MACCAFERRI

CASE HISTORY

Rev: 1, Issue Date 11.06.2024

SMC TOLLWAY PRECAST CRASH BARRIERS

BARAS, RIZAL, REGION IV, PHILIPPINES

Precast Concrete

Problem

Precast concrete is essential in construction due to its efficiency, durability, and strength. However, traditional methods of using precast concrete come with several challenges. Transporting these precast elements from the pant to the site can be problematic, leading to inconsistencies, particularly when faced with rough road conditions and bad weather. These precast elements are also vulnerable to damage during the demolding process, which can compromise their quality before they are even installed. Moreover, the installation of traditional reinforcement bars requires significant labour and time, making the process labour-intensive and potentially delaying project timelines, while also increasing overall costs.

Solution

To overcome these issues and stay on schedule, Maccaferri introduced a cutting-edge solution utilizing Dramix steel fiber reinforcements. By mixing twenty kilograms of Dramix 4D 65/60BG steel fibers into the concrete, we were able to replace the need for approximately 500 kilograms of conventional deformed bars. This innovative solution reduced the overall construction time by 50%, allowing for faster project completion. Additionally, the steel fibers provide three-dimensional reinforcement, significantly improving the quality and durability of the final product. This enhancement prevents damage and spalling, ensuring a more reliable and robust structure. By addressing the logistical, structural, and labour-related challenges, this solution contributes to more efficient and cost-effective construction projects.

Client: Filfirst Concrete Innovations, Inc.

Designer / Consultant: FilFirst Concrete Innovations /SMC Infra

Contractor: FilFirst Concrete Innovations, Inc.

Products used (Qty.)

- Tunnelling Reinforcement — 8000kg, Dramix 4D

Date of construction: 01/2024 - 04/2024

Google Maps Google Earth



During Installation



During Installation



During Installation



During Installation



Completion

Maccaferri (Philippines), Inc.
11/F, Asian Star Building Alabang, 1781 Muntinlupa City - Philippines
Tel: +63-2 8889-0623
E-mail: info.ph@maccaferri.com