



7 March 2007

**Reference: Important information for cold-drawn bar and structural mesh manufacturers**

Please find attached a copy of a letter received by ACRS from Standards Australia, dated 5<sup>th</sup> February 2007.

This letter concerns the properties of L-Grade materials used for structural meshes and concrete pipes to AS/NZS4671. It confirms that all L-Grade materials of any diameter used in structural meshes manufactured and supplied to AS/NZS4671-Steel reinforcing materials are required to meet the minimum ductility provisions of that Standard, in particular the minimum uniform elongation ( $A_{gt}$ ) value of 1.5%.

The letter also notes that AS1303 was superseded by AS/NZS4671 in 2001 and is no longer current and that deformed or indented material for concrete pipes must also meet minimum ductility requirements.

ACRS confirms that its certification assessment of processes and materials to AS/NZS4671 will review the materials properties of edge bars of structural meshes and other appropriate materials against the requirements of the Standard.

If you have any questions in regard to these requirements, please contact ACRS directly on the telephone number, below or by email on [info@acrs.net.au](mailto:info@acrs.net.au).

ACRS remains committed to continuing to provide the construction industry with a rigorous, open and world-class product certification service.

For and on behalf of the ACRS Council

Philip Sanders  
Executive Director

AK  
2007-02-05

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**STANDARDS**  
AUSTRALIA

Dear Philip,

**AS4671**

In response to your email, Standards Australia confirms that there is no dispensation relating to the ductility requirements for L-Grade mesh. All bars of any diameters are required to meet the ductility requirements of AS/NZS 4671.

The "Longitudinal bars" sizes listed in AS/NZS 4671 Table 6A, are nominal sizes. In accordance with AS/NZS 4671 clause 7.3.1, the mass per unit length may vary by up to 4.5% by mass per unit length. For example:

For a nominal bar diameter of 6.75mm, the area is calculated as:  $(\pi/4) \times 6.75^2 = 35.78\text{mm}^2$

Assuming the density of the steel is  $7850\text{Kg/m}^3$ , the nominal mass per unit length is calculated as 0.28Kg,

$1.045 \times \text{mass} = 0.294\text{Kg}$ , then rearranging gives a maximum allowable diameter of: 6.9mm.

The mesh configurations listed in Table 6A of AS/NZS 4671 are the most commonly available sizes. Mesh sizes and/or configurations that are not called up in Table 6A are still subject to the same ductility requirements that apply to the others.

Specifically, in structural applications where SL meshes with edge bars less than 5mm in diameter are used, the intention is that the same ductility rules apply to the edge bars as to the other bars mentioned in Table 2 (i.e. that a minimum 1.5% uniform elongation,  $A_{gt}$  be achieved). It is conceded that there may be cause for an amendment to clarify the intended meaning. This would entail adding the words "except where used as edge bars as per Table 6A", to the end of note 2 under Table 2.

L-Grade material for concrete pipes (deformed and indented) is also covered by AS/NZS4671 and is required to meet the ductility requirements of AS/NZS 4671. Also, it is noted that AS1303 was superseded by AS4671 in 2001.

I hope this clarifies where Standards Australia stands on these issues.

Yours sincerely,

Aaron Keating  
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