

Summary of Decisions of the Structural Engineering Committee
SEC HD-05/2011 held on 03.11.2011

(a) Case HD-05/2011

Issue: The use of Ground Granulated Blastfurnace Slag (GGBS) to partially replace cement in C45 concrete for the production of precast concrete facade

Recommendation: The use of Ground Granulated Blastfurnace Slag (GGBS) to partially replace cement, at a proportion of 35% of the total cementitious content, in C45 concrete for the production of precast concrete façade of the second Housing Authority (HA) project.

Decision: After deliberations and making reference to the previous case, members endorsed the recommendation subject to the following conditions/requirements:-

- (a) GGBS will be transported and stored in total enclosure in the precast factory;
- (b) Purchaser's acceptance tests of GGBS at delivery in accordance with clause 8.3 of BS EN 15167-1 for verifying the physical and chemical properties before the production (a comparison of BS EN 15167-1 and BS 6699 (superseded) on material requirements;
- (c) An on-site trial mix to verify the attainment of 15 MPa at demoulding in addition to the normal trial mix for 28-day strength for each new concrete mix;
- (d) Qualified supervision for the use of GGBS in the production of precast concrete façades at all stages based on requirements as stipulated in the Code of Practice for Precast Concrete Construction 2003;
- (e) Continuous verification on the strength of the GGBS concrete by 28-day cube tests at the sampling rate as stipulated in the Code of Practice for Structural Use of Concrete 2004;
- (f) A quarterly verification on the limit of 3.0 kg/m^3 for the total alkaline content of the GGBS concrete; and
- (g) The requirement for the quality control and supervision of precast concrete construction as stipulated in PNAP APP-143