

Q: How do you tell if local buckling has occurred in a plate?

A: Because RISA-3D has a linear elastic solver it cannot approximate buckling. Therefore the model may appear fine when in fact the internal plate stresses exceed those which would have already caused local buckling. It is up to you to hand calculate the buckling stress for the plate, and compare the reported plate stresses against that.

Q: Why is the stress gradient not symmetrical along both axis, concrete plate is symmetrical and column is square?

A: We are only looking at results for M_x – not M_x and M_y simultaneously.

Q: Does the internal force summation tool add in M_{xy} to M_x , M_y ?

A: Yes. It reports the total design force.

Q: Didn't go over this: When I enter an E and a G, it always comes up with an error but I did follow $E=2*G(1+\nu)$. Why the error?

A: If you enter in E and G then you will need to leave Poisson's Ratio blank. The program will automatically calculate Poisson's Ratio based on these values.

Q: When using plates to simulate Rigid Diaphragms does using the "Rigid General material" for the plates simulate the appropriate stiffness and load transfer?

A: If you truly have a rigid diaphragm you are much better off using a diaphragm rather than plates.

Q: Is there a tool that can easily generate a hole in a curved surface (i.e. a nozzle into a tank)?

A: No but you can import plates from 3D AutoCAD which has more advanced geometry generation features.

Q: Does the software have a warning when aspect ratios, Shape limitations, inflections limit (less than 3) are violated?

A: No because your results aren't necessarily wrong.

Q: Is there a tool to compute $F=F_x+F_{xy}$, etc?

A: The Internal Force Summation tool will do this for you.

Q: For out of plane loading for plates would you recommend applying the loading as a concentrated load at a node or a distributed equivalent load over plate?

A: I would recommend using surface loads for out of plane loading on plates.

Q: Since we cannot draw plates other than in the Global plane, is it okay to rotate model, draw plates, then rotate it back? Are result okay if you do that?

A: You can draw plates in any plane but your methodology as described is valid.

- Q:** For rectangular plates in a out of plane loading the max M_{xy} moments occur at different locations than the max M_x and M_y . Would the addition of the M_{xy} to M_x or M_y be conservative?
- A:** As long as your plate is submeshed to be small enough then this difference in location becomes irrelevant.
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- Q:** Can we model triangular plates? If so, what are the limitation for triangular plates?
- A:** Yes, you can model triangular plates but you will need to click the last location twice in order to draw it. They have the same aspect ratio limitations as rectangular plates.
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- Q:** By adding the rigid links to the model wouldn't you modify the stiffness of the plate also, therefore not realistic?
- A:** If you are referring to the column model, it is appropriate to consider the panel zone of the column itself as rigid.
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- Q:** When modeling a 4x8 sheet of plywood for a conventional roof truss diaphragm, I go to all 4x8 edges and release the moment (simulate nailed connections). Is there a better way?
- A:** You should really submesh a 4x8 sheet of plywood down to approximately 1-ft by 1-ft plates, and you can release the corner of each small plate.
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