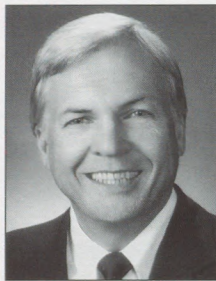


Experimental Drying Rate Project (Roof Systems)

By John Patten

RCI, SPRI, and Oak Ridge National Laboratory (ORNL) have jointly embarked on a roofing construction project known as Pembroke Research Project. The following article describes the goals of this research effort.



John Patten

John Patten is a roof consultant with over 24 years experience in both contracting and consulting. His experience includes inspections, investigations, expert witness, plans and specifications, and instruction. Over the years, he's worked with built-up roofing, EPDM, modified bitumen, metal roofs, sprayed urethane foam, and sprayed coatings. John is a professional member of both RCI and CSI and is a licensed asbestos supervisor and registered lobbyist in the State of Iowa. He is also active with the Associated Builders and Contractors and has served as chapter president, board member, and membership, program, and legislative chairman.

On November 10, 1994, participants in the experimental drying rate project met at the selected job site in Pembroke, Virginia, to finalize the scope of the project and design. The concept of an actual field study was put forward to various groups approximately two years ago by SPRI. SPRI, ORNL, and RCI cooperated in establishing the criteria and



Mike Merrigan, of Olympic Fasteners, performs a pull test on the deck of the Pembroke municipal building being studied.

are currently administering its implementation.

The basic criteria established by participants involved installing a new roof over an existing wet roof and monitoring the results over a long period of time (yet to be determined). Further criteria required an owner who would permit the use of his building for an experimental project that would utilize single-ply systems and employ both white and black surface sheets. Additionally, part of the building would have minimal insulation while the other part would be highly insulated. Finally, monitoring instrumentation would be installed.

A key element in offsetting costs was to find manufacturers to participate by donating materials. Because of the importance of the project, there was no lack of volunteers. JPS Elastomerics, UC Industries, U-Flow Roof Drain Systems, Olympic Fasteners, and MM Systems Corp. readily agreed to participate and share information.

The most difficult part of the project was finding a single building that could accommodate two different color membranes, two different insulation systems, an existing wet roof, and a willing owner. Joe Hale, FRCI, was successful in locating the municipal building in the Town of Pembroke, Virginia. Approximately half of the building is a garage for fire trucks (requiring little roof insulation) and the other half consists of the town offices (both heated and cooled).

The Pembroke town manager, Randi Lemmon, and Mayor W.D. Martin, along with the town council, passed a resolution to participate in the experiment. They were in need of a new roof and agreed to pay labor costs, allow the installation of monitoring instruments, and ensure access to the project for monitoring purposes.

The basic design concept is to divide the two areas of each roof into two separate sections, thereby allow-

ing a black membrane and a white membrane to be installed over both the garage area and the office area. This will permit four separate conditions on one building. The total area is approximately 3,000 sq. ft. (279 sq. meters). A nuclear moisture survey will be performed just prior to

the installation of the new roof.

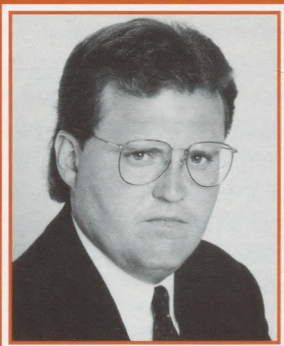
This experimental project is of great importance to the roofing industry. Environmental considerations and the costs of tear-offs are forcing many designers to take a closer look at re-cover in lieu of

reroofing. This project will hopefully supply field data which can provide sure answers to present-day questions.

Updates will be printed in *Interface* as more information becomes available.

Investment Strategy: Seeing the Forest Through the Trees

By John E. Banta and James A. Hunt



John E. Banta



Jim Hunt

John E. Banta is involved with financial planning at Kidder, Peabody & Co. John is completing his master's degree in finance from the Graduate School of Business at the University of Chicago, has over ten years experience in financial planning, and is a company vice president. He has completed the Portfolio Management Program at the Investment Institute and is a licensed advisory agent. In addition to performing a management role in the securities industry, John has consulted or acted as a principal in several business ventures.

Jim Hunt was in sales with Owens-Corning for 11 years prior to making a career change into financial planning with Kidder, Peabody

& Co. Over the years, he was actively involved with consultants, architects, contractors, and distributors in the commercial roofing industry. Additionally, he was an associate member of the Chicago, Midwest and National Roofing Contractors Associations. After completing his master's degree in finance and marketing at the J.L. Kellogg Graduate School of Management at Northwestern University, he made a career shift to personal and business financial management.

Despite significant investment of emotional energy (on behalf of investors) and protestation of disaster (on behalf of the financial media), the market remains essential-

ly unchanged from its level one year ago. Meanwhile, experts and novices alike debate the possibility of further correction, or even the likelihood of the dreaded "bear market".

Difficult market periods such as the current one tend to reek havoc on sensible investment strategy. In the face of a 10 or 15 percent down move, well conceived, sensible investment plans are often thrown aside in exchange for emotionally driven and expensive market timing approaches, or worse yet, the paralysis of no approach at all. In our view, such a period serves therefore as the best time to reinforce several aspects of long-term investment methodology that are easily forgotten in the face of a difficult market.

What Drives Your Asset Allocation?

Numerous academic studies have reached the conclusion that diversification across asset classes is the dominant factor that drives portfolio returns. Indeed, it is historically proven that for any given set of risk and return parameters, guidelines for portfolio diversification across asset classes can be established that aid in the optimization of returns over longer periods of time.

Although past performance is not necessarily indicative of future

results, this research typically suggests that approximately 91 percent of a portfolio's return is attributable to asset allocation. Market timing, conversely, determines only 1.8 percent. To date, no empirically proven method of successfully timing the market exists. It is clear then that we ought not subject ourselves to the transaction costs inherent with swinging into and out of market exposure.

Holding Period	Periods with Negative Return	Simple Average Annual
1 year	26%	12.3%
5 year	11%	10.3%
10 year	4%	10.6%
20 year	0%	10.6%

Source: Ibbotson Associates

Why Longer Holding Periods?

If you were offered the opportunity to play blackjack at a table where your odds of winning a hand were nearly 75 percent, it is safe to assume you would do so. In fact, common stocks have shown gains during 75 percent of the one-year periods since 1926. Alas, it is the other 25 percent that causes us to lose our cool and consider leaving the table. Consider the following: if we look at all five-year holding periods since 1926, all but 11 percent showed gains. Of all 10-year holding periods, all but four percent were winners and — get this — of all 20-year holding periods, none have ever been a loser. Pretty good odds. These facts are summarized with the corresponding annualized returns for each period in the chart above.

An Historical Perspective

Let us confront straight-away the real fear that causes appropriate asset allocation to dissolve into mattress stuffing — the fear that we'll be buying at the top. A study by our friends at Piper Jaffray does just this.

The study considers two hypothetical investors, each of whom invests an equal amount in the S&P 500 each year from 1960 to 1993. One investor, in true Boeskyesque fashion, buys the absolute bottom each year. The other (perhaps more familiar) investor makes the investment on the worst day of the year, every year. At the end of 34 years, the former has experienced a 10.6 percent annualized rate of return. On the other hand, the latter investor has experienced an annualized return of 10.4 percent. The fuss about timing

appears to be much ado about nothing. When you consider the transaction cost inherent in trying to "time" short term moves in the market, it becomes very clear that timing paranoia is not only unnecessary but unproductive as well.

Although we recognize information such as that provided above is only mildly therapeutic, it serves to support the primary message: in a period of correction, it is wise to maintain a fully-invested stance in accordance with your normal asset allocation.

If you have questions, comments, or ideas for future articles, call Jim (312-984-2377) or John (312-984-2479).

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