SUPER STEEL

CLASS 1

Building Product Information

PRODUCT NAME

High tensile seismic® reinforcing bar – Grade 500 ductility class E (“HD”, “HR”, “RB”)

PRODUCT DESCRIPTION

500E steel reinforcing bar manufactured to meet the requirements of AS/NZS 4671:2019 “Steel for the reinforcement of concrete” – strength grade 500MPa and ductility class E – micro-alloyed reinforcing steel bar.

The bar is available as:

Plain round profile bar in diameters: 6mm, 10mm, 12mm, 16mm, 20mm.

Deformed profile in diameters 10mm, 12mm, 16mm, 20mm, 25mm, 32mm.

PRODUCT IDENTIFIER

Pacific Steel (NZ) Ltd R500E bar mark

Pacific Steel (NZ) Ltd D500E bar marks - “XX” denotes bar nominal diameter

Jingye Iron and Steel Co., Ltd D500E bar marks

PLACE OF MANUFACTURE

New Zealand and Overseas

MANUFACTURE DETAILS

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Legal Name: Jingye Iron and Steel Co., Ltd
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IMPORTER DETAILS

Legal Name: Super Steel Limited
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RELEVANT BUILDING CODE

- B1 Structure: Functional requirements clause B1.2 and performance clauses; B1.3.1, B1.3.2, B1.3.3(f) and B1.3.4(d);
- B2 Durability: Functional requirements clause B2.2;
- S/NZS 4671:2019, Steel for the reinforcement of concrete.
- NZS 3101-1 and 2:2006, Concrete Structure Standard, incorporation Amendment No. 1, 2, and 3.
- AS/NZS 1554.3, Structural steel Welding, Part3: Welding reinforcing steel

CONTRIBUTIONS TO COMPLIANCE

- Rebars are essential components in the construction of reinforced concrete structures, helping them withstand various types of loads and forces, including bending, shear, and axial loads. Their placement and quantity depend on the specific structural design requirements and the intended use of the concrete element.
- NZS 3101-part1:2006 specifies reinforcing bars are to comply to AS/NZS 4671 standard. Grade 500E MA meets the minimum product and testing requirements specified in AS/NZS 4671:2049 in order to satisfy the design requirements.
- NZS 3101:2006 requires reinforcing steel to comply with AS/NZS 4671:2019. “E” stands for “Earthquake”. Micro alloy (MA) process: trace elements such as vanadium and titanium used to provide strength and ductility.

LIMITATIONS ON USE

- reinforcing steel, (“500E”), including mesh, can only be:-
  - bent to the provisions of NZS 3109 and NZS 3101.1. (if deformed bar is to be galvanized, note specific bend diameters in NZS 3101.1).
  - welded to the provisions of NZS 3109 and AS/NZS 1554.3
- 500MPa strength, class E ductility reinforcing steel, (“500E”), including 500E reinforcing mesh, cannot be re-bent cold. A suitable procedure for hot re-bending of 500E reinforcing steel can be found in NZS 3109 Clause 3.8.8.

DESIGN AND INSTALLATION REQUIREMENTS

- 500E reinforcing bar should only be specified by suitably qualified Structural Engineers to meet the performance criteria set out in the New Zealand Building Code.
- 500E reinforcing bar should be installed by competent and experienced personnel familiar with the requirements and practices of NZ reinforced concrete construction.
- As a micro-alloyed steel, 500E reinforcing bar can be hot-dipped galvanized.

DURABILITY AND MAINTENANCE REQUIREMENTS

- Avoid damage to the concrete that would reduce the cover depth or allow contaminant ingress through the concrete cover.
- 500E reinforcing bar should be stored in an essentially dry environment to avoid excessive surface corrosion forming.
- Reinforcing bar should not be used if physically damaged.
- Tightly adherent mill scale or surface corrosion are not detrimental to the mesh performance, but excessive loose and flaking surface corrosion should be avoided.

WARNINGS & BANS

The 500E reinforcing bar is not subject to warning or ban under section 26 of the Building Act 2004.