

## Verification of Product Conformity (Certification Traceability)

In light of increasing numbers of building products being imported from overseas suppliers, the on-going need to ensure that all such products comply with the relevant provisions of the building code and associated standards is of paramount importance.

Two products in particular have been under the spotlight in recent times and it has been necessary for Auckland Council Building Control to research and verify that effective conformity testing of **safety glass** and **reinforcing steel** by suppliers and manufacturers of these products. Both local and overseas, as appropriate, has been performed.

### Safety Glass

Two of the most common uses for safety glass are shower cubicles and glass balustrades. The consequence of failure of safety glass in these applications is serious harm. It is therefore critical that suppliers are able to demonstrate that the glass meets the requirements of the relevant human impact standards.

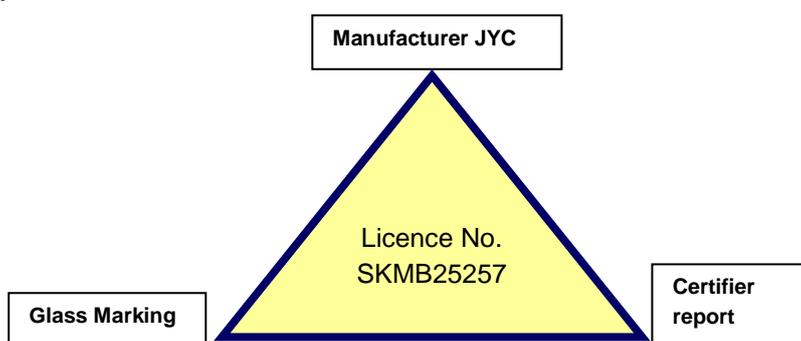
The applicable standards are **NZS 4223.3:1999**<sup>1</sup> “*Glazing in buildings – Human impact safety requirements*” and **AS/NZS2208:1996** – “*Safety glazing materials in buildings*”

NZS4223.3 is intended to provide a means of compliance with the relevant performance requirements of Building Code Clauses B1- *Structure*, F2 – *Hazardous Materials*, and F4 – *Safety from falling*, in order to minimise the potential for injury to building users from glazing in buildings.

To this end it's important that suppliers are able to provide evidence that appropriate testing of product during or after manufacture has taken place which will verify conformance to standard. A method of certification traceability from product to testing is inherent in NZS 4223.3 by way of the mandatory marking of the glass with the issued licence or identification number of the accredited certifying conformity testing authority. The Licence No. provides traceability as shown below.



SAI Global Certified Product Template  
For glass marking showing Licence No.  
SMKB25257



The accredited certifier (In this instance SAI Global) performs an audit on the manufacturer to confirm appropriate conformity testing is taking place and issues an audit report e.g. No. SKMB25257 to the manufacturer, JYC Glass Co. Ltd; Guangdong, China. A certificate of conformity and scope of certification is also issued which reflects the Licence No. SKMB25257. The glass is marked in accordance with NZS 4223.3 and the Licence No. SKMB25257 is included in the marking.

The additional information refers to **T-Toughened; 6** – Glass thickness and Glass grade – **Grade A**

<sup>1</sup> NZS4223.3:1999 has been superseded by NZS4223.3:2016 which comes into effect 1 June 2016

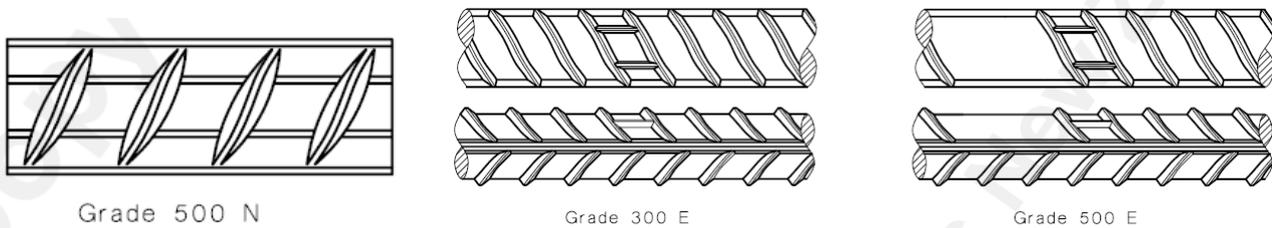
## Reinforcing Steel – Bar and Mesh

In a similar but slightly different method of identification the same product conformity testing verification applies to reinforcing steel.

The applicable standard for reinforcing steel is AS/NZS 4671:2001 “Steel reinforcing materials”

Due to the cross section shape and size of reinforcing bar and steel mesh it’s obviously not possible to mark the steel with all the information as shown with the SAI Global marking example above for glass. Standard grades of reinforcing steel are identified by either an alphanumeric marking system on the surface of the bar that identifies strength grade and ductility class or by a series of surface features on the product at intervals of not greater than 1.5m. AS/NZS 4671 section 9 delineates the identification requirements for not only the grade of steel but also the mill of manufacture.

The examples below show the surface geometry markings for Grade 500N 300E and 500E reinforcing bar. AS/NZS 4671 Figure 4 details these and other steel grade marking requirements.



The example below shows typical mill markings. The *Jiangsu Yonggang mark* is unique to the Jiangsu mill.



All reinforcing steel coming from this mill carries their unique mark. This is particularly important when verifying that appropriate conformity testing at the mill has taken place. As with glass, a third party accredited certifying body performs an audit at the mill to confirm that appropriate conformity testing, in accordance with AS/NZS 4671, takes place continuously. The certificate of conformance issued by the certifying body reflects the markings which uniquely identify the mill. The above Jiangsu mill example appears on the ACRS (Australasian Certification Authority for Reinforcing Steels) issued certificate 150504. All ACRS certificates reflect an expiry date and show the following markings (left of page below).



As in the example for glass, the issued certificate provides evidence of appropriate conformity testing at the point of production. Where it is not practical to mark the steel itself (some mesh) a system of bundling and labelling is used whereby each label reflects the third party issued certificate number, and batch number of the steel which are both traceable back to the producing mill. ACRS appear to be the most commonly encountered certifying body to date but others such as Bureau Veritas, SAI Global, SGS, CARES (UK) etc are equally acceptable.