Title	Effects of Water Quenching on Reinforced Concrete Structures under Fire
Description	Speakers: Ir Dr WONG Yuk Lung & Ir NG Yiu Wah Ir Dr WONG Yuk Lung is an Associate Professor of Department of Civil and Structural Engineering of The Hong Kong Polytechnic University, and a Registered Professional Engineer in Fire, Building and Materials disciplines. He has been engaging in various teaching and research activities in fire and earthquake engineering in the University, and providing services (Committee Member of HKIE Building and Materials Divisions, HOKLAS Technical Assessor and HKCAS Technical Expert) in the local construction industry. Abstract In 2009, Ir Dr Wong liaised with a number of local construction organizations and professional bodies for financial and technical supports to the fire engineering research. He initiated a research team (So Uk Fire Research Team) of 14 professionals and academics from The Hong Kong Polytechnic University, Hong Kong Housing Department, Institution of Fire Engineers (Hong Kong Branch), HKIE Building Division, HKIE Materials Division, and Tianjian Fire Research Institute to conduct the project “Effects of Water Quenching on Reinforced Concrete Structures under Fire” which involved a large-scale fire test that was successfully carried out at the reinforced concrete pump house in So Uk Estate on 20 August 2010. Visual observations, test data of the time-temperature history and the physical performance of various grades of concrete under fire and after water quenching due to fire fighting actions were recorded for analysis. The test was also supported by Fire Services Department. This seminar will outline the concrete spalling behaviour of 26 test columns under a real fire (duration of two and half hours and the peak air temperature of about 9000C) conducted in the So Uk pump house before its demolition. It was found that without any special provision, concrete cover spalling of a

	concrete member was unavoidable under fire, and its severity increased with the concrete cube strength of the member. The concrete cover spalling might be practically reduced to an acceptable level by providing 1.0 kg/m3 of monofilament propylene fibres in the concrete mix, or a mild steel mesh of 2.6 mm diameter at 50 mm x 50 mm centres embedded in the concrete cover, or a suitable 20 mm thick vermiculate cement coating applied on the concrete surface. If a passive fire protection board attached to the concrete surface was used to reduce the risk of concrete spalling, the quality and installation method of the board should be carefully selected in order to yield a satisfactory result. Effect of water quenching on heated columns due to fire fighting actions will also be introduced in this seminar.
Event date	23.8.2011
Assembly Place & Time	Auditorium, Kowloon Tong Fire Station, 3 Baptist University Road, Kowloon Tong, Kowloon / 1815 hrs to 2000 hrs.
Fee	Free of Charge
Contact Person	Ir. LU Chau-ming
Contact Email	gr142@netvigator.com (for CHKFPA Member : deadline on or before 21.8.2011)
Contact Tel	NA
Contact Fax	NA
Remarks	Language : English All participants are kindly reminded to attire properly and arrive on time for the seminar. Light refreshment will be served before the seminar.