Direct Applied Exterior Finish Systems

by Dorothy B. Roberts, CEO
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Direct Applied Exterior Finish Systems are relatively new wall cladding systems utilizing polymer based products with various sheathing boards which function as a substrate. These systems generally do not have an insulation component; although, in one case, the substrate also serves as insulation.

Direct Applied Systems were not developed to compete with EIFS, but to enable manufacturers of synthetic systems to broaden their markets by effectively competing with other wall claddings such as wood or vinyl siding.

These systems also offer the trained applicator an additional market for his skills.

In geographic areas where insulation is not a critical factor these systems are generally very cost effective. The customer pays less than for a full EIF system, but still receives the benefits of durability, weatherability, crack resistance and an attractive, textured finish. Decorative accents such as quoins and moldings are a plus.

Because of the cost advantages, these systems are particularly useful for:
--Residential construction
--Rehabilitation
--Modular housing
--Signage
--Soffits
--Small commercial and strip shopping centers

The selection of system to be used should be based on the recommendations of both the sheathing board manufacturer and the finish system manufacturer.

Careful attention should be paid to any limitations placed on the use of the substrate board by the manufacturer. These include freeze/thaw zones, i.e. winter degree days, moisture control, exposure to the elements prior to being covered with finish and code restrictions.

Appropriate substrate sheathing boards for Direct Applied Systems are:
--Cement boards such as Harditex, Durock and Eterspan
--Georgia Pacific Dens-Glass Gold
--Polyisocyanurate boards such as Celotex Quick-R and Atlas R-Board (Also serves as insulation.)

Since Direct Applied Systems do not have insulation which can be rasped to achieve a smooth level surface, the finished appearance will depend on the structural framing support of the substrate board and the applicator’s skill in handling joint treatments.

In addition, the base coat and finish coat must be the full thickness recommended by the finish system manufacturer.

Recommended joint treatments vary. Some sheathing board manufacturers require butted joints and others open joints with embedded joint sealant. Again, the manufacturer’s instructions must be followed to achieve good results.

For example, Dens-Glass Gold panels should be butted tight with a minimum 4” reinforcing fabric (fibre-glass or polyester) covering the joint and embedded in a water resistant joint bedding material (such as Pleko’s Elastomeric Joint Sealant). The edges must be carefully feathered to achieve a flat surface. (See Fig. A)

Harditex sheathing has tapered edges to facilitate smooth joints. These also require tape reinforcement embedded in joint sealant.

Celotex has recently introduced Quick-R Blackore. This up-dated version of its polyisocyanurate foam sheathing has carbon black filler which the manufacturer claims effectively blocks radiant heat flow, thereby providing higher R values.

Quick-R Blackore must be attached to the framing members with a special washer through which the fastener is installed. When using Quick-R as a sheathing substrate for Direct

Direct Applied
Systems can compete with other wall claddings such as wood or vinyl siding.

--Exterior grade plywood

Direct Applied Finish Systems require scrupulous attention to such details as the protection of all exposed edges and applying diagonal mesh reinforcement at comers of window and door openings to minimize settling cracks when using Dens-Glass Gold and polyisocyanurate boards.
Figure A: Applying a Direct Applied Exterior Finish System to Georgia Pacific’s Dens-Glass Gold
(courtesy Georgia Pacific)
Applied Systems, framing members must be corner braced according to local codes.

Again, joints must be butted and covered with mesh.

The manufacturer does not recommend Quick-R for use in geographic areas with more than 6000 Winter Degree Days. Under some conditions, a vapor retarder is recommended.

Sand Lakes is a project which was completed in 1986 with Quick-R and Pleko Structure Finish. It is still performing well.

Plywood as a substrate for Direct Applied Systems is not suitable for geographic areas which experience constant expansion and contraction of heavy moisture conditions. In dry desert areas successful application have been in place eight years using an elastomeric joint sealant, a heavy duty sealer over the entire board and Pleko’s flexible Structure Finish.

All of the manufacturers of the sheathing boards currently being used in Direct Applied Systems require a base coat over the entire surface.

Optimum results can be obtained when joints are treated as part of a full mesh system embedded in the base coat covering the entire board.

As with all wall cladding systems, care must be taken that all openings in the system are properly sealed.

The best results on some of these sheathing boards are obtained when textured finishes are used. These tend to hide joint transmissions, wavy boards or poor framing. Fine finishes are not recommended over boards such as Dens-Glass Gold or Harditex as excessive finish material must be used to cover joint transmission. If a fine finish is used, a similarly tinted sealer is advised prior to the application of the finish.

It is very difficult to obtain a total monolithic appearance using a fine finish with these systems without some trace of joints.

Local building codes apply to Type V construction. At its April Evaluation Committee Hearing, ICBO began the process of drafting acceptance criteria for Direct Applied Exterior Finish Systems. ICBO refers to these systems as DEFS. Neither BOCA nor SBCCI have addressed this issue yet.

EIMA, the national trade association for the Exterior Insulation Finish System industry, has taken the position these systems, by definition, are not included in that industry because no insulation is used. However, the majority of EIMA members do provide materials for one or more of these systems.

In conclusion, there is a place for Direct Applied Systems within the synthetic wall cladding industry. Where price competitiveness is severe and/or the need for insulation is not critical, Direct Applied Systems provide the aesthetics and weatherability the customer has learned to appreciate in full systems.

However, these systems are less forgiving than EIFS. A good quality job depends on careful adherence to the instructions of both the sheathing board manufacturer and the finish system manufacturer.

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**EIMA Annual Meeting Set for November 6-9 at La Mansion del Rio, San Antonio**

William Kasik, Chairman of the Exterior Insulation Manufacturers Association Marketing Committee, announced that the annual association meeting will be held Wednesday evening through Saturday noon, November 6-9, 1991, at La Mansion del Rio, San Antonio.

“Our theme this year,” said Kasik, “focuses on ‘EIMA--Shaping the Future... Today.’ Our program will follow through on this theme with separate panel presentations of noted architects and highly respected EIFS contractors discussing the needs of the industry.”

A separate presentation will be made concerning the chemistry of EIFS products today and in the future, which will be prepared by highly regarded industry chemical suppliers.

A full day of sessions will be devoted to the interests of applicators, distributors and the members of various plastering bureaus. EIMA wants to let all of these individuals around the country know that they plan to work together to be successful today and in the 21st century.

Major committees of the association will gather at this meeting and give their annual reports at the Saturday morning session.

Vincent Tamburrini, President of EIMA, said, “We are going all out to develop a program that will be of interest not only to the manufacturers but equally important to the plastering contractors of the nation as well as important vendors to our manufacturers. We believe that these three groups must continue to work together to grow our association so that, as our product line becomes mature, we do not lose any of the tremendous marketing impact of our first two decades.”

A golf tournament will be held during the 3-day session. Further information can be obtained from EIMA’s Executive Director, Eugene Z. Fisher, 2759 State Road 580, Suite 112, Clearwater, FL 34621; Phone (813) 726-6477; or FAX (813) 726-8180.