Pigmented Structural Glass: Conserving Original Material Through Repair

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Pigmented structural glass is a form of opaque rolled plate glass manufactured in the first part of the twentieth century under the brand names Vitrolite and Carrara Glass (among others) for a variety of uses. Historically, it is best known for creating glossy storefronts, diners, and theaters. During the 1930s and 1940s the popularity of the art deco and streamlined aesthetics coupled with innovative marketing and governmental loan programs led to the installation of pigmented structural glass on almost every Main Street in America. The historical context for this material was created at a particular point in time, through a unique confluence of events and advances that came to be embodied within it, yet, its popularity and prevalence in the everyday architecture of average Americans has gone largely unnoticed and unappreciated for the last half-century as reflected in the dominance of replacement as a conservation strategy over repair.

This material has not been manufactured domestically for over 50 years and the only sources of replacement glass come from existing installations. These sources are not unlimited and the time will soon come when the current stockpiles of salvaged pigmented structural glass will be exhausted. Additionally, current conservation literature concentrates on reinstallation and repair of the supporting materials over the repair of the glass itself. Therefore this study establishes the viability of two glass epoxies, Hxtal (NYL-1) and Epotek 301-2, to restore structural integrity to glass pieces with clean fracture points. Additionally, both epoxies restore the waterproof surface of the repaired glass, an important feature for protecting the support installation’s support mechanisms.

As structural glass from mid-century begins to age, this problem will increasingly become a problem for architectural conservators. By concentrating on the issues concerning this particular form of early structural glass, this study also hopes to increase the dialogue concerning architectural glass conservation and the historicity of the various forms of 20th century architectural glass products.

Keywords: Vitrolite, glass repair, structural glass, glass epoxies