

### Pulverised Fuel Ash in Concrete

The technical and environmental benefits of using Pulverised Fuel Ash (PFA) as a partial replacement for Ordinary Portland Cement (OPC) in concrete are well established. However, it is necessary to ensure effective curing; in cold weather, in particular, very early strengths may be lower than equivalent OPC mixes.

2. Authorized persons and registered structural engineers (AP/RSE) have been advised that the use of PFA as a partial cement replacement in concrete is permitted on the following conditions :

- (a) PFA as a separate constituent may be used only with OPC and should comply with BS 3892: Part 1:1982, except that the criterion for maximum water requirement may not apply;
- (b) Blended cement containing PFA should comply with BS 6588:1985 and have a nominal PFA content not exceeding 25%. PFA should not be used as a partial cement replacement in concrete in addition to blended cement;
- (c) The PFA content should not exceed 35% by mass of the cementitious content (OPC plus PFA) of the concrete. It should, however, be noted that 25% PFA replacement is usually only used in normal construction whereas PFA replacement exceeding 25% is for special applications such as marine construction and massive pours which will require expert advice and stringent site control;
- (d) The AP/RSE should specify the PFA content and extent of its use in the structural submissions. He should satisfy himself and the registered contractor should make sure that the concrete supplier has adequate quality control measures to ensure that the finished concrete complies with the specifications and statutory requirements in all aspects. The AP/RSE shall be informed if deviations have been found; and
- (e) When the PFA replacement exceeds 25%, the AP/RSE should also satisfy himself that there will not be any adverse effect on the structure due to removal of formwork, creep and long-term deflection etc.

(C M LEUNG)  
Building Authority

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Index under : PFA  
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