

National Design Specification® (NDS®) for Wood Construction

The American Wood Council of the American Forest & Paper Association wrote this document. It was first published in 1944 and the most recent edition was published in 2001, however the 1997 Edition is referenced in...and will be discussed here.

It is developed via the American National Standards Institute consensus procedures and is a standard where "the most reliable data available from laboratory tests and experience with structures in service have been carefully analyzed and evaluated for the purpose of providing, in convenient form, a national standard of practice." It defines itself as "the method to be followed in structural design [with certain wood products and connections]."

This document is of use in seismic retrofit work because it addresses connections that are not found in the Simpson Strong-Tie Catalog or in ESR1579. Chapters 2, 8, 9, 11, and 12 are the most useful ones for the designer seeking wood or fastener strength properties. These chapters come under the headings "Design Values for Structural Members", "Bolts", "Lag Screws", "Wood Screws", and "Nails and Spikes." For example, if the designer wants to know how far from the edge he can place a bolt from the end of the mudsill, this information can be found on page 58 of the 1997 NDS. The shear values for nails found in the chapter on "Nails and Spikes" is much more complete than the one found ESR1579.

This document also contains engineering formulas that are used by engineers when they determine the strength of a wood frame connection that is not listed in a table. The use of these formulas should be left to engineers. The values listed here are recognized by the 1997 Uniform Building Code via the reference found in Chapter 23 of that code. {The '97 UBC actually references the 1991 NDS}

It is important for designers to understand that the information found in this document should be considered a "published" and therefore legitimate value. Published values are either values found in tables in the NDS or are values that have been "calculated" using the tables in the NDS and modified through the use of engineering formulas.