

Preface

Although the term “Building (or Bau-) Biology”® has been used in Europe for over 50 years, it is relatively new in the USA. This aggregate of perennial building wisdom primarily from Europe, Asia and the Middle East was first brought to the USA by Helmut Ziehe, who completed the first translation of the German Baubiologie correspondence course for American audiences and opened the first Building Biology® center in Clearwater, Florida in 1987, now known as the International Institute of Bau-biologie® and Ecology.

At the heart of the Building Biology® philosophy is the time honored concept of the “breathing wall,” that is, all natural, self-regulating, electromagnetically balanced materials that have the capacity to diffuse moisture, air and pollutants. These walls can be made using locally available, all natural materials developed over thousands of years of accumulated building practices. The Germans then took this knowledge and put the rock solid scientific data behind why these practices work so well.

The exact opposite of the concept of the “breathing wall” is the modern, “airtight” sealed building envelope so common now in this country with a suffocating airtight polyethylene vapor barrier. Fortunately it is nearly impossible to fully “seal” a building, but the closer a building gets to being airtight, the higher the probability is that the indoor air will be compromised. This combined with the toxic soup that comprises the majority of building materials used in North America has contributed to the widespread phenomenon of “Sick Building Syndrome.” It is only in the last several years that the often disastrous effects of this closed, non-breathable, mechanically dependent suffocating system of construction have become apparent.

It has been estimated that in a typical \$250,000 new home, a full 90% of the installed materials are in the building “shell” or “envelope.” The cost to build this “shell,” which includes floors, walls and the roof (and excludes doors, windows and finishes) represents on average less than 20% of the total construction cost of the building. Furthermore, less than half of this amount (about 10%) is for materials, yet this 10% of the construction budget represents 90% of the bulk of the materials of the building!²

In no other area of construction can more be done to affordably eliminate toxins than to concentrate on this 10% dollar component of your building. Typically you can eliminate nearly all the toxins of this 90% bulk component by spending an additional amount that raises the total cost of construction by only a few

² For example, in a 1.5 million dollar home the ratio of raw minimal “shell” materials (minus doors, windows, and finishes) to final cost of construction may be as low as 3-4%, not 10%. High-quality, energy-efficient, nontoxic shell materials rarely cost more than 30-50% over conventional costs, adding only 1-2% to the overall cost of the house while easily doubling its energy efficiency and removing 90% of its toxins.

percent. On the other hand, getting all of the last 10% of the toxins out of your building could easily double its cost!

While attention does need to be paid to these areas, such as finish surfaces, moldings, flooring, cabinets, hardware, draperies, and furniture, in order to create a truly healthy home, it is most cost-effective to concentrate the bulk of your money and efforts on building a natural, breathable building envelope.

Improved indoor air quality through elimination of the poisons in the building envelope is only the beginning of the benefits. Superior longevity, better thermal storage qualities, better effective insulating qualities, improved fire safety, less moisture buildup and superior resistance to mold and mildew are just a few of the added benefits. In fact every recommendation in this manual offers improvement in each area mentioned above.

Building Biology® is a comprehensive and focused body of knowledge that examines the delicate balance between human health and the built environment. Through the International Institute for Bau-biologie® and Ecology, Inc. (IBE), a national network of Building Biology® professionals and training programs has been established in association with an informal worldwide network of Baubiologie centers. The IBE in North America and this worldwide network have a common goal of creating a more holistic, harmonious and sustainable habitat for humans on earth.

It is with a tempered sense of humility that the contributing authors of this manual offer this up to date North American adaptation of the time honored Building Biology® principles for building envelope design and construction as guidelines, and as at least a partial antidote to many unhealthy modern building practices.

TO A HEALTHY AND HARMONIOUS BUILDING EXPERIENCE!

Sincerely:

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