A New Material To Dress Up Stucco and EIFS Buildings

In 1988 Forton B.V., an operating subsidiary of the Dutch Chemical Company DSM Resins, began the commercialization of a new material for the construction industry. The name of this material is Jesmonite. The basis of Jesmonite is an alpha-hemihydrate gypsum, specialized polymer chemistry, and glass fiber reinforcement to make strong yet lightweight cladding panels and architectural ornamentation for exterior applications. Original research on the material was begun in England in the early 1980s. Forton B.V. became interested in the technology in 1987 and began an extensive research and testing program to evaluate the material for use in the building materials industry. Forton B.V. had already successfully developed and was marketing polymer modified GFRG.

Jesmonite offers the fabricator, architect/designer and client a wide range of unique properties. For the fabricator the Jesmonite mix can be hand laminated with continuous or chopped strand mats, sprayed up using glass fiber rovings and made into a pre-mix (combining the slurry mix with prechopped glass fibers) which can be cast into a mold or sprayed. The fabricator can choose whichever process that best fits his needs without changing his normal plant production procedures. Because Jesmonite is gypsum based, demold times are typically in the one hour range but can be adjusted by the fabricator using accelerators or retarders. This gives the fabricator the flexibility needed when making large complicated shapes or small simple pieces with a lot of repetition. Since gypsum is not an alkaline material, the normal “E” glass fiber reinforcement products can be used.

For the architect/designer, Jesmonite offers almost an unlimited range of architectural finishes. From the basic white finish which can be painted with an exterior acrylic coating to combinations of pigments and sand/aggregates which can be sandblasted, Jesmonite can give the desired look and texture required. It was just these features that interested Herman Berger, of Architectural Products Manufacturing in North Hollywood, California, when he developed his line of architectural ornamentation to use in combination with conventional stucco and EIFS finishing systems for either residential or commercial applications. By developing a series of molds of standard shapes, Berger is able to give architects and contractors what they want by simple changing the first layer applied in the mold with pigments and sand/aggregate fillers. The ability of Jesmonite to replicate the look and texture of limestone or cast stone while at the same time giving a piece with crisp detail is a major part of Berger’s marketing program.

Due to the light weight of the material, he is able to fabricate longer and bigger pieces and still be able to handle them in the shop with several men. He is also able to get a greater number of pieces on his delivery truck which lowers the project’s shipping costs. In seismic areas, such as California, the lightweight characteristics of Jesmonite are also an advantage over similar shapes manufactured from concrete or cast stone.

At the jobsite, the pieces can be off-loaded and staged by the contractor’s labor crew or by the installation crew. This eliminates costly handling equipment in the field.

By working with his own installation crews, Berger has developed a connecting system that is molded into the pieces during plant fabrication. The moldings are attached to the building prior to applying the finish coat of stucco or EIFS. Any on-site cutting or mitering is done with a carbide or diamond tipped saw. Joints and cosmetic repairs can quickly be done using the Jesmonite mix that Berger supplies to his field installation crew. Since this mix also sets up quickly, there is no lost time waiting for cure.