



# Centre for Advanced Structural Engineering THIN-WALL-2

## General specifications

THIN-WALL-2 is a development of the THIN-WALL program to include shear loading and localised loading. The shear loading results in more complex buckling modes which can be captured by THIN-WALL-2.

The localised loading results in non-uniform stresses which are not included in THIN-WALL so that a pre-buckling analysis is performed in this case to determine the stress distributions in the section prior to buckling.

The program calculates the longitudinal stresses caused by moment and axial load, shear stresses caused by shear load, and normal stresses caused by localised load. The buckling deformations due to these stresses are also calculated. The stresses and buckling deformations can also be displayed in 2D or 3D on the screen.

The program has been written to align with the Direct Strength Method (DSM) of design in the American Iron and Steel Institute Specification AISI S100:2012 and current revision of AS/NZS 4600 Cold-Formed Steel Structures. The program is written in C++ code with a Matlab interface.

## Education and research

This version of THIN-WALL-2 is available free of charge for educational and research purposes only and cannot be used for commercial purposes. The program is limited to 50 strips and 51 nodes and cannot create a report. A commercial version of THIN-WALL-2 is available which has a capability of 200 strips and 201 nodes, although the localised loading analysis is still limited to 50 strips and 51 nodes. It also includes DSM design for compression, bending and shear to AS/NZS 4600 and can create a report.

## Download and setup instructions

Download the following file into any directory: [Download specifications](#) (2.4MB pdf)

Download the following files into any directory except program files directory:

[THIN-WALL-2.exe](#) (35.6MB)

[BFINST7R.exe](#) (39KB)

[BFINST10.exe](#) (39KB)

Download and install the MATLAB Compiler Runtime:

[MCR\\_R2013b\\_win64\\_installer.exe](#)  
(486MB exe)