

Q: How feasible is it to create/analyze shearwalls that are curved in plane?

A: RISA doesn't design curved walls but you can break them into linear pieces. This is what we see most clients doing for curved walls. I'm not aware of any structural finite element analysis programs that address the curvature of walls. Mechanical finite element analysis programs address this as they're used to modeling for aeronautical applications.

Q: Do walls only have supports at each end or can there also be interior supports along the length?

A: You can specify wall panel supports anywhere along the wall length. We recommend assigning supports within the Wall Panel Editor dialogue.

Q: Can you modify walls with the members modify button?

A: You can modify walls using the Modify Walls button.

Q: Can you modify the reinforcement layout with the modify wall button?

A: All of the reinforcement is specified in the Wall Design Rules. First you would change the Design Rule and then you can use the Modify Walls option to assign this design rule to your wall. Or (if your wall already has this Design Rule) the reinforcement will automatically update when the Design Rule changes.

Q: Can you apply axial loads to wall panels with an eccentricity?

A: You can apply eccentric loads to wall panels by using a rigid link member and applying the point or line load at the end of that member. The member length will need to be equivalent to the eccentricity length/distance.

Q: Can you use this program to analyze a panel with exterior stiffeners similar to rebar but on the surface?

A: Yes. You can simply draw in members along the wall panel edge. The program will assume they are connected along the length as long as your member is specified as a Physical Member.

Q: Will the meshing handle large concrete walls with multiple openings without crashing?

A: You can modify the wall meshing parameters in the Global Parameters if you want the mesh size to be larger or smaller than our defaults. We don't currently design concrete walls with openings but will be releasing this feature in the Fall 2011 release.

Q: When there is a group of shear walls does RISA design the walls separately or together?

A: You can group the walls by using the Design Rules. However the reinforcement in each wall is designed separately. We may add a Group option in Design Rules for a future release.

Q: If I have one continuous foundation wall with stepped footings, can the wall panel be modeled with varying base elevations?

A: If the wall panel has different bottom elevations you will need to model each elevation as a separate wall. However, assumes that they are continuous along their connecting edges.

Q: Does RISA redistribute lateral forces through the diaphragms at each level, based on story stiffness of the walls below?

A: Absolutely! The rigid diaphragm will distribute the loads based on the relative stiffness of the walls and members of each floor level.

Q: How can you specify that the wall panels are continuously supported?

A: You can specify a continuous support or individual supports along the wall length.

Q: How do I consider sandwich panels for analysis?

A: If you are referring to fiber or foam filled walls we would recommend using the General wall panel material and specifying an equivalent thickness and Modulus of Elasticity for your panel.

Q: When do you plan to release RISA-3D Version 10?

A: Our next major release is schedule for Fall 2011. We typically release programs 1-2 times per year.

Q: Does the wall design feature communicate with RISAFoundation?

A: RISA-3D and RISAFloor transfer all wall reactions to RISAFoundation. You can go back and forth as many times as you wish; the loads will automatically be updated.

Q: Are out-of-plane seismic loads of the walls themselves automatically generated?

A: Seismic loads are automatically generated at each floor level. The diaphragm then distributes the loads to the walls either based on their stiffness (for rigid diaphragm) or via tributary area (for flexible diaphragm).

Q: Can slender walls be designed using iterative cracked Moment of Inertia?

A: No. You must make an assumption on the level of cracking. The default I_{cr} values are based on ACI 2008 Section 10.10.4.

Q: In the detail report, I sometimes see the warning "Only full story height regions can be designed." How can I fix that?

A: The regions are automatically generated. However, if the wall height or width is modified, the region might need to be re-drawn. You can do this by double-clicking on the wall panel and using the Delete tool to delete all the regions. To create new regions, click on the Generate Wall Regions Automatically icon.

Q: How do you designate that the walls are continuous along their connecting edges?

A: If you draw two wall panels adjacent to each other then the plate mesh of the wall panels will automatically connect and act continuously. If you do not want this continuous action then you need to model a gap between adjacent wall panels.

- Q:** Doesn't the code require $0.35 I_g$ when the wall is cracked in-plane? How does the program address this? It appears the program was using 0.7.
- A:** As shown during the webinar, the ACI 2008 code (Section 10.10.4.1) requires $0.70 I_g$ for un-cracked walls and $0.35 I_g$ for cracked walls. RISA assumes in-plane walls are un-cracked, and the out-of-plane walls are cracked with the previously mentioned factors. You can change these defaults in the Wall Panel Spreadsheet.
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- Q:** If I would like to examine a wall with openings, can I make it out of general concrete materials and create multiple regions around the openings? If so, will RISA also compute P-Delta effects for that wall panel?
- A:** Yes, you can create a wall panel out of a General material and a P-Delta analysis will be run. These are the P-Big Delta effects. P-Little Delta effects are only considered if the Concrete material is used.
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- Q:** How do you handle concrete pilasters within the length of a wall?
- A:** We don't currently address pilasters but plan to look at this in the future.
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- Q:** Can you specify openings in walls and get reinforcement reports around openings? What are intended design parameters for out-of-plane with openings regarding local reinforcement?
- A:** We don't currently design concrete walls with openings but will be releasing this feature in the Fall release.
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- Q:** Will it handle chapter 21 seismic provision requirements? If not, when will this be incorporated?
- A:** You can apply seismic loads to wall panels but we are not checking ACI Seismic Provisions at this time. This is something we plan to add in a future release. I don't have a release date for this but I would imagine it will be added within two years.
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- Q:** Does it determine when boundary zones are necessary and design those zones? How does it design for end elements of shear walls? Can you add additional jamb reinforcement (i.e. more bars than the default calculated.)?
- A:** The questions above all refer to boundary zones or boundary elements. Boundary elements are specific to the Seismic Provisions of ACI. RISA does not currently design for the Seismic Provisions but we plan to add these in the future.
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- Q:** This appears it is for ordinary walls only. Will this work for special reinforced walls? Does RISA-3D do boundary zones?
- A:** RISA doesn't yet have special reinforced walls. We plan on adding the special reinforcing to the program when we implement seismic design of concrete walls.
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