



# AE ASSOCIATES, INC.

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April 25, 2005

DekBrands West  
Post Office Box 142  
Alvadore, OR 97409

Attention: Mr. Paul Hoffman

Subject: Engineering Review of "Do-It-Yourself Deck Systems-  
Current Code Study

Dear Mr. Hoffman:

At your request I reviewed all available Code system documentation available in our files and on Internet sources relative to deck applications as it pertains to the DekBrand product line. This included the Uniform Building Code (UBC) utilized in most western US states for both residential and commercial applications and the "International" Residential One and Two Family Code that has been adopted by some states.

As we have noted over the past twenty years of reviewing this subject some States adopt a standard Code, such as the UBC, and then add supplementary pages while making the Code a legal requirement. Besides this some counties and cities make their own revisions and additions. For many years "decks" were not considered part of these Codes and then were added, mostly during the early 1990's, with loading requirements similar to the house

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or office application. For our initial analysis a 40 pound per square foot (psf) live load was used and 50 Psf was used for office type applications; these still correspond to normal Code loadings. It also should be noted that we did analyze the deck systems, including the footings (and ground pressures) with a 60 Psf live load for a special consideration many years ago and found the systems to be acceptable with few qualifications.

Copies of Internet cover sheets for some Codes reviewed and studied are attached for documentation. Note that not all sites had a high degree of technical information and almost no Code seemed to address "decks" specifically and left the subject somewhat vague. As we have discovered over the years this does leave questions of Code applicability up to interpretation of local Building plans reviewers and inspectors, prompting confusion for the homeowner and marketer. It is hoped that with an update to the statement attributed to me on your website and in other locations of marketing literature some degree of such confusion and end user hassle can be lifted:

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"I certify that, after review of general applicable Codes, all DekBrands systems and components analyzed by AE Associates, Inc. met or exceeded Code standards for uniform and concentrated loadings, plus soil bearing conditions, when these products are installed in accordance with the instructions. Local building Officials may apply requirements based on specific conditions of their municipality, requiring the consumer to comply with Building Permit requirements for the installation."

Robert C. Bowser, PE, AE Associates, Inc, Portland, Oregon  
April 25, 2005 (Registered in Washington and Oregon)

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The following conditions apply to the above statement:

1. Live loading as noted above. (Note that under some conditions of deck size the live loadings can be reduced, per Code allowance, to as much as 15 Psf less than the values used for analysis. This pertains to decks over 150 square feet in size.)

2. Decks not exceeding 30 inches above the prevailing "grade".
3. Seismic and wind loads are not considered. Seismic zones 3 and 4 generally could require a degree of "hold downs".
4. Code footing criteria is not utilized due to the deck system design and application. This pertains to size, type and depth consideration.

Please call me with any questions relative to the review and items discussed. Note that the above opinions are from a Code literature review of a limited degree (there are many Codes used in the United States) and we take no responsibility for questions that arise from individual application cases, not discernable by such a review. Thank you for the opportunity to be of service in this matter.

Sincerely,



Robert C. Bowser, PE  
AE Associates, Inc.

