

TOTAL WALL

ISSUE # 1004

WHY EXTRUDED FOAM INSULATION BOARD SHOULD NOT BE USED TO MAKE A TRADITIONAL SOFT COAT PB EIFS

Traditional Soft Coat PB EIFS (Exterior Insulation and Finish Systems) use one-pound density EPS (Expanded Polystyrene) insulation board. Traditional Hard Coat PM EIFS use two-pound density XPS (Extended Polystyrene) insulated board. Why not cross the systems and make a PB System out of XPS? Here's why not:

There is a big difference in physical properties between EPS and XPS. EPS has very low modulus of elasticity. That means it moves easily with substrate movement and it does not transfer significant stresses to the base coat. This practice works well down to an EPS board thickness as low as 3/4". On the other hand, XPS has several times the strength of EPS and a much higher modulus of elasticity. XPS will transfer significant movement stresses from the substrate through to the Base Coat and Finish layers. In addition, polystyrene plastic has a coefficient of expansion of 6.5 times that of concrete. With stronger foam plastic such as XPS, this will add to the thermal movement stresses accumulated in the system.

The bottom line is that use of XPS instead of EPS in a traditional Soft Coat PB System will usually result in cracking and system failure. TOTAL WALL does not recognize or warrant the substitution of XPS for EPS in our standard Soft Coat System.

We would like to point out that hybrid hard coat systems have been developed that permit the use of XPS in a type of application that does not require trims or control joints. These are special systems that are designed to compensate for properties of XPS foam board. This is a very different practice than simply substituting XPS for EPS foam board. TOTAL WALL does have a hybrid system available called the SL Gold System.

The **TOTAL WALL** Technical Department