



Virtual Work

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🔓 Unlocking Unity Checks!

Keys to the VisualAnalysis design kingdom!

Design checks are easy in VisualAnalysis 6.0, but you still have to do a little thinking to get things set up the way you want. Here are the 7 keys required to getting great design results from VisualAnalysis 6.0. (You should be getting unity checks after just 4 steps!) Note: To get unity checks in VA 6.0, you must have purchased the [design or advanced level](#).

| Key Design Step | Explanation & Background |
|--|---|
| 1. Set up members: first select shapes from the database, then materials. | The shape database holds default materials. If you select the material first, it may get overwritten when you select the shape. VisualAnalysis 6.0 restricts material choices for shapes to those that <u>work</u> for design checks! |
| 2. Set up Load Combinations: Specify the 'design type' for each load combination in Load Case Manager | Only load <u>combinations</u> are checked, other load cases are <u>never</u> checked. If you will be doing ASD design (vs. LRFD) make sure you have "Allowable" load combinations rather than "Strength" combinations in Load Case Manager. Create combinations for deflection checks as well. Building Code combinations are available for most needs, including deflections, and their design type is predefined! |
| 3. Analyze: Check Results! | Good results are a prerequisite to design! This means "small" displacements, static balance, reasonable stresses. You may need to guess better member sizes manually before you bother trying to get unity checks. Use the Analyze Result Validation Checks report. |
| 4. Setup or Verify Design Group Setup. | In a Design View you may want to turn on "Preliminary Unity Checks" (only available in the 'advanced' level), for performance. With automatic design groups, everything may be set up for you already! Yet, you may need to separate, merge, delete or create design groups--this works just as in version 5.5. Your groups must "match" the shapes & materials types: e.g. wood shapes --> NDS wood group; cold-formed shapes --> AISI steel group, etc. At this point you <u>might</u> see unity checks. |
| 5. Adjust Design Parameters, especially bracing & specification. | For steel groups you have a specification option that must match the type of load combinations you are using: ASD vs. LRFD! This should be set up in automatic groups, but is not guaranteed, you may need to adjust. Member elements are assumed to be unbraced (conservative) so you may need to define intermediate brace points to get reasonable unity checks. At this point you <u>should</u> see unity checks. |
| 6. Design Members | [Optional: Skip this if all your members originally passed the design checks!] VisualAnalysis can search the database to find optimal members. To improve performance you might wish to set size constraints before this step. As you change your members, your analysis results may become less realistic--to |

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Training with PDH's

Short Courses on VisualAnalysis



Time and space are running out for the Las Vegas Training session on March

28th. If you would like to master VisualAnalysis 6.0 and get some professional development credit, sign up today. The half-day course is just \$100. Spend Friday morning with [Terry](#) and get all your VisualAnalysis questions answered, then spend the rest of the weekend in Las Vegas. Use the [order form](#) to register, but hurry, **only about 5 seats remain.**

Future Training?

We are working on tentative plans for additional VisualAnalysis Training.

SB 4.5 Wish List?

Let's make ShapeBuilder better!

Planning an upgrade for ShapeBuilder has left IES engineers scratching heads. We have begun work on this tool, making it work better with VisualAnalysis 6.0 and more, but we are not sure what YOU want to see in this tool. If you use ShapeBuilder, now is your chance to provide direction and focus to the next generation. Here is what we are doing:

- Integrate with VA 6.0 databases.
- Provide functionality of the Shape Database Editor tool.
- Make exporting shapes easier and smarter.
- Calculate cracked section properties.
- Make importing custom shape libraries easier.

Feedback Time!

check your work, **synchronize the changes** back to the model and return to step 3 to update the design forces and displacements based on your new shapes.

At this point you should see GOOD unity checks!

7. Finalize & Report

Design Reports show the details of unity checks, including intermediate calculations (e.g. KL/r, Cb) and show the controlling design values and specification reference. If you have warnings or errors, the design report will help you see these and understand them better. Simply double-click on a member in a **Design View** to see the report. If you turned on "*Preliminary Unity Checks*", you should switch to "*Complete Unity Checks*" before you finish.

For those customers who are used to working with version 5.x, you should find this process significantly simpler due to a variety of changes and improvements. You will find additional details and tips in the help file and tutorials. The new "Help Pane" (below Project Manager) provides unity check numbers and warning explanations. The new "Find Tool" shows design results in table format as well, making reports less necessary.

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Windows 64-bit?

Are you ready for the 64-bit operating system platform?

Windows XP was the first platform to offer a mainstream 64-bit implementation. While most people didn't even know it existed, this is no longer the case with Windows Vista as the marketing engine must be in full swing.

What is a 64-bit System?

Modern processors from AMD and Intel are generally 64-bit based systems that can run either a 32-bit system or a 64-bit system. The advantages of going to 64-bit platforms are the ability to address huge memory spaces and potentially faster or more accurate numerical operations. Another significant issue for some is improved security. If you drive a Volvo or own a Doberman, you might be interested in encrypting your files so that even the government will have to work for a couple hours to read them. By using a 64-bit operating system, and running applications that were compiled specifically for such a system, you could solve larger problems or operate more quickly. In theory.

Why Should you Avoid Windows 64-bit?

Currently there are some compatibility issues with going the 64-bit way. No 16-bit applications will run at all on these platforms. Some 32-bit systems do not work properly. Many applications that you use day-to-day have not been tested on the systems, and that generally means trouble.

IES tools are not currently built for 64-bit operating systems, even though they should run OK on those systems. (In fact, we did have a 64-bit system running for a couple months during 2006 and our products worked OK on it.) At present, IES does not officially support Windows XP-64 or Windows Vista-64 systems, simply because we do not have any test platforms on which to validate and we have not seen any significant demand.

Your Opinion?

If you have needs, experiences, or a plan for 64-bit systems in your work, you might let us know so that we can be prepared. As always, our goal at IES is to meet the needs of our customers with regard to structural software.

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If you have additional ideas for ShapeBuilder, please send them to IES [Technical Support](#). If you have example shapes that you find difficult to create, send them to us so we know what you are trying to do. If you have "pet peeves" or issues, please do not wait to tell us about them after we have released the new version! We have some specific questions relative to how you use the current version. For each question, please describe why or why not, or how the feature works or does not work for you:

1. Do you use the Outline sketch mode?
2. Do you use the Centerline sketch mode?
3. Do you import DXF files?
4. Do you use stress analysis?
5. Do you use concrete analysis?
6. Do you use 'effective section' analysis?
7. Do you export shapes to the database?
8. What is the most annoying problem you have with ShapeBuilder 4.0?
9. What is the best feature in 4.0?

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Fixes 'R Us

Download our Uploads.

When we get too many technical support emails (like one or two!) then we jump into the software and start tweaking things. It's not that we don't like to hear from you, but we believe that fixing the software is the most efficient means of cutting down on technical support. We think you would agree!

Recent Updates:

- [QuickRWall 2.00.002](#)
- [VisualAnalysis 6.00.0028](#)

If you would like to benefit from our fixes, you just have register to vote for the Fall Election and then download the updates! Except that registering to vote is optional for getting the updates, (you should do it anyway).