

alternative cladding

HOW BUILDING CODES ARE CHANGING TO REQUIRE AN ARCHITECTURAL LOOK IN WALL CLADDINGS USED WITH METAL BUILDINGS



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Revisions in Building Codes, and Business Park Covenants, as well as local planning and zoning commissions now seem to be moving toward enforcing more of an architectural design for buildings that are structured with pre-engineered steel. Architects have begun specifying concrete block, masonry, tilt-up concrete and EFIS panels, replacing the traditional corrugated metal panel look used in the past.

An architectural panel system known as Metal Stud Crete (MSC) is also becoming a viable alternative for cladding pre-engineered metal buildings. MSC panels are also loadbearing shear walls, so they can be used to create shear where required, when used in conjunction with the pre-engineered steel columns. The MSC panel system consists of thin (approximately 2" thick) hardrock concrete, mounted on light-gauge steel framing. The panels resemble the look of tilt-up concrete panels but weigh considerably less. MSC panels can be site-cast

like conventional tilt-up or precast offsite nationally and delivered to the jobsite, ready for erecting on the pre-engineered structural frame. Many architectural features can be cast into the concrete using form liner patterns. Thin brick is also available. Colored concrete is an option. Many textures can be accomplished with etching, sandblasting retarding or casting texture into the concrete face.

For commercial buildings, the advantage of having the light-gauge steel framing on the inside wall is that utilities such as plumbing, electrical, HVAC, wiring and insulation can be placed inside the wall. Interior finishes such as drywall can then be attached to the metal framing to complete the interior walls.

The MSC system is also light weight, approximately 35 lbs. per sq. ft., compared to other concrete or masonry alternatives, yet it has a durable concrete exterior that attaches easily to a pre-engineered building frame. Footings and foundations can be downsized, and a smaller crane can be used for erection. A simple patented MSC shear connector structurally fastens the thin exterior concrete section, usually 2" thick, to the common steel stud framing during the casting process.

A metal builder or erector can handle the erection process using a much smaller crane and crew than is required for conventional concrete panels. Panels are less costly to transport because, being lighter weight, more panels can be shipped on every load. Backer rod and caulking of vertical or horizontal joints similar to a tilt-up application finishes the exterior, for a watertight building, with enhanced architectural concrete features.

Earl Composite Systems (ECS) of Irwindale, CA, has licensed this technolo-

gy from the corporation that owns the USA and foreign patents and is marketing it nationally to the metal building industry. Utilizing technical assistance from ECS both on-line and on-site, on an as-needed basis, the metal building contractor and his team can site-cast MSC panels using standard tilt-up procedures for forming and pouring panels. Site-casting is the most economical with the walls lifted from the casting surface and ready for attachment to the pre-engineered structure.

If speed is critical, ECS can supply panels from its national network of pre-casters. In this case, panels are fabricated off-site while the slab and steel is being erected, then the panels are trucked to the site and attached to enclose the structure.

ECS also provides panel engineering and shop drawings through a national list of engineering consultants. MSC panels are ICBO/ICC approved to meet the requirements of all local building departments. The ability to easily ship the MSC shear connectors to all parts of the world at a moment's notice makes the versatile system practical to use wherever pre-engineered structures are utilized.

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