ColorMAX® Wind Load Report

The wind load performance data referenced in this material are based on testing conducted in Australia. Test conditions and regulatory standards may differ from those in the United States.

I have checked the structural capacity of the metal color coated fencing components supplied by the above manufacturer and marketed as ColorMAX® Steel Privacy Fencing.

The description of the post is...

- 2 by metal "U" shape section joined by seven 10-16x16 gauge Tek screws to form an "I" shape approx. 100x60mm.
- Metal feed is a 170mm wide strip of Hi Tensile metal sheet, 0.8mm (20 gauge) bare metal thickness with a minimum yield strength of 550Mpa, in accordance with AS1379, designated grade GS50.
- Cross section area total 272 sq mm for the combined "I" section.

The installation requirement for the posts are...

- Maximum overall post length to be 2.4m (7' 10.44"), maximum projection above ground for design 1.8m (5' 10.87").
- Concrete pad to base of post overall 250mm (9.84") diameter, depth 600mm (23.62"), concrete mass taken to be 2500kg per cubic meter.
- Foundation hole drilled into natural soil material with a bearing capacity of 100 kilopascals.

The design support load is....

- Posts at 2.4m (7' 10.44") maximum centers, supporting fence of maximum height of 1.8m (5' 10.87"). Load area 4.32m^2 (46.5ft^2).

I have carried out structural design for the above fence components in accordance with standard engineering practice and to the requirements of the relevant Australian Standards.

The ColorMAX® Steel Privacy Fencing is in accordance with the following Australian Standards:

AS 1170-2002 PART I	Structural Design Actions, Permanent, Imposed and Other
AS 1170-2002 PART 2	Structural Design Actions, Wind Actions
AS 4055-1992	Wind Loads for Housing
AS 3600-2001	Concrete Structures
AS 4100-1998	Steel Structures Code
AS 1289-2000	Soil Testing For Engineering Purposes

Wind loads were calculated in accordance with AS 1170.2 for a wind region A (AI to A4) to satisfy the requirements of AS 1170.2 Appendix D — Freestanding Walls, Hoardings and Canopies.

THE FENCE IS CAPABLE OF WITHSTANDING THE FOLLOWING WIND SPEED LOADS without permanent deformation or deflection and within allowable steel bending stress levels:

- For serviceability (Vs) a basic wind speed of 136.8km/h (85 mph)
- For permissible stress (Vp) a basic wind speed of 147.6km/h (92 mph)
- For ultimate strength limit state (Vu) a basic wind speed of 180 km/h (112 mph)