

Sustainable development requires a balance between development of infrastructure and environmental protection. The challenge to the cement and concrete industry is to produce a durable concrete at a competitive cost having minimal environmental impact. Current standards allow the use of additions that improve the concrete's characteristics and/or specific properties. Industrial by-products such as blast furnace slag, fly ash and silica fume, due to their hydraulic or pozzolanic characteristics, are used widely in the manufacture of durable and high performance concretes. This study aims to optimise the use of marble powder, a finely ground waste product from the marble industry; it is proposed that this can be used as a partial cement replacement material. Concretes incorporating this addition, when designed, manufactured and used correctly, can provide superior performance to conventional Portland cement concrete; not only are the mechanical properties improved but also the material's durability