Masonry Analysis Structural Systems Version 2.2
List of Changes

National Masonry Design Programs

April 2016

NMDP is proud to announce the release of MASS™ Version 2.2. It is similar to both Versions 2.0 and 2.1 with some important bug fixes as well as small changes to the activation interface aimed to make it easier to activate and renew licenses.

Updated Welcome Screen

The MASS™ welcome screen has been updated to add useful information such as activation status, recently opened projects, and a news section that checks online for the most up to date content straight from the MASS™ website.

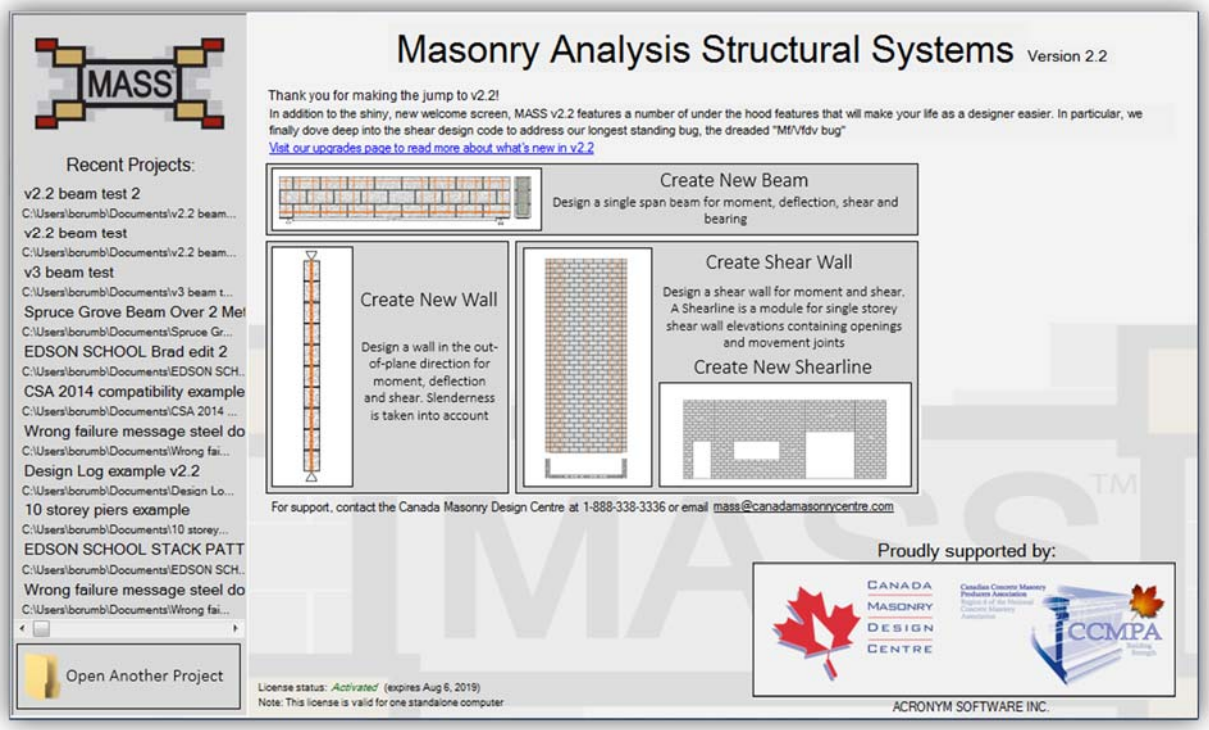
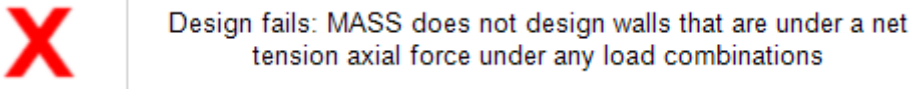


Figure 1: Version 2.2 Welcome Screen

Figure 2: Welcome Screen for Versions 2.1 and older

Walls and Shear Walls can no longer be designed for negative axial loads

When designing an out-of-plane wall or shear wall, MASS™ now displays an error message with failed design results when the applied axial load drops below zero for any load combination.



In previous versions, MASS™ would incorrectly design these walls using a factored axial load of 0kN. To clarify, this does not mean that negative axial loads cannot be applied. An uplift force such as wind uplift can be applied and will be correctly taken into account throughout the entire design process. When this uplift force exceeds all other applied axial loads, the design is no longer within the scope of MASS™.

Shear walls now run a shear design for each unit height along the wall

Shear Walls are now designed for shear at each location along the height of the wall rather than simply choosing a single location and running one design. While it slightly adds to the length of time required to arrive at the final design results, the change was made to address a bug going all the way back to MASS™ Version 1.0 where the moment at the top of the wall was incorrectly used to design the critical section at the base. When MASS™ is calculating v_m, the software now uses the actual moment and shear at each location when determining the ratio $M_f / V_f d_v$ found in CSA S304.1-04: 10.10.1.4. The output was also expanded to show v_m results at each location where it is calculated.

Shear Wall support reaction forces are now correctly displayed

Previously, MASS™ would show incorrect vertical reaction forces or no force at all on all shear wall support reaction drawings. This has since been addressed and the support reactions are now correctly displayed. It should be noted that this bug was only a display issue and had no effect on design calculations.

Bond Beams are now displayed in the top course of shear walls

MASS™ now displays bond beams placed in the top course of shear walls designed for shear in accordance with CSA S304.1-04: 10.15.1.3(d) whenever bond beams are required. Previously, MASS™ would display only the bars placed along the height of the wall to satisfy spacing alone without ensuring that one would be placed within the top course. This change only concerns the shear wall drawing and has no effect on design calculations.

Correct f'_m value now displayed in Simplified Moment Results for Walls designed for moment and deflection

For out-of-plane walls designed for moment and deflection, the correct f'm value is now displayed in the Simplified Moment Results window. Previously, f'm grouted was shown for all results, regardless of whether the grouted or hollow masonry assemblage strength was used in calculations.

Project files created using MASS™ Version 1.0 are now opened correctly

Previously in MASS™ Version 2.1, there was a bug where many project files created in Version 1.0 could not be opened. This has been addressed for Version 2.2.

Printer options can be changed when printing MASS™ drawings

Specifically for MASS™ drawings, only the default printer could be used in Versions 2.1 and 2.0. This has been addressed for Version 2.2.