

CAVEAT EMPTOR - CHOOSING GENERIC OR ENGINEERED

Most of us have encountered television ads about "Brand Power". Is there any truth to it when it comes to choosing building products?

Some hardware outlets stock cheaper generic building products which are manufactured by small companies with little, if any, engineering expertise.

These items usually look very similar to pre-existing engineered products but are sufficiently different to avoid any copyright infringement.

They rarely come with any specifications, fixing instructions, load data, technical support or expressed warranty. It is entirely up to the consumer to decide if the product is suitable for their needs.

And because the imitations look remarkably like the genuine engineered product, it is easy to assume that they would perform equally well and meet Australian standards.

To examine this assumption, we recently subjected our MiTek engineered structural bracing strap and its associated tensioner to routine quality assurance tests in our laboratory.

We also obtained their generic equivalents from a local hardware store for comparative testing.

Despite our attempts, we could not source any fixing instructions or product information for the generic product even after a search on the internet.

Although both bracing straps appeared identical at first glance (each measured 25mm wide by 0.8mm thick), there were subtle differences in the size and layout of the pre-punched holes.

When tested without any tensioners, the engineered strap eventually pulled apart at 6.1kN load, achieving the required factor of safety above its 4.0kN published strength capacity.

By contrast, the generic version snapped much earlier at a considerably lower 4.6kN load. Close analysis brought us to conclude that this was the result of inferior steel and poor product design.

In another comparison, we then tested the performance of the

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tensioners. Although the generic product imitated the structural mechanism of the engineered product, it was fabricated of a much thinner gauge of steel and folded in a simpler manner.

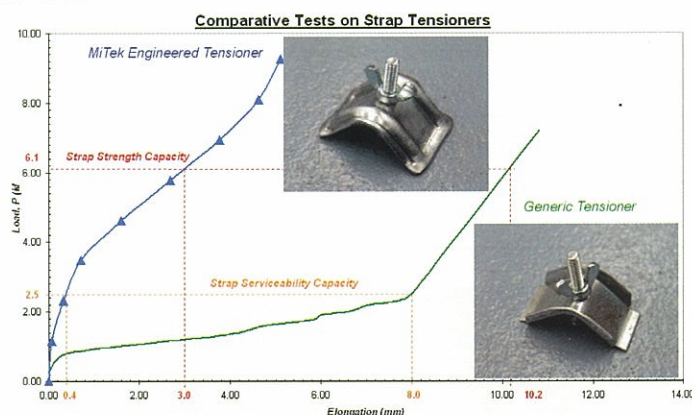
A thicker and stronger bracing strap was used in this test so that the full extent of the tensioners' behaviour could be observed.

At the appropriate 2.5kN serviceability load, the engineered tensioner elongated a meagre 0.4mm. Since this fell within its elastic range, it would be expected to spring back to its original shape upon release of load,

shape if the load was released. When we continued to load it further, the tensioner became effectively flattened even before full strength was achieved.

The implications of this meant that when installed in a building, such a huge elongation under moderate load would create slackness that would then cause undesirable deformation and distortion to the building, resulting in additional stresses and premature material damage to lining, cladding and other components.

Sadly, it would not be easy to trace



■ Engineered Bracing Strap



■ Generic Bracing Strap

the cause and the culprit would escape to cause more havoc in other buildings.

It is not difficult to discover similar deficiencies when generic copies of other engineered

products are critically examined.

The question for the consumer is whether the meagre savings in unreliable generic products are worth the risk of damage and cost of repair to an infinitely more valuable property.

The small premium paid for reliable engineered products is very cheap insurance for peace of mind.

The message is clear and simple: "Caveat Emptor" or "Let the Buyer Beware".

TTT

thereby maintaining continual tension on the strap.

Nevertheless, we continued to load the strap beyond its strength capacity and yet the tensioner still retained some curvature for further extension.

By contrast, the generic product stretched out a considerable 8.0mm under the same serviceability load, well beyond its elastic range and into plastic deformation.

This meant that it would not be able to revert back to its original

Continued overleaf

TABLE OF COMPARISON


Feature	Engineered Building Product	Generic Building Product
Technical support	Yes, on phone & website	None
Technical information/brochure	Yes, in print & pdf	None
Design load capacities	Defined and published	Not indicated
Australian Building Code requirements	Full compliance assured	No claims to conformity
Laboratory tested	Yes	No
Engineer designed and certified	Yes	No
ISO 9000 quality assurance	Yes, regularly audited	None
Steel strength	Guaranteed strength grade	Possibly cheap imported steel of variable grade
Fixing instructions	Yes, fully explained	No, size and number of nails are often not indicated
Corrosion protection	Code compliant	Unspecified

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