

TESTING ROOF PANEL SYSTEMS IN THE PHILIPPINES USING AIR UPLIFT CHAMBER

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Abstract:

The construction of composite high-rise building structures is rapidly increasing in recent years due to increased advantages in terms of improved structural performance and faster construction. This results in a significant reduction in cost and other resources, especially for high-rise building projects. The recent trends in composite construction are governed by the achievement of optimum interactive behavior between structural steel and concrete components designed to take benefit of the best load-resisting characteristics and economy of each material. This paper discusses some key issues related to the application and design of composite structural components to result in better performance of high-rise buildings against gravity and lateral loads. It presents a unified approach to determine the axial-flexural capacity of various composite and complex cross-sections. Using this approach, the analysis of all composite cross-sections can be performed in an integrated manner. The paper also discusses important considerations which should be kept in mind for an effective design of composite members (columns, shear walls, floors, link beams and transfer systems) and presents insights on the practical aspects of composite concrete-steel construction in tall buildings.

Keywords: Composite Structures, high-rise buildings, concrete-steel construction, DESIGN PHILOSOPHY

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