WHITE TOPPING: An Excellent Solution for Pavement Rehabilitation

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Concrete Roads were first built by Romans (300 BC – 476 AD). They were quite innovative in the construction with the use of innovative materials viz., use of 'Pozzolana' cement from the village Pozzouli near Italy, horse hairs as fibres in concrete, admixtures in their primitive form (like animal fat, milk & blood). These roads, scientifically designed and constructed had a long life and thus lead to the adage 'all (concrete) roads lead to Romel.'

Dr. V. Ramachandra

Portland Cement Concrete (PCC) overlay on an existing bituminous pavement is commonly known as White topping. The principal purpose of an overlay is either to restore or to increase the load carrying capacity or both, of the existing pavement. In achieving this objective, overlays also restore the ride-ability of the existing pavements which have suffered rutting and deformations, in addition to rectifying other defects such as loss of texture. In our country, bituminous overlays have been popularly constructed in the past mainly due to abundant supply of bitumen, its amenability to stage construction and manageable traffic conditions, in terms of volume and axle loads in addition to the comfort levels of construction methods among engineers. It was also making economic sense to make bituminous pavements as it was relatively cheaper. In recent times all these advantages are reversed viz., petroleum industry is using refined processing technology leading to reduction in the production of bitumen leading to increased imports, favourable cost economics of cement concrete and rapidly changing traffic scenario (in terms of volume as well as axle loads). In addition, rapid developments in concrete material technology and mechanization (both in concrete production & its laying) are favouring concrete overlays as a sustainable option. In recent times PPP (Public-Private Partnership) models are becoming popular in road construction shifting the focus on selection of overlays based on life-cycle costs rather than initial costs. India is currently producing about 240 million tonnes of cement and cement industry is quite matured and equipped

to meet the challenges in terms of various grades of cements as well as high quality blended cements suitable for making Pavement Quality Concrete (PQC).