

Case 06/2022

Issue: Use of Modified Socketed Steel H-Pile Formed by Welding Two Steel Plates to the Flanges

Recommendation: To accept a modified socketed steel H-pile formed by welding two 245 mm × 30 mm thick Grade S450J0 steel plates to a 305 × 305 × 223 kg/m Grade S450J0 steel H-pile socketed into rock as the piling system (Modified Socketed Steel H-pile).

Decision: Having noted the background information, members had no objection to endorse the paper on a case-by-case basis subject to the following conditions:-

- (i) The provision of grout pipes should be adequate and arranged in such a manner to ensure that the injected grout could fill every corner of the drilled holes readily; taking into full consideration of the free flowing of the grout could be seriously limited by the very small gaps between the steel pile sections and the rock;
- (ii) For the verification tests to confirm the mechanical and chemical properties of the steel material would not be adversely affected by the extensive welding works, the sampling and preparation of the test specimens should be carried out under the supervision of the RSE and the RC of their representatives either at factory or on site to ensure that the required test standards are complied with;
- (iii) For avoidance of hydrogen cracking, the welding procedures should also be in adherence to the recommendations given in in Appendix F according to BS EN 1011-2:2001; and
- (iv) The results of proof tests on the trial piles and the performance review report should be found satisfactory.