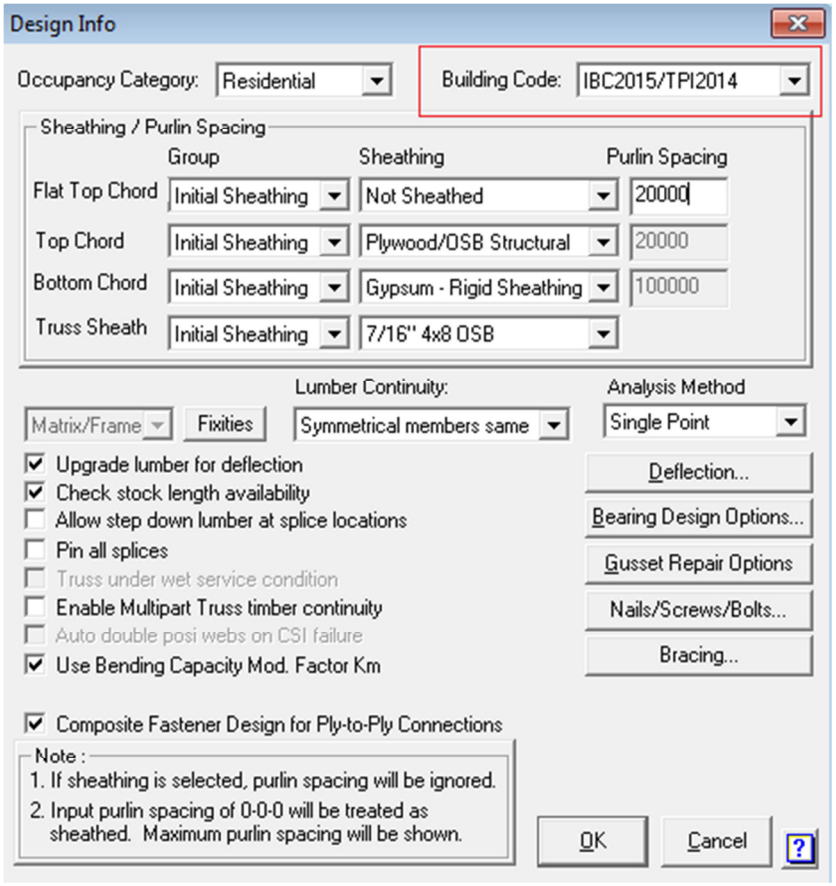
2015 IBC / IRC building codes are now available for adoption at the state and local level. This document summarizes significant changes that affect the truss designs. Importantly, this summary does not include all the changes and therefore designers need to consult local municipalities for other changes that may impact a specific design.



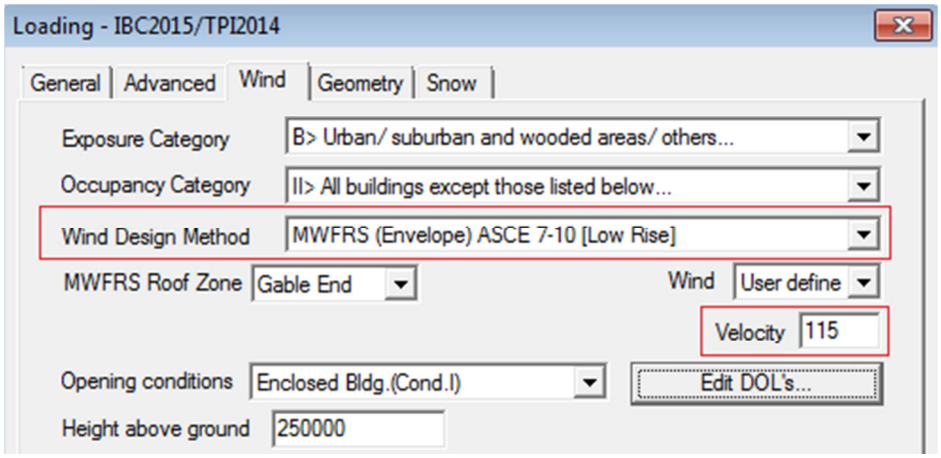
ANSI/TPI 1-2014 is referenced in the 2015 IBC / IRC. Summary of changes made between the ANSI/TPI 1-2007 and ANSI/TPI 1-2014 that affect the truss designs are made in our article "**ANSI/TPI 1-2014 changes that have impact to the truss designs."**

IBC2015 / IRC2015 Building Codes are based on **ASCE 7-10**, "Minimum Design Loads for Buildings and Other Structures". ASCE 7-10 introduces significant changes to wind load design. 2010 edition is the first edition of ASCE-7 where the wind speed maps are based on the occupancy category and which provides a "strength design" or "ultimate" wind speed. These "strength design" wind speeds are higher than "allowable stress" wind speeds that you have used in the past, but do not fear, the resulting loads and reactions (uplifts) will be very similar to what you are used to.

The basic wind speed map from ASCE 7's previous editions has been replaced with three ultimate design wind speed maps; one for each Occupancy Category.

For example, according with ASCE 7-10 the minimum velocity for Occupancy Category II, is 115mph; Category I (agricultural) 105mph; and Categories III and IV (more than 300 people or essential occupancy) is 120mph for most of the same regions where 90 mph wind speed previously applied.

Please also note that "(Envelope)" rather than "(Directional)" is the usual Wind Design Method. "Envelope" used to be referred to as "Low Rise" and "Directional" as "All Heights".



Since the IRC wind speed map is based on "allowable strength" wind speed, but the wind speed entered into MiTek Engineering must be the higher "strength" wind speed that is found in the references noted above, the program reports the ultimate design wind speed (V_{ult}) along with the nominal design wind speed (V_{asd}) when ASCE 7-10 is chosen.

You will see two wind speeds noted in the "wind note" on a design, the first reference is the ultimate velocity or strength wind speed (used in IBC-15) and the second one is the allowable stress design velocity wind speed (used in IRC-15 and previous editions of ASCE 7's).

2) Wind: ASCE 7-10; **Vult=115mph (3-second gust) Vasd=91 mph**; TCDL=6.0pdf; BCDL=6.0psf; h=25ft; Cat.II; Exp B; enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed; end Vertical left and right exposed; Lumber DOL=1.6 plate grip DOL=1.60

In the example note shown here, a truss run at 115mph under the new codes yields nearly the same results as a truss run formerly at 91mph.

For additional information, or if you have questions regarding changes in the ANSI/TPI 1-2014 and / or in ASCE 7-10 please, contact MiTek Engineering department.