

Wood Foundations for Homes and Buildings

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What are wood foundations?

Wood foundations are a rather recent structure form developed cooperatively by the American Wood Preservers Institutes, the Economics & Marketing Division of the U.S. Forest Service and the National Forest Products Association. Stated simply, the All-Weather Wood Foundation (AWWF) (Figure 1) is a stud wall structure, with a plywood skin (sheathing) (Figure 2). The whole basement is enclosed in a 6-mil polyethylene plastic cover. All wood members (lumber and plywood) are treated with a water solution of chrome-copper-arsenate (CCA) preservative to a specified minimum retention of the solution. A system of moisture control featuring a 4-inch layer of rock ballast under the whole foundation is an integral part of the AWWF (Figures 2 and 3).

It's hard to comprehend a wood basement. Won't it leak excessively?

On the contrary, if properly constructed it will be dry and less humid than a concrete basement. The AWWF is an engineered structure and accepted by HUD-FHA and the Farmers Home Administration, as well as all model building codes.

What prevents the wood from decaying or being attacked by termites?

As mentioned above, all wood parts are treated with CCA. This wood preservative protects the wood from deterioration for an extended period of time—50 years would be a conservative estimate.

Are wood basements more expensive than conventional block or poured concrete basements?

No, most estimates show the AWWF to be less expensive. One of the advantages of wood basements is that they are dry, warm and available as prime living space (use for kitchen, living room, bedroom, etc.) as originally constructed. Concrete foundations require considerable added cost to convert a raw basement into a habitable area. If this situation is taken into account, the AWWF is considerably cheaper.

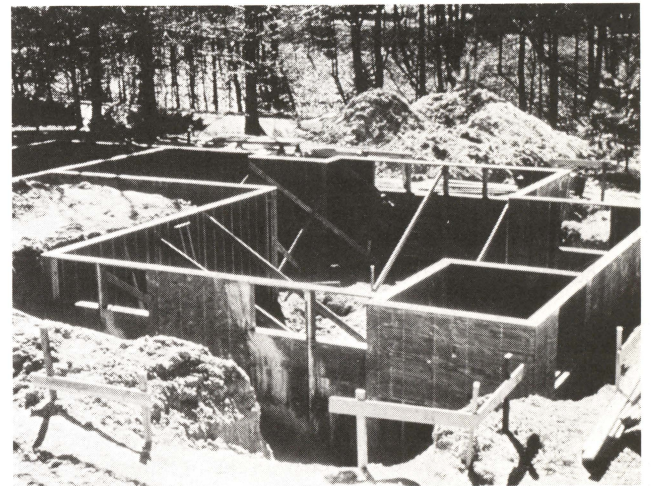


Figure 1



Figure 2

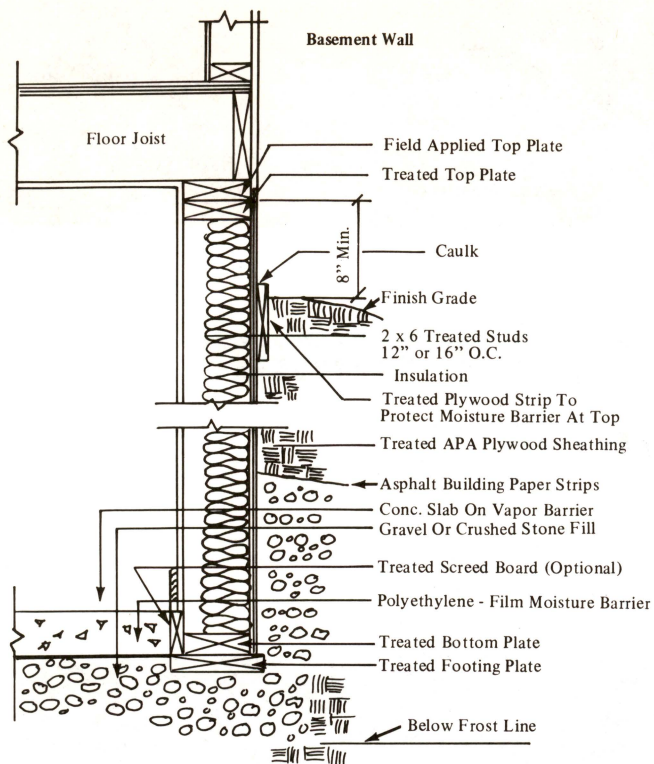


Figure 3

Have many of the AWWF's been built?

There were more than 5,000 housing units with AWWF's in place in 34 states at the end of 1975. Buyer and builder acceptance is increasing yearly.

What are some of the advantages of the AWWF?

(1) The cost savings are proving significant, especially in remote areas, where the cost of labor and materials for constructing concrete or masonry foundations is disproportionately high and where availability of materials and skilled labor may be scarce.

(2) The relatively warm, dry and easily insulated and finished-off AWWF basement is a decided advantage when below-grade areas are to be inhabited for either residential

or nonresidential purposes.

(3) The all-weather capability of the system extends the building season and eliminates costly delays due to inclement weather in cold or very wet climates.

(4) The capability for prefabrication permits housing manufacturers to include the foundation as part of the package, increasing their profit and control over the total building process.

Since the idea of wood foundations is just catching on, might an interested buyer encounter problems in purchasing an AWWF?

Yes, there may be a couple of problems for the time being:

(1) Properly treated and certified lumber and plywood may be difficult to get, especially in small towns and outlying areas.

(2) The buyer may have difficulty in finding a contractor with experience in erecting wood foundations or even finding one willing to try. Actually the construction procedure is simple. With a little careful explanation to your contractor, this obstacle probably could be resolved simply.

Where can I get additional information about designing and constructing an AWWF?

Order a manual entitled "All-Weather Wood Foundation System Manual" from:

National Forest Products Association
1619 Massachusetts Avenue N.W.
Washington, D.C. 20036

The manual was designed and written to be complete and easily understood. At this writing the manual sells for \$3 per copy.

Where can I get additional information on where to purchase CCA treated and certified lumber and plywood?

Contact the author:

School of Forestry, Fisheries & Wildlife
University of Missouri
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Literature will be sent free of charge upon request.