

JSCE – VCA Joint Seminar on
Lifecycle Management for Infrastructure
- Utilization of Chemical and By-product Admixtures for Concrete Structures -
April 16 & 17, 2014
Water Resources University, Hanoi, Vietnam

The Seminar on Life Cycle Management for Infrastructure - Utilization of Chemical and By-product Admixtures for Concrete Structures, was held in Hanoi, Vietnam, on April 16 and 17, 2015. The seminar was organized by the Vietnam Concrete Association (VCA), Japan Concrete Association (JSCE), and Cross-ministerial Strategic Innovation Promotion Program (SIP). The seminar is the third joint seminar for JSCE and VCA. The first and second joint seminars were held in 2012 in Hanoi and in 2013 in Ho-Chi-Min City, respectively.

In Vietnam, the annual total amount of fly ash, an industry by-product, is expected soon to reach approximately 25 million tons. Therefore, the application of this by-product to concrete admixtures is becoming urgent. On the other hand, the maintenance of concrete structures is also a topic of concern in Vietnam. Both by-product admixtures and high-performance chemical admixtures are expected to enhance the durability of concrete structures. The theme of this seminar reflects these situations in Vietnam.

Approximately 150 engineers and researchers attended this seminar. The Vietnamese deputy minister of construction and president of the VCA, Lê Quang Hùng, as well as the vice director of the Department of Science and Technology, the vice president of the Vietnam Society of Civil Engineering and the vice president of Water Resources University attended as guests.

The seminar opened with an address by Mr. Nguyen The Hung (vice president of VCA). Dr. Etsuro Sakai (Professor, Tokyo Institute of Technology) spoke on behalf of the Japanese speakers. Five Japanese speakers made presentations about basic characteristics, the latest Japanese technology, application examples, and standard specifications for concrete admixtures. Dr. Akira Ohta (BASF Japan Co., Ltd.) spoke about chemical admixtures for concrete. Mr. Yasukazu Ueki (Japan Slag Association and Nippon Steel Sumikin Blast furnace Cement Co., Ltd.) gave a presentation on blast furnace slag. Dr. Takeshi Yamamoto (Central Research Institute of Electric Power Industry) gave a presentation on fly ash. Prof. Etsuro Sakai gave a presentation on silica fume. Dr. Asamoto (Associate professor, Saitama University) introduced the JSCE standard specification for admixtures.

Three speakers from VCA made presentations. Mr. Kim Jong Son (Silkroad Vietnam) introduced their admixture product and the development technology behind it. Ms. Nguyen Thi Thu Huong (Water Resource University) gave a presentation on general knowledge regarding the applicability of admixtures for marine structures. Mr. Nguyen Duc Phuong (Denki Kagaku Kogyo) talked about the application of expanding admixtures in Japan.

During the discussion period, many topics of high concern for Vietnamese engineers regarding developing technologies were discussed. These topics included a new theoretical chemical admixture for use as an accelerator, agendas for Vietnam to establish design codes on the durability of concrete structures built using admixtures, mix design and strength design specifications for high-strength concrete, the consideration of admixture reactions when verifying thermal cracking, and so on.

In the seminar, VCA stated its intentions to continue holding joint seminars and enhancing technological exchanges in order to consolidate their standards. The joint seminar ended in great success.

Table.1 Seminar program

16 April 2015		
Time	Agenda	Speaker
7.00 - 8.30	Registration	
8.30 - 9.00	- Introduction by Vice President of VCA - Speech by Vice Minister of MOC - Speech by Representative of JSCE	Vice President of VCA Vice Minister of MOC Representative of JSCE
9.00 - 10.00	Chemical Admixtures for Concrete – Experience in their use for concrete structures in Japan	Dr. Akira Ohta BASF Japan Ltd.
10.00 - 10.15	<i>Break</i>	
10.15-11:00	PCI 3000	Mr. Kim Jong Son SILKROAD Vietnam
11.00- 12.00	Ground Granulated Blast-Furnace Slag - Experience in their use for concrete structures in Japan	Mr. Yasutomo Ueki Nippon Slag Association, Nippon Steel & Sumikin Blast Furnace Slag Cement
12.00 - 13.30	<i>LUNCH</i>	
13.30 - 14.00	Research on using admixtures to improve the durability of concrete and reinforced concrete applied to coastal protection structures	Ms. Nguyen Thi Thu Huong Water Resources University
14.00 - 15.00	Effectiveness of fly ash in concrete	Dr. Takeshi Yamamoto Central Research Institute of Electric Power Industry
15.00 - 15.15	<i>Break</i>	
15.15 - 16.00	Wet separation technology for fly ash and the experience of using fly ash in cement production	Mr. Nguyen Hong Quyen Sông Đà Cao Cường
16.00-16.45	Application of expanding admixtures in Japan	Mr. Nguyen Duc Phuong Denki Kagaku Kogyo

17 April 2015		
7.00 - 8.00	Registration and Welcome	VCA
8.00 – 9.00	Silica fume	Prof. Etsuo Sakai Tokyo Institute of Technology
9.00 - 9.30	Dry separation technology for fly ash and the experience of using fly ash in concrete production	Mr. Jo Han Jeong VINA FLY ASH and CEMENT
9.30 – 10.00	JSCE standard specification on admixtures	Dr. Shingo Asamoto Saitama University
10.00 - 10.15	<i>Break</i>	
10.15-11.00	Experience of using the latest-generation super-plasticizer admixtures in the production of high-strength pre-stressed concrete structures	BASF Vietnam
11.00 - 11.30	Experience of using silica fume in the production of high-performance concrete	Mr. Dang Van Tuan ELKEM Vietnam
11.30 - 12.00	Discussion	
12:00 - 12.15	Closing remarks and certificate hand-over	
12.00-13.30	<i>LUNCH</i>	

Figure.1 Images from the seminar



会議報告：

2015年4月16日と17日にベトナムのハノイにおいて、ベトナムコンクリート協会（Vietnam Concrete Association, 以下VCA）と土木学会コンクリート委員会とのジョイントセミナーが開催された。ベトナムVCAとは、2012年のハノイ、2013年のホーチミンに続いて、3回目のジョイントセミナーとなる。過去2回は、施工を中心とした日本のコンクリート技術の紹介、ベトナムにおけるコンクリート技術報告であったが、今回は、VCAのリクエストにより混和材料に関する日本とベトナムの技術についての意見交換を行った。セミナーの一般参加者は約150人に達し、ベトナムの建設省副大臣、科学技術局副局長、ベトナム土木学会副会長、Water Resources Universityの副学長などもゲスト参加した。

セミナーは、VCAの副会長であるNguyen The Hung氏がセミナー開催の挨拶から始まり、日本からは坂井悦郎氏（東京工業大学教授）が代表として挨拶を行った。日本側の講演は、太田晃氏（BASF ジャパン(株)）が化学混和剤について、植木康知氏（鐵鋼スラグ協会：日鉄住金高炉セメント(株)）が高炉スラグ微粉末について、山本武志氏（電力中央研究所(一財)）がフライアッシュについて、坂井悦郎教授がシリカヒュームについて、浅本晋吾氏（埼玉大学准教授）が混和材料に関するコンクリート標準示方書の紹介について講演した。ベトナム側からは、スポンサーである韓国系企業などから混和材料の商品、開発技術が紹介され、Water Resources Universityから海洋構造物への混和材の適用性に関して一般的知見が発表された。電気化学工業株式会社からも日本における膨張材の適用について紹介がなされた。

ベトナムでは、石炭灰の発生量が2020年には約2500万トンに達する見込みで、セメント混和材として、こうした産業副産物の活用が求められており、耐久性向上の観点からも混和材の有効利用が期待されているため、本セミナーが開催された。質疑応答では、促進剤である新たな化学混和剤の理論、考え方、混和材を用いたときの中性化、塩分浸透などの耐久性設計の基準を作成するうえでベトナムがこれから取り組むべきこと、高強度のコンクリートの配合、強度設計、温度ひび割れ照査での混和材の反応の考え方などが議論され、ベトナムでの技術開発に対する関心の高さを感じられた。VCAとしては、今後このようなジョイントセミナーを開催し、技術交流を進め、自国での基準整備につなげたいと意向があり、セミナーは盛況に終わった。