Restoration of the façade of the Pirelli skyscraper in Milan and the repair of damage to reinforced concrete structures caused by a plane crash: An example of critic conservation

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Abstract

The restoration of the former Pirelli Tower in Milan, which dates back to the early 1950s, is an example of various issues in approaching the “conservation of the new”. This project was completed with the broad use of industrial products that evoked different kinds of reflections, if only within the same planning methodology, common to all interventions of architectural restoration. This restoration constitutes an exemplary episode where only a careful and critical evaluation facilitated the understanding of which elements are important in conservation and which can be substituted or updated. This approach uses case-to-case evaluations. The conservation of “new” architecture is similar to other restoration problems, except for the closeness in time to the original works and, sometimes, with its creator.

The main intervention concerns the recovery of the structure with over 10,000 m² of continuous aluminum and glass façade in a skyscraper designed by Italian master Gio Ponti and the repair of the damage to the reinforced concrete (RC) structures (designed by another Italian master, Pier Luigi Nervi) caused by a plane crash. The straightening and repair of the RC using entirely innovative methods and the conservation of the structures of the whole façade also translates into financial savings. Approximately 20% of the savings is derived from the...
complete substitution of the curtain wall. This idea of authenticity results in a method of restoration in which all single parts may not always be replaced for every functional upgrade. This scenario is important news, especially for modern architecture that usually prefers the value of what appears to be new, showing parts that are always perfect since the time they were built. People also consider the conservation of items that were considered as merely industrial products a few years ago.

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1. Introduction

On the 18th of April 2002, a light airplane crashed into the 25th floor of the Pirelli skyscraper in Milan as the building was undergoing renovation. This incident resulted in the deaths of the pilot and two people inside the tower, as well as considerable damage to the façade on the 26th and 27th floors (Fiameni et al., 2003). This event also added to the natural deterioration of the building caused by years of progressive neglect (Figure 1).

The Pirelli Tower has been the headquarters of the Lombardy Regional Government since 1978. Owing to the foresight and intelligence of the clients, the need to restore the integrity, functionality, and security of the building that was lost in the catastrophic impact turned into a fitting opportunity to begin the restoration (Figure 2) of this important contemporary monument, which dates back to the early 1950s.

By the end of World War II, Alberto Pirelli ordered the construction of a modern skyscraper in an area near the main train station in Milan. This building would serve as a corporate symbol of his family’s rubber company. Immediately, the building became the symbol of the new postwar city and of the national “economic boom” development at that time (Tafuri, 1989).

The Pirelli Tower project, Italy’s first skyscraper, was developed in 1956 and was completed in 1958 by architect Gio Ponti, an Italian master of modern architecture and design. He worked with his partners Antonio Fornaroli, Alberto Rosselli, Giuseppe Valtolina, Giuseppe Rinardi, and

**Figure 1** Pirelli tower after the 2002 air crash.

**Figure 2** Construction site with exterior scaffolds.
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