

## **Interlocking Concrete Block Pavement – an Environment Friendly Technique**

The history of Concrete Block Paving (CBP) dates back to 19th Century when paving stones were used in European countries for construction of roads serving as footpaths and tracks for steel-wheeled vehicles. Interlocking Concrete Block Pavement (ICBP), an environment friendly and labour intensive technology, has been developed at CRRI for providing pavements in areas where conventional types of construction are less durable due to many technical and environmental constraints.

ICBP has many advantages as detailed below:

1. No need for heavy construction equipment
2. Factory production facilitates centralized quality control
3. Labour intensive construction
4. Instant opening to traffic
5. No thermal expansion and contraction of concrete
6. Accommodates higher elastic deflection without failure
7. Pavement not damaged due to fuel and oil spillage
8. High salvage value – almost all blocks can be recycled / reused
9. Least life cycle cost due to low maintenance cost
10. Environment friendly technology

Real life cost data on ICBP Vs Conventional pavements for Indian conditions is yet to be generated. A hypothetical case application of ICBP for a road subjected to medium traffick road (5 MSA; CBR: 4) indicates that, for urban and semi-urban conditions, ICBP is likely to be cheaper by as compared to the conventional flexible pavement about 10 % initially, and by about 27 % after 20 years.

Concrete pavers act as a zipper in the pavement. When the need arises to make underground repair, interlocking concrete pavement can be removed

and replaced using the same materials. Unlike asphalt or poured-in-place concrete, paving blocks can be opened and closed without jack hammers and with less construction equipment. The process of reusing the same paving units is called reinstatement.

Some of the areas where ICBP technology is successfully proven are: parking areas, footpaths, non-trafficked areas, low traffic intensity streets, petrol pumps, office and residential complexes and light to medium trafficked areas etc.

Production and laying of Interlocking Concrete Paving Blocks is shown in Photos 1 and 2 respectively.

Central Road Research Institute, New Delhi is associated with formulation of two national codes for wider application and specification of ICBP technology for the first time in india.

1. Indian Roads Congress, Special Publication NO. 63 – 2004  
“Guidelines for the Use of Interlocking Concrete Block Pavement”
2. Precast Paving Blocks – Specifications – IS: 15658-2006



Photo –1: Manufacturing of Paving Blocks Progress



Photo –2: Laying of ICBP in Progress

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