Euro Corporation Limited

Product Disclosure Information – Starters and Corner Bars

Product Name	Product Line	Product Identifier
Starters and Corner Bars	Reinforcing steel-300E MA Grade	Refer to item codes

Legal and Trading name of the manufacturer

Place of Manufacturer: New Zealand

Legal Name of the manufacturer: Euro Corporation Limited, 21 Heritage Way, Otara, Auckland 2019, New Zealand.

Trading Names of the manufacturer: Summit Steel & Wire and Complete Reinforcing, 21 Heritage Way, Otara, Auckland 2019, New Zealand.

Web site: www.summitsteel.co.nz, www.completereinforcing.com

e-mail: sales@summitsteel.co.nz, quotes@completereo.co.nz

Legal and Trading name of the importer

Not Applicable

Product description and its intended use

Starters and corner bars are manufactured using Grade 300E MA (micro alloy) deformed steel wire. Starters, also known as starter bars or starter reinforcement, are used in concrete structures to provide a connection between newly poured concrete and existing or previously cast concrete elements.

Item codes

Number of Item	Item Code	Description	Bundle Size
1	D12-600X600CNR	D12 Corner Bar 600 X 600 mm	25
2	D16-650X650CNR	D16 Corner Bar 650 X 650 mm	25
3	STRD101.2X150HB	D10 Starter 1.2m X 150mm Hooked Back	25
4	STRD121.2X150HB	D12 Starter 1.2m X 150mm Hooked Back	25
5	STRD10-1000	D10 Starter 1.0m Hooked	25
6	STRD10-1200	D10 Starter 1.2m Hooked	25
7	STRD10-1500	D10 Starter 1.5m Hooked	25
8	STRD12-1000	D12 Starter 1.0m Hooked	25
9	STRD12-1200	D12 Starter 1.2m Hooked	25
10	STRD12-1500	D12 Starter 1.5m Hooked	25
11	STRD101000150	D10 Starter 1.0m X 150mm "L" Hook	25
12	STRD101200150	D10 Starter 1.2m X 150mm "L" Hook	25
13	STRD101500150	D10 Starter 1.5m X 150mm "L" Hook	25
14	STRD121000150	D12 Starter 1.0m X 150mm "L" Hook	25
15	STRD121200150	D12 Starter 1.2m X 150mm "L" Hook	25
16	STRD121500150	D12 Starter 1.5m X 150mm "L" Hook	25

Relevant building codes:

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

AS/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.

NZS 3109:1997, Concrete construction

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 300E 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.

Hooks and Bends are performed as per NZS 3109:1997, Clause 3.3

Chemical analysis

AS/NZS 4671:2019, Clause 7.1

Element	C (Carbon)	S (Sulphur)	P (Potassium)	CEV (Carbon equivalent value)*
Max%	0.24	0.055	0.055	0.45

$$* \text{CEV}=C+\frac{Mn}{6}+\frac{(Cr+Mo+V)}{5}+\frac{(Ni+Cu)}{15}$$

Grade 300E MA plain bars that comply to AS/NZS 4671:2019 standard is weldable as per AS/NZS 1554.3, Structural steel Welding, Part3: Welding reinforcing steel.

Mechanical properties

AS/NZS 4671:2019, Clause 7.1.2

	Yield Stress (MPa)	Tensile Ratio	Uniform Elongation at maximum Load (%)	Weld shear strength
Minimum	300	1.15	15.0	50%
Maximum	380	1.50		

Demonstration of Product conformity

As per AS/NZS 4671:2019, clause 9, the minimum requirements for demonstration product conformity shall be in accordance with Appendix A and Appendix B

Long term mechanical characteristic values determined statistically in accordance with AS/NZS 4671:2019, Clause B.5.2 and reported as per the clauses B.5.1 (a) and (b).

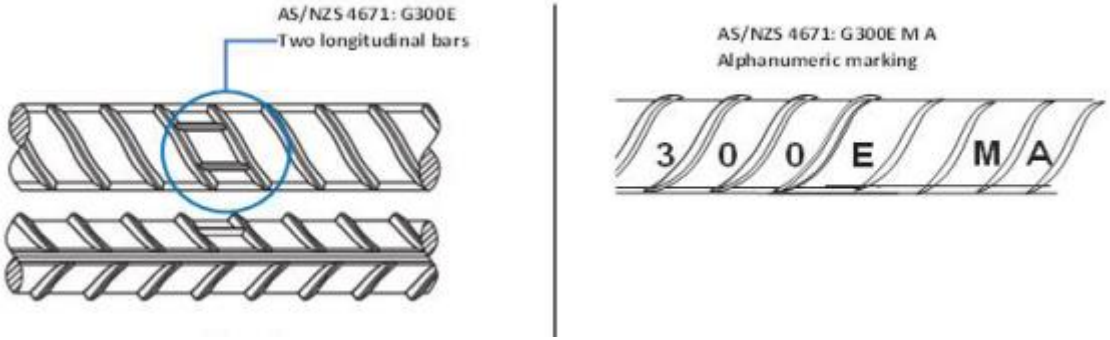
Mass tolerance

AS/NZS 4671:2019, Clause 7.3.1, Diameters, Cross sectional area and masses

The mass per meter length of any size bar shall have a tolerance of $\pm 4.5\%$

AS/NZS 4671:2019, Clause 10, Identification, and certificates

Grade 300E Identification – Bar Marking



Scope of use

NZS 3101: Part2:2006, clause C5.3.2 amendment A3 states where significant ductility is required then Grade 300E reinforcement is recommended. Grade 300E reinforcement has minimum ductility of 15% compared to 500E with minimum 10% ductility.

Before using 300E Grade Rebars used in any construction project, consult structural engineers and architects who are familiar with NZS 3101 and NZS 3109 standards and regulations. They can provide guidance on the appropriate specifications, placement, and installation to ensure it meets the required standards and contributes to the safety and longevity of the structure.

Limitations on the use of starters

Should the test unit not confirm to AS/NZS 4671 then the material of the test unit shall not be used in structural elements being designed to NZS 3101.

If reinforcement has been exposed to the weather for long periods, the surface may be corroded to the point where loose or flaking rust is evident on the surface. This is the point at which the surface condition of the reinforcement should no longer be regarded as acceptable, as the loose and flaking rust indicates a loss of steel material that can affect the design capacity, and it will also significantly affect the bond between the steel and concrete. If cleaning of the surface is proposed to remove the loose and flaking rust and reused after cleaning, then the mass of the steel bar after cleaning should be checked by calculating the mass per metre in accordance with Clause C3.3.3 of AS/NZS 4671 and ensuring that the value is no more than 4.5% less than the mass per metre values given in Table 7.5(A) of AS/NZS 4671 for the particular bar size.

Avoid damage such as sharp dents to the surface and excessive bending and stretching as this may adversely affect the bars localised ductility thereby raising the risk of brittle failure.

AS/NZS 1554.3, clause 3.31 does not permit tack welding to any rebars used for structural or seismic purposes.

Processing of coiled steel shall only be carried out in such a way that ensures the material properties of the AS/NZS 4671:2019 standard is met.

Design requirements that would support appropriate use of starters

Design details must be in accordance with New Zealand Building Code NZS 3101.1:2006, Concrete structures standard, Part 1: the design of concrete structures and Part2: commentary on the design of concrete structures.

Installation requirements

Adhering to these installation requirements for starters is critical to the long-term performance and safety of concrete structures, especially when creating connections between new and existing concrete elements. It is essential to consult with structural engineers and follow local building codes and standards for specific project requirements.

Size and Type of Starter Bars.

The size, diameter, and type of starter bars should be specified in the structural design documents. Commonly used starter bars are typically made of deformed steel reinforcement (rebar). Ensure that the starter bars used comply with the design specifications and relevant building codes.

Length and Embedment

The length of the starter bars and their embedment depth into the existing concrete should adhere to the design requirements. The embedment depth ensures proper bond and load transfer between the existing and new concrete. Typically, the minimum embedment depth is specified, and it should be maintained to achieve the required structural performance.

Spacing and Location

The spacing and location of starter bars should be in accordance with the structural design specifications. The placement of starters is critical for distributing loads and maintaining structural integrity. They should be positioned accurately and securely in the existing concrete element at the designated locations.

Cleaning and Preparation

Before placing the starter bars, the surface of the existing concrete should be cleaned thoroughly to remove dirt, dust, loose concrete, or any other contaminants. The prepared surface should be roughened, typically by wire brushing or sandblasting, to create a suitable bonding surface for the new concrete.

Anchoring and Support

Starter bars should be securely anchored in the existing concrete to prevent movement during the placement of fresh concrete. Adequate supports or chairs should be used to maintain the proper alignment and spacing of starter bars.

Corrosion Protection

Depending on the project's requirements and environmental conditions, corrosion protection measures may be necessary for the starter bars. This can include using epoxy-coated rebar or applying corrosion-inhibiting coatings.

Alignment and Plumbness

Starter bars should be positioned with precision, ensuring that they are aligned properly both horizontally and vertically. Plumbness is especially important for vertical connections to columns and walls.

Warning or ban under section 26 of the Building Act 2004

☐ Yes ☒ **No**

Revision History

Version number	Purpose / Change	Date
Version 1	New Release	01/09/2023