



# Processing & Handling

PACIFIC STEEL™ Products



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All activities performed on reinforcing steel shall comply with the relevant standards, primarily NZS 3101 and NZS 3109.

### Surface Condition - Rust Patina

When considering newly fabricated reinforcement delivered, stored, or placed on the job site, some rust on the reinforcement should be considered normal.

C3.4 from NZS3109:1997 States:

*“Steel reinforcement at the time concrete is placed shall be free from any material or surface condition which may adversely affect bonding capacity or other performance requirements. Surface contaminants such as loose, flaky rust, loose mill scale, concrete laitance mud, oil or other coatings and windblown chloride or other salts may have a detrimental effect. Tightly adhering mill scale or surface rust do not have a detrimental effect.”*

For full details of the surface condition of reinforcement, refer to clause 3.4 of NZS 3109:1997.

### Bending

PACIFIC STEEL™ grade 500E MA steel can be hot or cold bent, and can be hot rebent (for procedures refer to NZS 3109).

NZS 3109:1997 *“Concrete construction requires that hooks and bends are formed in accordance with the bend requirements of Table 3.1. The minimum diameter of bend is measured on the inside of the bar”.* Our Bendometer Tool is a helpful guide for measuring this minimum bend diameter for PACIFIC STEEL™ bar. For full details of standard hooks, bends, stirrups or ties, for mesh bend diameter requirements and for galvanised bar bend requirements, refer to clause 3.3 of NZS 3109:1997.

### Cutting or Threading Bar

MA bar has the same strength and ductility properties across its cross section so the loss in strength of the bar is proportional to the amount of steel lost in the cutting

or threading operation. A QT bar, on the other hand, gains its strength from the hard quenched casing, so cutting a thread into this outer casing will mean that the loss in strength is not proportional to the amount of steel which is removed.

### Galvanizing

PACIFIC STEEL™ grade 300E and 500E steel can be galvanised.

### Handling

Reinforcing steel is often very heavy and difficult to handle. It is recommended that suitable gloves be worn at all times when handling reinforcing steel and suitable lifting equipment is utilised to minimize manual handling injuries. If suitable lifting equipment is not available the full load of the bars should be shared and balanced to ensure load strain is minimized.

Cut and bent reinforcing steel is often sharp and hazardous on sites. Safety caps on the end of bars are recommended to reduce the risk of abrasions or injury.

### Welding

PACIFIC STEEL™ grade 300E and 500E steel is readily weldable (refer AS/NZS 1554.3).



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