offset with a new first point

- ONL - Online, pick the first and the second from points in a direction and distance , enter the distances in X, Y and Z direction by placing the mouse over the respective directions.

- MID -midpoint, a method of picking a point centered between the first and the second from points

The top, bottom and side cover values are set by default. These cover values can be changed if required. The reset option is used to reset to the default cover value.

To change cover

  ➢ Double click on the object→ select cover → enter the cover values → save
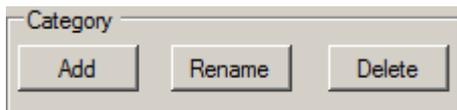The class defines the class of the object.
To change the class,
  ➢ Double click on the object→ select class→ update

The element name and part name are mandatory for an object.

Properties option allows to view the properties of the selected object

## *EDITING OF OBJECT LIBRARY*
CATEGORY

A new category for the elements can be added, renamed and deleted from the object library

- ➢ Select modelling tab → object library → category → add → enter a category name
- ➢ Select modelling tab → object library → category → rename → select a category → enter a category name
- ➢ Select modelling tab → object library → select a category → delete

FILES

The predefined object files from the object library can be renamed, moved from one category to another and deleted
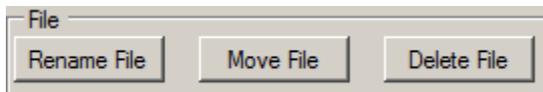
- ➢ Select modelling tab → object library→ select a file to be renamed → enter the name → ok
- ➢ Select modelling tab → object library→ select a file to be moved → enter the category name to be moved → OK
- ➢ Select modelling tab → object library→ select a file to be deleted → delete

IMPORT/EXPORT

Object library allows importing/exporting of sections.
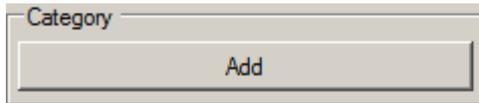New sections can be created. An existing section can be modified and saved in the object library.

SEARCH
Search tab allows the user to search the various files present in the object library.

CREATE OBJECT LIBRARY

Create object library option allows to create and add a new object in the object library.

➢ Select modelling tab →object library → create object library →category add →enter the name of the category

 The newly modelled object can be added in any of the following views TOP, BOTTOM, LEFT, RIGHT, SOUTH WEST, SOUTH EAST, NORTH WEST and NORTH EAST and it can be saved to the object library after giving the name for the object. The image of the object will be the selected view type of the object.

➢ Select modelling tab →object library → create object library → select object → select category → select view →enter object name → save

POUR BREAK

Some elements cannot be casted at a stretch due to its larger span. To make casting easier they are casted in parts. Pour break option allows the user to estimate the quantity of concrete required for a particular area of the element.

A pour is given a pour name, a class and height. The Rotation and offset value can be given for a pour. The extrude direction of a pour can also be changed if required. Properties of a pour can be viewed under properties option.

➢ Select modelling tab →pour break→ select required fields →draw

EXERCISE

1.Model a rectangular footing using extrusion method. Change the class and the cover values for the footing.

2.Model an object using multiple sections. Also change the order of the sections.

3.Draw a closed wire frame object and convert it into a solid 3D model.

4.Add a new category in the object library. Also rename and delete the category.

5.Add a new object into the object library.

6.Model a rectangular slab of span 20'and apply pour break option for equal halves of it, Also edit the extrusion of the pour.