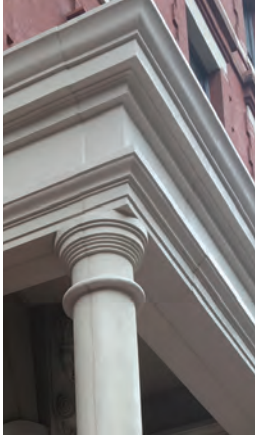
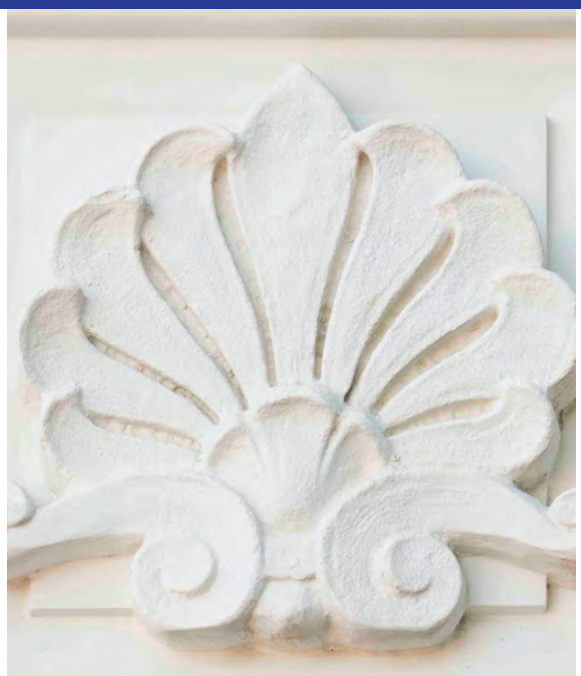


MICROCOTTA®

POLYMER RESIN COMPOSITE MATERIAL

www.microcotta.com



What is Microcotta®?

Microcotta® is a polymer-based composite resin material which was originally developed and patented in 1978. Microcotta® is based on a proprietary polymer-resin blend, which creates an extremely durable and light-weight option for replacement of architectural ornament; whether it is terracotta, Cast Iron, Limestone, Sandstone, Granite or other similar materials.

ON THE COVER:
Great Western Reserve Building in Cleveland, OH. This installation, completed in 1980, still looks new today.

Microcotta® is very lightweight at 65 lbs./cu.ft. and possesses mechanical and physical properties suitable for suspended ornamental facade situations. The material has been approved for use by Boston, New York City, Los Angeles and San Francisco Building Departments for both Interior and Exterior uses in all classes of construction. Moreover, the material is able to achieve the aesthetic goals of architects and preservationists confronted with the difficult design, engineering and budgetary problems found on restoration projects. Microcotta® has been repeatedly approved on historic tax-credit work by the U.S. Parks Service.

Microcotta® reproduces exact detail with extremely sharp definition and has been proven to be superior to cast stone, fiberglass or even replacement terracotta. With Microcotta®, color matching can be achieved in gloss/glaze or dull stone finish. Unlike GFRC, Cast Stone or Terracotta, the gloss or glaze in Microcotta® is derived from the degree of gloss in the mold from which it is cast. Hence, the degree of gloss is integrated in the Microcotta® unit and not applied as a post finish. **With Microcotta®, there is no cracking, crazing or ultimate surface failure as with Terracotta or GFRC glazes which have different rates of thermal expansion from their respective substrates.**

▲ Salvaged unit from historic Tremont Temple in Boston, MA.

▼ New Microcotta® unit

▲ Mockup of Custom Color Match

APPLICATION

Microcotta® will provide a non-structural decorative replacement for terracotta, stone or cast iron which has a short fabrication and production time combined with ease of placement. If additional pieces are required during the project, lead time will be minimal.

CHARACTERISTICS

- Rapid turnaround for reproduction - single mold can be turned several times a day
- Lightweight -70 lbs./cu.ft.
- E-84 Surface Burning Characteristics Test produces - "0" flame spread and "0" smoke development
- Gloss glaze or dull stone finishes easily obtainable
- Locally produces with extremely experienced mold making staff
- Obtained NYC BSA number many years ago with additional city approvals in Los Angeles and San Francisco
- Recommended and used by major governmental agencies including GSA and National Park Service, as well as the Navy
- Can replicate terra-cotta, stone, cast iron and other ornamental façade components with greater detail and color range
- Can match a variety of different colors

ADVANTAGES

- First delivery within one-two weeks of color and shop drawing approval
- While more expensive than cast stone because it is lighter; anchoring, support and installation make it more economical in place which reduces project costs
- Easily color and texture matched, similar to Terracotta with color stability on 20+ year projects
- UV Stability, excellent color retention
- Long Service life
- Existing single units can be combined many times using false joints to produce larger "multiple piece" units in a single case piece

A LOOK INTO THE MICROCOTTA® PROCESS

1. Salvaged damaged unit; 2. Repair Process; 3. 3D scanned unit; 4. 3D printed replica; 5. Mold for new unit and 6. New Microcotta® unit (no gel coat applied)

LASER SCANNING & 3-D PRINTING CAPABILITIES

Freedom Cement has invested in state-of-the-art technology, including scanning equipment and a 3D printer, to ensure the historical accuracy of our manufacturing process. This technology was utilized to replicate ornate columns and maintain historic features of the First Baptist Church Cupola in Pittsfield, MA and a balustrade in Manhattan.


Original Capital


3D Printed Unit in Progress


3-D Printed Replica (for mold)


New Microcotta® Unit in Fabrication

Completed First Baptist Church Cupola

Photo Courtesy of Berkshire Eagle

Upper West Side Replication

Replicated historic balustrade located on the Upper West Side of Manhattan.

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