

POWER TALK ON NEW STRUCTURAL FORM FOR HIGHRISE TRANSFER STRUCTURE - PRESTRESSED TRANSFER PLATE

21 SEPTEMBER 2024

SATURDAY

LOUNGE 2, HALL 2, KLCC
(PHYSICAL)

11:00 AM - 12:30 PM

 03- 78900133

BEM CPD Approved Hours : APPLYING

CPD Ref Num : IEM24/HQ/XXX/T



Ir. Dr Low Hin Foo

ABOUT THE SPEAKER:

Ir. Dr Low Hin Foo graduated from University Malaya with an Honours degree in Civil Engineering in 1999. He obtained his Doctor of Philosophy in Engineering from Monash University in 2020 with his research on the experimental and numerical studies of a prestressed transfer plate subjected to staged casting and sequential stressing based on the actual prestressed transfer plate project in Kuala Lumpur. He has more than 22 years of design and construction experience in of prestressed building structures as well as various types of long-span bridges both locally and abroad. He was the Technical Manager for international prestressing specialist contractor, BBR Construction Systems (M) Sdn Bhd; and he is currently the Principal Engineer of a multi-disciplinary consultancy firm, OSD Consultants (M) Sdn Bhd, as well as the Managing Director of OS Alliance (Singapore) Pte Ltd, and the Group Managing Director of OSD Alliance Design Group. Ir. Dr Low has vast design experience in the detailed design, construction and costing of prestressed structures for large commercial projects and high-rise towers, particularly in handling the design of prestressed flat slab or flat plate systems with irregular column grids, including prestressed transfer plates and raft foundation. Besides that, he has plenty of experience in the design and construction of integral bridges using precast girders made continuous, as well as long span bridges using precast and cast in-situ prestressed segmental box girders (SBG) and cable-stayed bridges.

Throughout the years, Ir. Dr. Low has contributed to the development of our nation by participating in numerous major infrastructure projects, including the detailed design of MRT stations and long-span crossings for KVMRT line 1 and line 2, elevated bridge viaducts in DASH and SUKE highways, as well as serving as the Independent Checker Engineer (ICE) for the structural design of the entire elevated guideways and viaducts of LRT3 and RTS.

He completed his research project with Monash University Malaysia on the experimental and numerical studies of a prestressed transfer plate subjected to staged casting and sequential stressing based on the actual prestressed transfer plate in Kuala Lumpur. Beside consultancy works, Ir. Dr Low has also actively involved in seminars and training courses for engineers and undergraduates conducted by IEM, IES, and various local universities and abroad on the design of bridges and prestressed building structures.

SYNOPSIS :

Prestressed concrete transfer slabs, commonly known as transfer plates, have recently gained popularity for supporting high-rise buildings in Malaysia, Hong Kong, and China at the transfer floor level. They are designed to transmit shear wall loads from the tower block to the wider column grids at the podium levels below. This new form of transfer structure offers attractive cost savings, simpler formwork, straightforward reinforcement, and an aesthetically pleasing soffit compared to conventional transfer beam system. Additionally, prestressed transfer plates can be designed for casting concrete in layers, with the first cast prestressed to support subsequent casts, substantially reducing the demand for massive formworks

This topic will discuss the history and current trends in the design of prestressed transfer plates around the globe, including rules of thumb for preliminary sizing and typical reinforcement poundage. The talk will also cover the structural behavior of prestressed transfer plates under bending, their interaction with shear walls under gravity loads, and the effects of multi-stage casting and sequential stressing.