



Half-day Seminar on Non-linear Analysis and Design of Glass Pane with Hole Opening

Organized by
Façade Group, Hong Kong Institute of Steel Construction

Supported by
Department of Civil and Environment Engineering, The Hong Kong Polytechnic University
Structural Division, The Hong Kong Institution of Engineers

Date	:	17 August 2018 (Friday afternoon)
Venue	:	Room Y305, The Hong Kong Polytechnic University
Time	:	1:45 pm (registration) for 2:00 pm to 5:45 pm

Scope and Objective

Code of Practice for Structural Use of Glass 2018 was launched on 9 February 2018 by Buildings Department. For the new safety requirements against broken glass, laminated glass would be required for balustrade and large-scale glass wall systems. The laminated glass is conventionally designed by using the individual glass pane stiffness without composite action. However, new guideline on composite action of laminated glass is proposed in new Code.

For glass fin and bolted connection in glass pane, the presence of holes through which bolts are inserted leads inevitably to stress concentration and should not be ignored. In traditional engineering for an infinite thin plate with a hole under tensile load, conventional peak stresses near the hole can be three times as large as those away from the hole. For splice connection of glass fins using bolts, structural calculation should have checked the tensile stress at the edge of the hole caused by the contact bearing stress of bolt on the glass hole, and that high tensile stress concentration would be generated.

In these circumstances, a stress concentration factor of 3.0 for the tensile stress generated is adopted as an assumption. Alternatively, for more accurate assessment of the stress concentration effects caused by the bearing stresses at the contact area of the hole in the glass, rigorous finite element analysis may be conducted.

While there are intensive aspirations from the industry in the design of glass fin and bolted connection in glass pane, the seminar is tailor-made on the design of glass with particular reference to glass fins and bolted connection in glass pane for the practising building professionals in particular Registered Structural Engineers, Technically Competent Persons and façade practitioners to attend.

Language: Cantonese supplement with English terminologies.
Handout will be in English.



Fees & Registration

Registration rates are devised, please make your reservation now.

Registration	HKISC member	HKIE member or Group of 5+	Others
	HK\$500 each	HK\$600 each	HK\$800 each

The registration includes a copy of the lecture notes, a CPD certificate and tea refreshment.

Should you have further query, please do not hesitate to contact Mr. Tommy Li at man@hkisc.org.

Programme

Time	Programme
1:45 pm – 2:00 pm	Registration
2:00 pm – 2:45 pm	Special Features of the Code of Practice for Structural Use of Glass 2018 Design Philosophy of Glass Pane <i>Ir Dr. Dominic Yu</i>
2:45 pm – 3:30 pm	Large Deflection Theory, Non-linear Analysis and Design of Glass Pane Case Study and Worked Examples <i>Ms. Huang Hui-Yi</i>
3:30 pm – 4:00 pm	Tea Break
4:00 pm – 4:30 pm	Design requirement of Glass Pane with Hole Opening and Glass Fin <i>Ir Dr. Dominic Yu</i>
4:30 pm – 5:30pm	Finite Element Analysis and Design of Glass Pane with Hole Opening Case Study and Worked Examples <i>Ms. Huang Hui-Yi</i>
5:30 pm – 5:45 pm	Q & A Collection of CPD certificates



香港
鋼結構學會

Hong Kong Institute of
Steel Construction



DEPARTMENT OF
CIVIL AND ENVIRONMENTAL ENGINEERING
土木及環境工程學系

香港理工大學, 土木及環境工程學系

THE HONG KONG POLYTECHNIC UNIVERSITY
Department of Civil and Environmental Engineering

REGISTRATION FORM

(To be replied on or before 10 August 2018)

Half-day Seminar on Non-linear Analysis and Design of Glass Pane with Hole Opening

Please follow the 2-step registration procedure:

1. Fax the completed registration form to *Mr. Tommy Li* (Fax: 852-2334 6389) for preliminary registration.
2. Post the completed registration form within 7 days together with a crossed cheque payable to **Hong Kong Institute of Steel Construction Limited** to *Mr. Tommy Li*, at:

Room ZS 972, Department of Civil and Environmental Engineering,
The Hong Kong Polytechnic University, Hunghom, Kowloon, Hong Kong, China.

on or before the deadline.

To: Mr. Tommy Li

Fax: 852- 2334 6389

Personal Details:

Title	Name in full (Block Letter)	Name of Company	Tel.	E-mail address	HKISC/HKIE Membership No. (if any)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					

Postal Address: _____

Signature: _____ Date: _____

CPD Certificate of Attendance Please tick the appropriate box to indicate your choice:

Yes, I/ we would like to have CPD certificate(s). Not request for certificate(s).

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The logo for HKIE (Hong Kong Institute of Steel Construction) features the letters 'HKIE' in a stylized font. The 'H' and 'K' are in black, while the 'I' and 'E' are in orange.

Biography of speakers

Ir Dr. Dominic YU is a specialist in the structural design and use of glass. He is a Principal (Structural Fire and Façade) of Alpha Consulting Limited, providing consultancy services on glass and facade engineering, non-linear integrated design and analysis, structural fire engineering analysis and design, steel and composite design etc. He is a Part-time Lecturer in Fire Safety Engineering Programme of University of Central Lancashire & CityU SCOPE. He is also a Visiting Lecturer for MSc Module of Façade Engineering in Civil Engineering Programme at the Hong Kong Polytechnic University. Before joining Alpha Consulting Limited, Dr. Yu served as a Specialist and Test Consultant of Research Engineering Development Façade Consultants Limited (RED Façade and Fire HOKLAS Testing Laboratory).

Dr. Yu obtained Doctoral Degree of Philosophy in Structural Engineering, Master Degree in Fire Safety Engineering, and Bachelor Degree in Civil Engineering. He worked as a Research Associate in the Department of Civil and Structural Engineering at the Hong Kong Polytechnic University to serve as a Technical Secretary of the consultancy study contributing to the “Code of Practice for the Structural Use of Steel 2005” and the 2011 version; and compiled the Explanatory Materials of the Steel Code for Buildings Department. Dr. Yu is also served as Professional Consultant for consultancy study of “Structural Use of Glass” for Buildings Department. He is also actively serving the industry and the university by delivering various technical seminars and lectures.

Ms. Huang Hui-Yi is an Associate of Alpha Consulting Limited, providing design and consultancy services on glass and facade engineering, non-linear integrated design and analysis etc. She has over 15 years of experience on façade engineering, steel structures and finite element analysis. Before joining Alpha Consulting Limited, she served as Designer of United Reliance (Panyu) Structural Glass Engineering Co., Ltd.

Ms. Huang obtained Master Degree in Engineering Mechanics and Bachelor Degree in Theoretical and Applied Mechanics. She worked as a Research Assistant in the Department of Civil and Structural Engineering at the Hong Kong Polytechnic University for the research of non-linear analysis, time-history analysis and modal analysis of steel structures. She also participated in programming of non-linear design and analysis software NIDA.