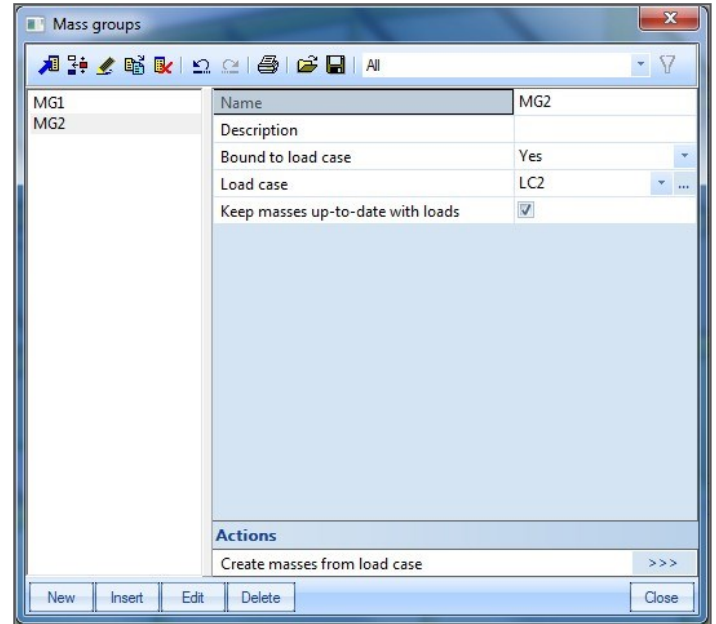


Dynamics (natural frequencies) - frames

 **esas.21**

Eigen frequencies can be required to verify comfort criteria for buildings, to analyze wind-induced resonance for bridges, to check requirements for sensitive equipment.... The esas.21 module enables you to apply this analysis type to frame structures by performing some few steps:

- Input of dynamic masses
- Selection of desired number of characteristic values
- Review of numerical and graphical results: frequency values, mass participation factors and modal shapes



Highlights

Calculation of the characteristic frequencies and modes of the member construction.

Automatic calculation of the self-weight of the structure.

Other weights can be entered as local or distributed loads or converted from earlier static calculations into dynamic weight.

The user sets the desired number of characteristic values.

For each characteristic value, the characteristic mode will be calculated with the subspace iteration method.

The results can be represented both numerically and graphically.

Input of masses

- User input of nodal masses or linear distributed masses
- Automatic generation of masses from the self-weight
- Generation of masses from selected static load cases (converts downward vertical loads into masses)
- Regeneration of masses after modification of selected load cases

Output of results

- Table output of eigen frequencies for each calculated natural mode
- Table output of mass participation factors according to each global direction (X, Y and Z).
- Graphical display of animated eigenmode shapes

Required modules

esas.00

