

# ECO-REO<sup>TM</sup> – how we are Reinventing Reinforcing<sup>®</sup> with a range of sustainable products

OneSteel Reinforcing is introducing a range of **ECO-REO<sup>TM</sup>** products that offer builders and construction companies a range of REBAR and REOMESH<sup>®</sup> products that can provide a more sustainable use of materials in structures.

These products carry the additional branding of **ECO-BAR<sup>TM</sup>** or **ECO-MESH<sup>TM</sup>**, as they can provide economic and environmental benefits compared to traditional reinforcing steels.

## \* **ECONOMICAL**

The products can give more cost-efficient cover and economy in the number of sheets or bars, or the volumes of steel needed to efficiently reinforce the structure and meet the design intent of the project

## \* **ENVIRONMENTAL**

OneSteel's manufacturing of reinforcing steel utilises energy reducing polymer injection technology and recycled steel scrap content

\* Supporting information on environmental claims for specific OneSteel Reinforcing **ECO-REO<sup>TM</sup>** products is given below and on the Technical Resources page of the OneSteel Reinforcing website [www.reinforcing.com](http://www.reinforcing.com)

## **OneSteel has introduced a number of initiatives in recent years to assist with more sustainable use of materials.**

- The majority of OneSteel's reinforcing bar and reinforcing mesh has been made from recycled scrap for many years - OneSteel announced on 10th June 2009 that the overall percentage of post-consumer recycled content (FY2008 average) was 89% for reinforcing bar and 66% for reinforcing mesh
- *OneSteel announced on 1st May 2010 that OneSteel's improved energy-efficient steel making process Polymer Injection Technology (PIT), used at the Rooty Hill Sydney and Laverton Melbourne electric arc furnaces has allowed OneSteel to achieve an average 66% of reinforcing rod for mesh and 82% of reinforcing bar produced using this technology. In operating this technology as standard practice at OneSteel's Rooty Hill and Laverton Steel Mills, there is potential to recycle more than 285,000 passenger tyres per annum.*
- OneSteel Reinforcing is supporting customers to have projects gain up to two Green Building Council of Australia (GBCA) Green Star Steel credits (revised scheme effective 29th April 2010) with enhanced capability to provide off site optimal fabrication of reinforcing steel used in the building structure.



### **ECO-BAR<sup>TM</sup> products include:**

- **500PLUS<sup>®</sup> BAMTEC<sup>®</sup>** - Engineered reinforcing bar carpets can allow the size and positioning of reinforcing steel to be optimised with variable diameters and spacings.
- **500PLUS<sup>®</sup> PREFAB** - Prefabricated Reinforcement is a more efficient process that can be designed to generate less waste and scrap on site.



### **ECO-MESH<sup>TM</sup> products include:**

- Customised special run **ONEMESH<sup>®</sup>** can minimise duplication of reinforcing steel and scrap losses that result from excess lapping and trimming of mesh sheets.
- Engineered and tailored mesh solutions can include variable wire spacing and wire diameters, and optimised mesh size (length and width).
- The new **UTEMESH<sup>®</sup>** and the large (up to 9 m x 3 m) **ONEMESH<sup>®</sup> MADE TO SIZE** sheets give more cost efficient cover and economy in the number of sheets used on projects.



# Polymer Injection Technology (PIT) and how it benefits steel making and the environment

**Polymer Injection Technology** is an exciting new patented process, which partially substitutes the use of coke with polymers, including rubber (tyres and plastic bottles), as an alternate carbon injectant to produce foaming slag in Electric Arc Furnace (EAF) steel making.

This innovation offers an excellent opportunity to improve steel cost efficiency while having a positive impact on the environment through energy savings and recycling polymers, including rubber.

Implementation of this technology at OneSteel's Sydney and Melbourne based EAF facilities has achieved these benefits:

- Improved slag foaming resulting in reduced energy consumption and therefore lower greenhouse gas emissions
- Reduced quantity of injectant required
- Lower cost of rubber injectant over coke
- Reduced emission levels for NO<sub>x</sub>, CO and SO<sub>2</sub>
- Opportunity to reduce land waste

**66% of reinforcing rod for mesh and 82% of reinforcing bar by mass has been produced using this technology at the Rooty Hill Sydney and Laverton Melbourne electric arc furnaces.**

For further details please refer to the OneSteel PIT letter and case study in the Green Star® section of the 'Technical Resources' page of the OneSteel Reinforcing website [www.reinforcing.com](http://www.reinforcing.com)



## OneSteel Reinforcing and Green Star® steel credit points

- If customers talk to OneSteel Reinforcing in the early stages of the project we can suggest ways of designing the reinforcing such as spacing and diameters to optimise material use.
- This can improve the sustainability credentials of the project allowing the awarding of Green Star® steel credit points where appropriate as well as potentially reducing the costs of reinforcing steel in the project.
- OneSteel Reinforcing can encourage the practice of moving product off site into prefabrication which fulfils the intent to reduce waste on site, and provides the opportunity for dematerialisation and potentially speeding up construction, using our off site optimal fabrication techniques such as **500PLUS® BAMTEC®**, **500PLUS® PREFAB** and **ONEMESH® MADE TO SIZE**.
- OneSteel Reinforcing is keen to assist customers in making progress towards adopting more sustainable practices. For more information on Green Star® related products visit [www.reinforcing.com](http://www.reinforcing.com)



To view full length videos on these products visit [www.reinforcing.tv](http://www.reinforcing.tv)  
For further details, case studies and customer interviews, register for updates at [www.reinforcing.com](http://www.reinforcing.com) or email: [500PLUS@reinforcing.com](mailto:500PLUS@reinforcing.com)

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