

16 June 2016

Manager
NETTCO
90 Hall St. , Yamanto
Queensland 4305

Dear Sir

Polysteel Shade Net

We note your success in developing this new product for the shade and screen structure markets .

A full stainless steel wire net , or an integral knitted mix of monofilament polyethylene or other poly fibres and a fine stainless steel wire , in a flexible cloth , has clear advantages over the conventional shade cloth products now widely used .

Firstly , the choice of relative amounts of the two fibre types would allow a selected range of biaxial strengths and shade barrier percentages .

The presence of the stainless steel wire would not only increase strength , but also would greatly reduce tension strain and long term creep . Structures would maintain installed pre-stress and perform better when exposed to high and variable wind actions .

A structure , after being exposed to a heavy hail event , would readily return to its stable initial geometry .

A 100% stainless wire mesh will have greater fire resistance than present shade cloths .

The total resistance of the stainless steel wire addresses the problem of strength loss in currently available fabrics , due to UV degradation .



Theoretical design lives of 30 – 50 years are not unreasonable , given the available choice of wire and fibre proportions .

This also has an advantage where roof structure can be accessed by agile youths . The choice of fabric strength and tear resistance can be provided to suit . eg. calculations for four 60 kg youths on a 6m hypar sail indicate fabric tensile stress levels of 300 -500 kg / m , which is well within the potential of the Polynet capacities .

More importantly is the seam , edge , and corner detailing . There is ample experience to achieve this with proper rational design and readily available hardware .

We look forward to the results of your test programs .

Our long experience in the tension structure industry suggests that the new flexible fabric concept of all stainless steel wire , or a mix of wire and poly fibres , has great potential in overcoming the shortcomings of present poly shade fabrics , and also offering new applications in areas like geotextiles and scaffolding .

Kind Regards

A handwritten signature in blue ink, appearing to read "Bernie Davis".

Bernie Davis
Senior Structural Engineer

