Renovating the Residential Envelope

By William R. Kasik

The exterior of a multi-family residential building provides the first contact for a prospective tenant. First impressions are important, and a building’s exterior design and architecture should create a favorable first (and lasting) impression. In the mass housing market, a building’s “curb appeal” is an important factor in the process of securing a tenant lease. Renovating the residential building envelope, therefore, is an opportunity to establish a new image and to improve aesthetics, performance, and return on investment.

Establish financial objectives
To begin a profile of the building’s current profitability should be developed. Examination of gross rental income, debt service, taxes, insurance, management fees, operating and maintenance expense, vacancy percentages, etc., will establish the starting point before renovation of the building envelope can be properly evaluated on a cost/benefit basis. Renovation of the building envelope can produce some or all of the following financial benefits:
1. Increase building’s sale value.
2. Increase rents.
3. Improve vacancy rates.
4. Reduce maintenance costs.
5. Reduce heating/cooling costs.
6. Reduce insurance costs.
The payback for the cost of renovating the building envelope can begin immediately. Generally speaking, the most ineffective and inefficient buildings usually offer the shortest payback period for the cost of renovation. This is true because these buildings have the potential for maximum increases in revenue and maximum reductions of operating and maintenance costs.

Other Considerations
The renovation of the building envelope also is an opportunity to correct other existing problems such as water infiltration, moisture migration, and limited daylighting. Exterior insulation and finish systems (EIFS) provide cost-effective solutions. Building owners, architects, engineers, and contractors continue to increase their use of EIFS for the renovations of multi-family residential buildings because the benefits of these systems are particularly well-suited to the renovation market.

Exterior insulation and finish systems are applied directly over the existing building exterior and consist of an insulation board which is adhesively and/or mechanically attached to the substrate. The insulation board is then covered with a base-coat mixture of acrylic polymer adhesive mixed 50/50 with Portland cement. Then, a fiberglass mesh is embedded

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into the base coat, followed by the finish coat which consists of integrally-colored acrylic polymers.

**Wealth of Design Options**

A variety of exterior textures is available and the selection of finish colors is virtually unlimited. Also, various types of stone aggregate finish coats are available to further enhance the aesthetics. EIFS may be applied over many types of building exterior surfaces, and the design possibilities for improving older buildings are endless.

EIFS can achieve superior cost-effective aesthetics for building architecture ranging from Historic to Art Deco. In addition, the insulation board used in these systems can be sculpted into a variety of special shapes in producing low-cost ornamentation including arches, ribs, spandrels, fascia, and soffits.

Compared to other building recladding materials such as concrete, masonry, metal, vinyl, wood, etc., exterior insulation and finish systems offer a more cost-effective solution for achieving signature clout and high-performance building design. With an EIFS, insulation is applied on the building exterior so that rentable interior space--and rental income--is not reduced. Also, especially in busy downtown areas, these systems can be effective in inhibiting outside noise to the building interior.

EIFS are integrally colored and fade resistant. Color consistency and conformity for possible future additions can be precisely matched to original color formula. Since these systems are impervious to the weather, buildings renovated with EIFS are virtually maintenance free. Depending on the area’s environmental conditions, an occasional power wash is all that may be required.

The common R-value of EIFS is 4 per inch. However, the thickness of the insulation board can be increased to yield a greater R-value, depending on an owner’s needs. By improving the thermal efficiency of the building envelope, significant savings are possible through the reduction of heating and cooling costs.

Field construction of an EIFS system has a much shorter completion time than most other exterior renovation alternatives. Sometimes, rather than field construction, it may be more cost effective to install prefabricated panels due to weather conditions and job-site constraints.

In either case, the exterior renovation can be achieved quickly and efficiently without any disruption of tenants. Also, special techniques have been perfected to efficiently accommodate window enlargements and replacement, if desired.

These systems offer an additional benefit to the building owner in construction cost savings because their durability and light weight require no structural fortification of the building, as do other cladding materials.

Exterior insulation and finish systems meet federal regulations and are recognized by all of the major code bodies, including BOCA, ICBO, and SBCI.

These systems are available nationwide, and manufacturers of EIFS offer performance warranties on both materials and installation.

For more information on EIFS and its manufacturers, contact Dick Hopkins, Executive Director, Exterior Insulation Manufacturers Association (EIMA), 30 Holley St., Wakefield, RI 02879, (401) 782-3687.

**About the Author:**

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