

Summary of the latest innovative building materials and technologies discussed in Structural Engineering Committee

Issue	Remarks	SEC Case No.
In-principle acceptance of structural use of lightweight aggregate concrete for precast and cast in-situ structural elements	To accept the design of the lightweight aggregate concrete (LWAC) applied in precast structural slabs, beams, columns, walls and cast in-situ structural slabs, columns and walls	SEC 1/2025
In-principle acceptance of Modular Integrated Construction (MiC)	To accept the modified confinement arrangement for: (a) confined boundary element of walls, and (b) walls with vertical compression rebars exceeding 2%. without following the prescriptive requirements stipulated in Clause 9.9.3.2 and Clause 9.6.4 respectively of the Code of Practice for Structural Use of Concrete 2013 (2020 Edition) (Concrete Code).	SEC 2/2025
Shaft Grouted Frictional Mini-Piles and the use of permanent steel casing for resisting vertical load and lateral load	(1) To accept the design principle of mini-pile (4 Nos. of T50 Grade 500B) grouted in pre-bored holes (323.9 mm diameter) with post pressurized grout in Completely Decomposed Granite (CDG) to enhance shaft friction for resisting vertical load, subject to the satisfactory verification by static compression load tests on the two trial piles (T1 and T2) for vertical load complying with the acceptance criteria, where T2 will specially adopt 63.5 mm diameter DYWIDAG threadbars and will not be re-used as working pile;	SEC 4/2025

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	(2) To accept the design principle of the permanent steel casing (Grade S275, 323.9 mm diameter x 16 mm thick and 10m long) at upper portion of mini-pile for resisting lateral load, subject to the satisfactory verification by static lateral load tests on the two trial piles (TL1 and TL2) for lateral load complying with the acceptance criteria; and (3) To accept no group reduction factor for all working piles.	
In-principle acceptance of structural use of BOSA Seisplíce Type G (Groutsplice Coupler) for Y32 Rebar Splicing	To accept the use of BOSA Seisplíce Type G (Groutsplice Coupler) with threaded end to BOSA's standard seisplíce for splicing of reinforcing bars of 32 mm in accordance with Clause 3.2.8 of the Code of Practice for Structural Use of Concrete 2004 for the reinforcing bars (specified characteristic strength = 460 N/mm ²) and the Code of Practice for Structural Use of Concrete 2013 (2020 Edition) and amendments to Code on June 2023 and April 2024 (the Code) for the coupler as Type 2 mechanical coupler.	SEC 6/2025
Use of 50 mm diameter high strength BBV system (Grade 930/1080) hot rolled thread bars for ground anchors socketed into rock	To accept the use of 50 mm diameter high strength BBV System (Grade 930/1080) hot rolled thread bars as steel bars without bends for ground anchors socketed into Grade III or better rock, as defined in Category 1(c) of Table 2.1 of the Code of Practice for Foundations 2017 (2024 Edition) (the Code).	SEC 7/2025

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Use of grade C80 High Strength Concrete (HSC) with a higher cementitious content and enhanced short-term static modulus of elasticity for superstructure	To accept the use of grade C80 HSC with a higher cementitious content and an enhanced short-term static modulus of elasticity (Ec) of 39 GPa (characteristic value) for the construction of core walls and corbel walls, as well as associated lintel beams.	SEC 1/2026
Use of Galvanized Steel Mesh and Fire-retardant Fine Mesh Safety Vertical Net for the Bamboo Catchfan and Screen Cover for Demolition Works	To accept the following: (1) Fire-retardant fine mesh safety vertical net in lieu of the heavyduty Polyethylene net specified in Table 3.3 (Minimum Specification for Polyethylene Net) of the Code of Practice for Demolition of Buildings 2004 (Code); and (2) Galvanized Steel Mesh in lieu of the additional heavy-duty nylon net as mentioned in Clause 3.3.2 (C) (1) – Amendment 2016 to the Code.	SEC 2/2026