

Total Wall Technical Bulletin Issue # 1015. Revised and Reissued July 20, 2006. This publication replaces all previous versions and issue dates.

Direct Applied (DEFS) Class DA Systems

Cement board, such as Durock or Permapase, is a tough and highly weather resistant sheathing. As such, cement board sheathing is an acceptable substrate for Direct Applied application of Base Coat and Synthetic Finish lamina (Base coat, Reinforcing Mesh and Finish layers) for exterior exposure.

PROTECTED AREAS: It is noted here that siliconized core gypsum sheathing, such as DensGlass, GlasRoc or FiberRock, is acceptable as alternate sheathing for cement board sheathing in protected areas only (soffit, portico, etc.) for Class DA Systems.

EXTERIOR EXPOSURE: Only cement board sheathing is approved for Class DA exterior non-protected wall exposure. A moisture barrier is run behind the cement board sheathing, either over open framing or over sub-sheathing. The moisture barrier is lapped over a PVC drainage accessory at the lower termination. The moisture barrier should be detailed at terminations so that water cannot enter the wall system. Use of waterproofing tape and head flashing at doors and windows is recommended. The sheathing joints must receive base coat and an embedded layer of minimum 4.5" wide reinforcing mesh. Following that, the entire surface receives a layer of base coat with embedded standard reinforcing mesh. Therefore, sheathing joints will be double-meshed. Runs of reinforcing mesh should be lapped at least 2.5". Total Wall Textured Finish is then applied once the Total Wall reinforced base coat layer is cured.

SHEATHING INSTALLATION AND PERFORMANCE CONSIDERATIONS

When attaching the cement board over the moisture barrier, the control joints should be spaced in accordance with the cement board manufacturer specifications. In the absence of control joint specifications, standard lath and plastering practices are recommended: control joints are placed every 150 sq. ft. As a general guide, vertical control joints are placed at least every 16' and horizontally at floor lines. In new wood frame construction, the horizontal floor line joints should be ¾" wide expansion joints constructed from back to back casing beads, or a slip-joint accessory. Control joints should be trimmed with UV rated PVC accessories, such as a V-joint from Plastic Components. Filling the PVC V-joint (control joint) with sealant after the installation is recommended. This practice improves appearance and serves to protect the joint in the event of accessory failure.

Isolation joints function as gaskets around penetrations such as windows and doors. The cement board may be trimmed with a UV rated PVC trim, such as a J-stop or angled termination. The opening between a clad window and the PVC trim should be filled with a bond-breaker tape and an approved low modulus sealant.

Expansion joints will likely be through-wall joints designed into the structure to compensate for large wall stresses due to movement. These joints will be a minimum of ¾" wide and the cement board will be terminated with PVC stop bead or one-piece PVC slip-joint. The joint will be filled a bond-breaker tape and sealant as described above.

CLIMATE CONSIDERATIONS: Direct Applied systems for exterior exposure have the best overall performance record in moderate and warm climates. Exterior exposed Direct Applied Wall Systems Class DA (DEFS) are not recommended for climates with average annual low temperatures below -20 F. These "non-recommended climates" are zones 2, 3 and 4 on the U.S. frost zone map. This affects a small area in New England and some larger areas of northern central and western United States, including a much of Montana, the Dakotas, Wyoming and Wisconsin.