

Technical Bulletin

Corporate: P.O. Box 397 • Fortson • Georgia • 31808 • 800-755-0825 • FAX 706-569-6704

MW# 158-210201

Topic: Drainage Options

There are several options available to the designer for applying Exterior Insulation and Finish Systems (EIFS) over a water barrier. Some manufacturers give these options special names or terms that can be confusing to all but the most seasoned professional. This bulletin explains in generic terms the benefits and considerations when installing EIFS under a variety of conditions.



EIFS with Flat Insulation Board over a Water Barrier

Technically, applying Aggre-flex EIFS or QRW1 Drainage directly over a standard water barrier such as ASTM D-226 asphalt felt is not considered a drainage system by most building code authorities. However, this basic system does drain water with 97.8% drainage efficiency which exceeds the test minimum of 90%. The concern of the building authorities is that a specific drainage plane isn't provided for. This application may be a good choice where extra protection is desired but not mandated by building codes.

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EIFS with Flat Insulation Board over a Wrinkled Water Barrier

Some manufacturers have introduced specialty water barriers with wrinkles or spacers that provide a drainage plane behind the EIFS. Products such as Tyvek® StuccoWrap® (www.construction.tyvek.com) or Ludlow WeatherTrek® (www.ludlowcpc.com) were introduced to fill this need. Building codes recognize the use of these in Master Wall's code report ESR-1181. This is likely the most economical drainage system option.



Courtesy DuPont®
Tyvek®

EIFS with Flat Insulation Board over a Spacer & Water Barrier

Using a spacer behind sidings is nothing new. In fact, it's recommended under wood sidings to prevent paint peeling. From an EIFS standpoint, spacers such as Keene® have been used for years (<http://www.keenebuilding.com>). Some manufacturers offer this under their own trade name. The spacers do provide a small space, but caution should be used under thin insulation boards as they have a tendency to pucker when fastened. Insulation thicker than 1-1/2" should be considered for these applications.



Drainage Mats such as Keene® are a good choice for EIFS, Stucco and Stone applications

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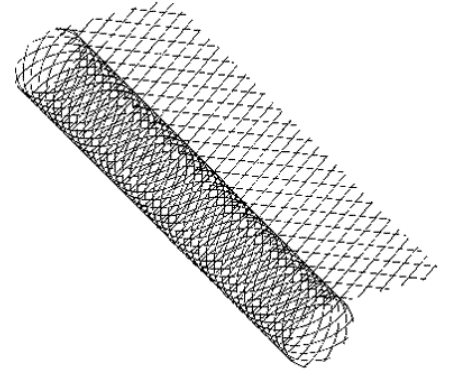
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Courtesy Benjamin Obdyke

Other lower cost and more widely available options include plastic lath such as Ultra-Lath[®], available in sheet form or rolls from Plastic Components (www.plasticcomponents.com) or Benjamin Obdykes Home Slicker[®] (www.benjaminobdyke.com). Keep with insulation board 1-1/2" or greater to avoid excessive waves in the insulation board.



Courtesy Plastic Components

QRW1 Drainage may also use foam sill sealer such as Dow Styrofoam Sill Sealer (www.dow.com) at the framing lines as a spacer. The insulation board used with the QRW1 System is higher density and spans the spacers. As above, thicker insulation boards are suggested, 1" or greater in thickness.



Courtesy Dow[®]

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EIFS with Wavy Insulation Board over a Water Barrier

Master Wall's wavy insulation board has been used for years as part of the Aggre-flex Drainage System. The insulation board has a gentle wave to the underside that provides a drainage plane under the system. In addition, the wave pattern, compared to square-cut patterns of other manufacturers, provides for easier attachment to varied substrates and minimizes stress on the insulation board.

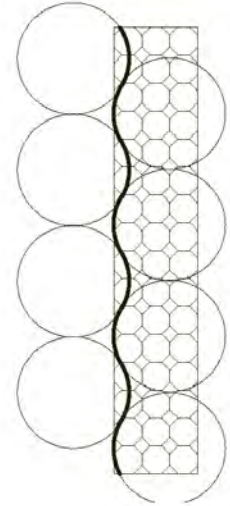
Wavy insulation board is typically special ordered and may be subject to availability. Wall systems must be designed to accommodate at least 1-1/2" insulation thickness.



Seaside home with leaky windows used two water barriers, fiberglass flashing, metal lath and the Aggre-flex System over metal lath for a long-lasting durable repair.

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EIFS adhered to Metal Lath over a Water Barrier

This is a high-end option usually considered for extreme climates such as coastal areas and for clients where cost is not a primary consideration. Adhering Aggre-flex EIFS to a 2.5 or 3.4 lb/sy metal lath is a common application over painted surfaces. This same application technique is expanded by applying that system over one or two water barriers.

This application offers very good drainage performance as well as high wind-load resistance for Master Wall® Systems.