STRUCTURAL DESIGN AND COST ANALYSIS OF A MODULAR PRECAST CONCRETE STRUCTURE: CASE STUDY OF A PORT IN NORTHERN PERU

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Received: 00/00/0000 Accepted: 00/00/0000

ABSTRACT

This paper presents the structural design and cost analysis of a precast concrete structure for machinery parking and storage of raw materials, which is located in a port in Peru. This structure has the possibility of being reproduced in different places of the country since it has been designed in a zone of high seismicity (Z4) and with a low bearing capacity of the soil qa=0.15MPa. Subsequently, a brief cost analysis is made comparing the precast concrete option in contrast to cast-in-place concrete. The aim of this article is to present the design process and highlight the economic benefits of precast concrete, according to the case study of the port.

Keywords: precast concrete, structural design, cost analysis

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