

CUSTOM PROFILES FOR PRESTRESSED CONCRETE BEAMS

CLIENT	WORLDWIDE LEADING PRODUCER AND RETAILER OF FERTILIZERS AND NUTRITIONAL SOLUTIONS
LOCATION	LOREO, RO. ITALY
USE	PROTECTION OF THE FLANGES OF CONCRETE BEAMS FROM CHEMICAL CORROSION IN ALL WAREHOUSES
PRODUCT	CUSTOMIZED PULTRUDED PROFILE CONSIDERING THE FLANGES' SHAPE
SERVICE	ANALYSIS OF THE GENERAL SITUATION AND ON-SITE SURVEY; THE SOLUTION WAS FOUND BY GRADUALLY DEVELOPING SAMPLES; DESIGNING OF A MOLD AND THE PRODUCTION OF THE PROFILES.



OBJECTIVE

- Both metal and concrete structures are constantly subject to a great chemical aggression due to the nature of the substances treated in the plant and by the generated vapors, condensed fumes and by the aggressive atmosphere present as a result of the production processes.
- Corrosion occurs relatively quickly. It causes the erosion of the surface of the flanges of the concrete beams, and the expulsion of the concrete cover that consequently generates a deterioration of the reinforcing bars causing a reduction of the mechanical properties during the response to mechanical stress (roofing weight, wind, etc.).
- Hence the need of restoring and protecting the flanges in a way which is, at the same time, resistant to this kind of environment, durable, light and easy to install.

SOLUTIONS

- The customer's choice falls on FRP because of its excellent chemical and mechanical resistance alongside with a reduced weight. Due to the peculiar shape of the flanges, the use of standard profiles already in the market was not possible. Therefore, M.M. was requested to design a customized solution.
- The project started with an on-site survey to gather all the necessary measurements. The subsequent production of stratified profile samples, and the gradual perfecting of the section and its thickness. At the end of this process, it was possible to make the mold to produce the pultruded profiles, which are a more affordable alternative in comparison with the injection-molded ones. Once again M.M.
- proves itself to be customer oriented backed by its longstanding experience in the field of FRP manufacturing and offers its clients the best technical and economic solutions according to their needs.