



**Project:**

Leura Bypass,  
Blue Mountains

# 500PLUS REIDBAR forms backbone of reinforced soil wall on Leura Bypass



The largest single civil construction application of OneSteel Reinforcing's continuously threaded, steel reinforcing bar and coupler system, 500PLUS REIDBAR, is underway in the Blue Mountains, near Sydney.

The 500PLUS REIDBAR system is being used by contractor Barclay Mowlem to stabilise several hundred metres of soft sandstone cuttings on the Leura Bypass project.

The project, part of the NSW Roads and Traffic Authority's Great Western Highway Upgrade program, involves widening the existing two lane highway between Willow Park Avenue, and Kings Road, Leura, to a four lane divided highway.

A key feature of the project is the construction of a bridge structure comprising a 137m long underpass for the highway passing under the Leura Mall and extension of the existing pedestrian bridge.

More than 1,500 of 32mm diameter 500PLUS REIDBAR steel reinforcing bars, measuring up to 10m in length are being installed as soil nails to stabilise the soft sandstone cuttings, which are up to 12m deep.

The bridge is being built using the top down construction process.

Overall, Barclay Mowlem will be excavating close to 100,000m<sup>3</sup> of material during the project, with around half of it being reused as fill on site.

Excavation takes place between a series of bored reinforced concrete piles, with the 500PLUS REIDBAR soil nails being installed progressively in line with earthworks.

To ensure each 500PLUS REIDBAR soil nail is correctly located within the drilled hole, the soil nails are preassembled with centraliser tubes and a grout tube running the full length of the bar.

Once inserted in the drilled hole, 40Mpa cementitious grout is pumped into the

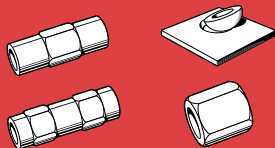
REINFORCING SOLUTIONS

## 500PLUS REIDBAR

500PLUS REIDBAR is a continuously threaded, steel reinforcing bar and coupler system, which can be cut and joined at any point, greatly improving steelfixing flexibility.

The rugged threads are resistant to damage and permit rapid coupling on site.

500PLUS REIDBAR is available in most rebar diameters: 12, 16, 20, 25 & 32mm, with an extensive range of couplers and construction accessories such as nuts, threaded inserts, foot plates, grout sleeves and nailing plates, enabling the 500PLUS REIDBAR system to be used in a wide variety of applications.



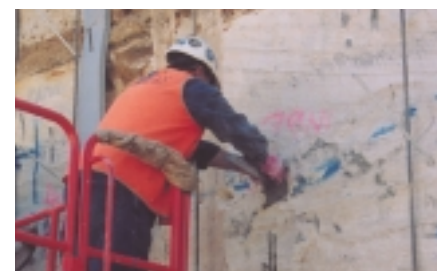
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**APPLICATIONS**

- Staged construction
- Wall to floor connections
- Wall to wall connections
- Column to wall connections
- Beam to slab connections
- Slab penetrations
- Starter bars
- Shear reinforcing
- Tilt-up/precast concrete
- Refurbishment and rectification works
- Wind bracing
- Hold/tie down bolts
- Ground stabilisation
- Rock bolting
- Soil anchoring.

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hole via the grout tube, and the opening to the hole is packed with high strength cement slurry to seal it.

The sandstone walls are conventionally reinforced, with large steel transfer plates and nuts being used to tie the soil anchors to the wall reinforcement.

The steel reinforcement is then shotcreted to a depth of around 300mm, completing the reinforced soil walls.

Commenting on the use of the 500PLUS REIDBAR system, Barclay Mowlem's Project Engineer, Karl Erdmanis, said he had been very impressed with the simplicity and functionality of the 500PLUS REIDBAR system.

"It's a really easy product for our sub-contractors to handle. The rugged thread on the bar means we never have any problems with screwing the nuts for the load transfer plates into place.

"All of the componentry is delivered as required, and OneSteel Reinforcing's project engineer has given us excellent support."

The upgrading of the Great Western Highway between Leura and Katoomba will have a number of major benefits for

both the local community and motorists, including:

- improved traffic flow as a result of the underpass at Leura Mall
- reduced travel time within the region and to Sydney
- improved intersections with the local road network
- preservation of significant local, natural and cultural landmarks.

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