Pandrol Fastclip FE Installation, Malaysia

Author: Ross Simpson, Track Manager (Technical)
MMC Gamuda Joint Venture, Malaysia

The 330km Ipoh – Padang Besar route in Malaysia forms an important part of the Bangkok – Singapore rail connection. Currently the infrastructure consists of a single metre gauge non-electrified track on a sinuous alignment. The infrastructure is life expired and a major improvement programme is now underway.

The line is being doubled, electrified and curves eased. The trackform is being renewed with new concrete sleepers, rail and ballast. When this work is completed, new electric train units will travel the route at speeds of up to 140km/h.

Sleepers with Pandrol Fastclip FC are being used but the opportunity has been provided by KTMB to install a short test section fitted with the latest Pandrol Fastclip FE system during the construction staging and migration works.

Like the older Pandrol Fastclip FC, the Pandrol Fastclip FE system is a resilient, threadless rail fastening system with the unique Pandrol Switch On – Switch Off System that enables fast efficient track installation and reduced maintenance costs.

Pandrol Fastclip FC sleeper moulds were modified by Mastrack who have been producing concrete sleepers in Malaysia since 1982. This mould was then used to produce 100 sleepers for the test installation.

Pre-assembly of the fastening components was carried out at the factory using a Factory Assembly Tool. The opportunity was also taken to fit a Studded EVA Pad which offers low stiffness with high durability and low cost instead of a studded natural rubber pad.

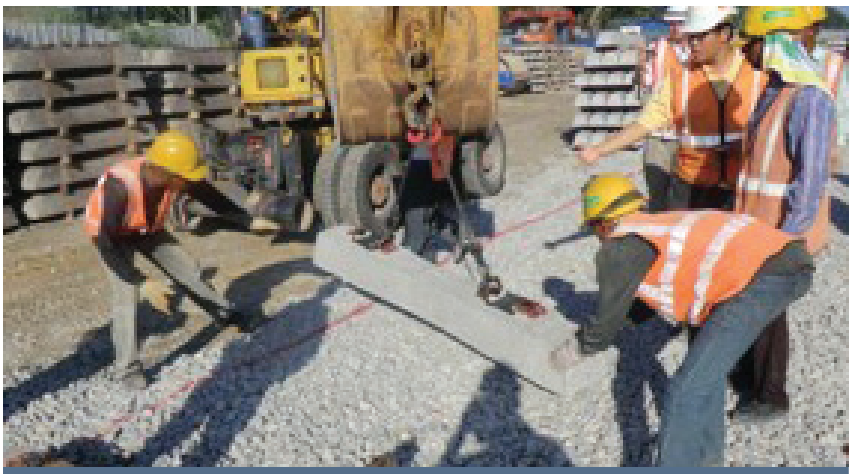
Installation of the sleepers took place just south of Bukit Mertajam Station under the supervision of MMC-Gamuda Joint Venture who are the main contractor for the project. Laying of the sleepers was carried out by an excavator fitted with special lifting hooks. Rail threading was easily accomplished and it was found that the revised design of sidepost insulator made this process even easier than it is with the Pandrol Fastclip FC system.

Clipping up was by hand using latest standard Fastclip handtools provided by Pandrol, and comments from the crew were that it was easier and quicker to clip up than the earlier system.

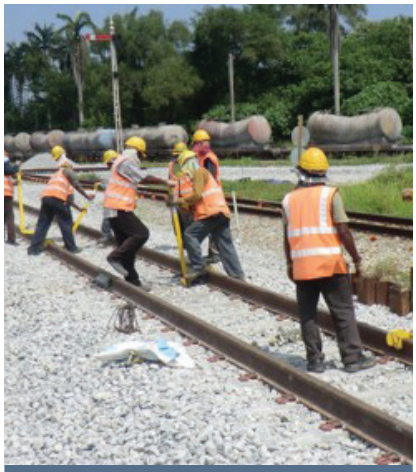
A return visit was made to de-stress the track length. The opportunity was taken to use Vortok Stressing Rollers. These are rollers that combine the function of underoller and side roller in one easy to use unit.

The sleepers are now under traffic and the test section is expected to remain under main line traffic for a period of one year at which time it will be recovered, componentry inspected and a performance report produced. An interim inspection after six months of traffic has confirmed that the components remain in excellent condition.

Finished Pandrol Fastclip FE sleepers being checked at the Mastrack factory



Installation of sleepers at site



Clipping up after destressing

Handtool close up

Vortok Stressing Rollers

Completed installation

The Pandrol Fastclip FE system develops on the Pandrol Fastclip FC system and offers:

1. An innovative seal plate system that simplifies the sleeper moulding process
2. Robust insulator components
3. Efficient use of materials leading to lower overall cost
4. Pandrol Fastclip FE hand tools are also compatible with Pandrol Fastclip FC

TEL +44 (0)1932 834500 EMAIL info@pandrol.com