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## Shakti WWF: Strengthening concrete

Shakti Weldmesh Industries Ltd, Mohali, are manufacturers of welded wire mesh for general use and welded wire fabric (WWF) for concrete reinforcement.

WWF usually finds applications in continuously reinforced concrete (RC) pavements. Studies have proven the economic advantages that lead to its use, not only for precast slabs but also for sewage treatment plants, tunnelling and office buildings.

WWF is a rectangle or square mesh reinforcement mostly available in rolls that are easily cut to size on site. It is manufactured from controlled, hot rolled low carbon steel rods of different sizes according to the requirement. The diameter of these rods is reduced by cold-drawing process, which results in the increase of stiffness, hardness and tensile strength.

### Techno-economic benefits

The economy of using WWF is based on reducing the time required for placing and tying of rebar on construction site. The promise is that the higher cost for prefabricated WWF is compensated by the savings due to the higher productivity during construction.

WWF ensured a more homogenous two-way stress distribution throughout the concrete volume thereby restricting crack propagation as well as the crack width. The load carrying capacity of pavement slab is increased and ultimate deflection is reduced due to increased stiffness of slab with WWF.

WWF is considered ideal for use as reinforcement in concrete pavement slabs. It use results in a lower life cycle cost because of its closer spacing, higher yield

strength and better control on cracking. Pavement slabs generally fail due to the propagation of cracks. WWF reinforced slabs would perform better because its welded connections provide a stiffer slab.

Shakti WWF has been successfully used for reinforcement in tunnelling work of the JURL project.

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