

Project: Bonville Road Deviation

Products: 500PLUS® BAMTEC®

500PLUS® REBAR

BAMTEC CRCP Supply & Fix moves ahead at Bonville



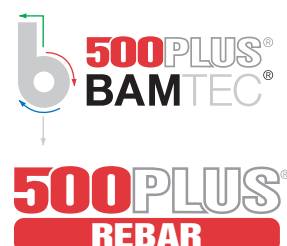
The OneSteel Reinforcing prefabricated 500PLUS® BAMTEC® carpets supply and fix package which has been specially developed for use in Continuously Reinforced Concrete Pavements (CRCP) is making great inroads with road construction. Its latest use is on the NSW Pacific Highway Bonville upgrade.

The Bonville deviation project is jointly funded by the Australian and NSW Governments and forms part of the \$1.6 billion commitment to the Pacific Highway Upgrade Program. The \$245 million project upgrades 9.8 kilometres of the Pacific Highway 11 km south of Coffs Harbour on the Mid-North Coast of NSW to a dual carriageway. This new stretch of highway extends from Perrys Road to the Lyons Road interchange, bypassing Bonville Village.

Utilising prefabricated 500PLUS® BAMTEC® carpets supplied and placed by OneSteel Reinforcing has led to considerable time and labour savings on the project. This was due to the combination of the 500PLUS® BAMTEC® carpets with the specially designed placing rig and the Supply & Fix and project management package offered to Abigroup by OneSteel Reinforcing with its steel fixing partner OK STEELEX.

Left: Completed Bonville Road Deviation upgrade to a dual carriageway.

Above: Paving machine laying concrete over 500PLUS® BAMTEC® carpets. 500PLUS® BAMTEC® rolled and tied onto roadway.





“We can lay 620 metres in an eight and a half hour day which is very productive, and we can do it with almost half the men.”

Len Beyers - Director OK STEELEX



- Reduces labour and site congestion
- As easy to place as a roll of carpet
- Speeds construction
- Improves OH&S
- The world's fastest steel fixing solution

Len Beyers from OK STEELEX, the large steelfixing company with many years of experience of laying rebar into Continually Reinforced Concrete Pavements, is very impressed with the 500PLUS® BAMTEC® carpet system saying, “The previous system of laying stock bar was good but much more labour intensive and required more men on site.”

“500PLUS® BAMTEC® carpets are a much better product as having the welding done in the factory eliminates the need for some tying on site. We can lay 620 metres in an eight and a half hour day which is very productive, and we can do it with almost half the men.”

This is achieved using 500PLUS® BAMTEC® carpets and the OK STEELEX mechanical jig and truck mounted work platform. Now in its fourth generation design, OK STEELEX and OneSteel Reinforcing have worked together to continuously improve the mechanical jig system in order to increase the daily production rate of steelfixing in CRCP applications, while reducing the labour required.

Multiple rolls of transverse 500PLUS® BAMTEC® carpets are loaded into the mechanical jig below and adjacent to the wire tying and work area. The first of these carpets is placed on a specially designed arrangement of wheels which provide both vertical support to the carpet and allows it to rotate when required.

The remaining transverse 500PLUS® BAMTEC® carpets placed within this area sit behind the first so when the first carpet has been installed, a replacement carpet can be easily pushed into position on to the wheel arrangement without the need for additional cranae or downtime.



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Len Bayers - Director OK STEELEX



500PLUS[®] **REBAR**

- Available in N12, N16, N24, N32 and N40 sizes for all construction requirements
- Supplied loose or in prefabricated forms
- Quality certified by ACRS
- Design and engineering services available
- Advice on Green Star and other rating tools compliance

As the mechanical jig and truck mounted work platform is moved forward, the transverse carpet is unrolled and the bars are mechanically guided into position underneath the longitudinal steel carpet. The two 500PLUS[®] BAMTEC[®] carpets are then tied together as the next longitudinal carpet is loaded into position and the operation repeats itself.

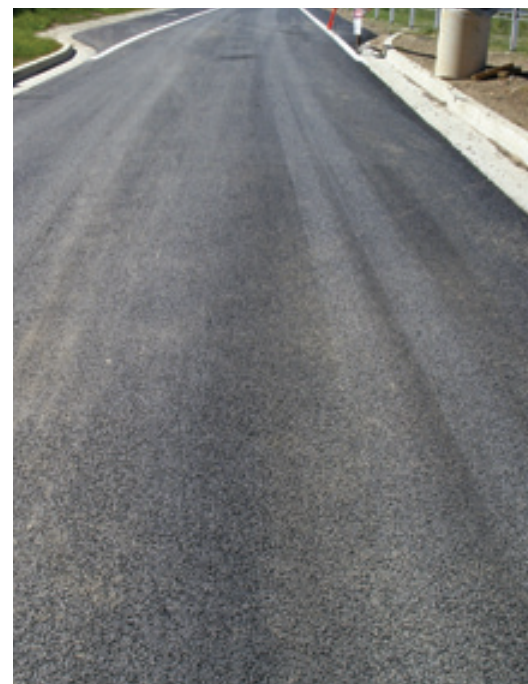
The simplicity and speed with which 500PLUS[®] BAMTEC[®] carpets from OneSteel Reinforcing can be laid, makes them the optimal solution for major projects such as road construction, especially when working out of town and to time constraints.

“The spacing of the 500PLUS[®] BAMTEC[®] is exact and nicely welded. From an OH&S perspective the 500PLUS[®] BAMTEC[®] carpets enable the men to work at a better, more comfortable angle and they don’t need to manually handle any bars,” Len said.

The versatility with which 500PLUS[®] BAMTEC[®] carpets can be fabricated and utilised is yet another way OneSteel Reinforcing is streamlining construction across all building sectors, making a safer workplace and reducing labour and overall costs.

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OneSteel Reinforcing 500PLUS® REBAR steel reinforcing bars were pre-welded to specific dimensions to flexible steel straps, rolled up for easy handling and delivered to site as a complete 500PLUS® BAMTEC® carpet. When needed, the carpet is simply rolled out and tied on to the roadway more efficiently than if stock bar were used, thereby reducing the number of workmen needed on site by almost half.

The 500PLUS® BAMTEC® carpets had a longitudinal weight of just over 1.5 tonnes and were made using 16 mm longitudinal and 12 mm transverse 500PLUS® REBAR. An overall length of 13.2 metres was achieved using 12 metre 500PLUS® REBAR with a 600 mm stagger.

By fabricating to this size, OneSteel Reinforcing could supply 500PLUS® BAMTEC® carpets that complied with a design specification of 80 bars, which was required in order to fit the width of the road. In all, 900 500PLUS® BAMTEC® carpets were fabricated with an overall weight of almost 1400 tonne.

OneSteel Reinforcing developed a comprehensive 500PLUS® Supply & Fix solution program incorporating administration and project management, which was presented to builders Abigroup. This included the design and engineering of the 500PLUS® BAMTEC® carpets, production protocols to ensure fabrication complied with specific project requirements and co-ordinating the sub-contractors and supervising the steelfixing.

Continuous support throughout the project was provided by OneSteel Reinforcing engineer David Tarabay who was on site almost every day during the construction phase which incorporated laying of the 500PLUS® BAMTEC® carpets. David said “Although the carpets appear to be the same, there were actually six different types of 500PLUS® BAMTEC® carpets used, with each having different bar spacing.”

The 500PLUS® BAMTEC® carpets were pre-slung to assist in the efficiency and safety of unloading with delivery to site also arranged by OneSteel Reinforcing.

OneSteel Reinforcing managed stockpiling of the carpets on site, setting them out on the roadway ahead of the rig so laying could proceed smoothly and without downtime for the fixers. “This ensured continual progress was achieved and seal dates that were outlined by Abigroup were met.” David said.

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