METALCRAFT BARRIER FENCING SPECIFICATION

DESCRIPTION

Aztec has strong defined lines. The Aztec profile has a raised five rib trapezoid form on one side, and a flat aspect on the other. Aztec is a very popular profile that will complement any home or project. Manufactured from double sided 0.35BMT G550 Colorsteel® Endura®.

BARRIER APPLICATION

Metalcraft Roofing's Aztec fencing profile is suitable as a barrier fence and will meet the barrier load requirements of the New Zealand Building Code when installed as per this Specification and in accordance with the attached PS1 - issued by JD Consulting Engineers Ltd and dated June 2019.

Any other installations are outside the scope of this PS1 and outside the requirements of the barrier load requirements of the New Zealand Building Code.

FENCE SYSTEM

- 0.35mm G550 Aztec fencing profile
- 0.75mm G550 posts 69mm wide and 42.5mm long in pairs back to back.
- 0.75mm G550 rails 50.8mm wide 50.5mm deep.

DESIGN ASSUMPTIONS

- Soil allowable bearing 100kPa
- Posts cast a minimum 600mm into 17.5MP concrete foundation @28 days 250mm diameter and 700mm deep.
- All proprietary products meeting the performance specification requirements.

INSTALLATION

The installer must ensure:

- Foundation to be 250mm diameter and 700mm deep. into firm original ground (excluding topsoil)
- Fence posts embedded 600mm into 17.5MP concrete foundation @28 days.
- For other general installation guides refer to Metalcraft Fencing Installation guide.

LOADINGS

Barrier loading as per the attached PS1 - issued by JD Consulting Engineers Ltd and dated June 2019:

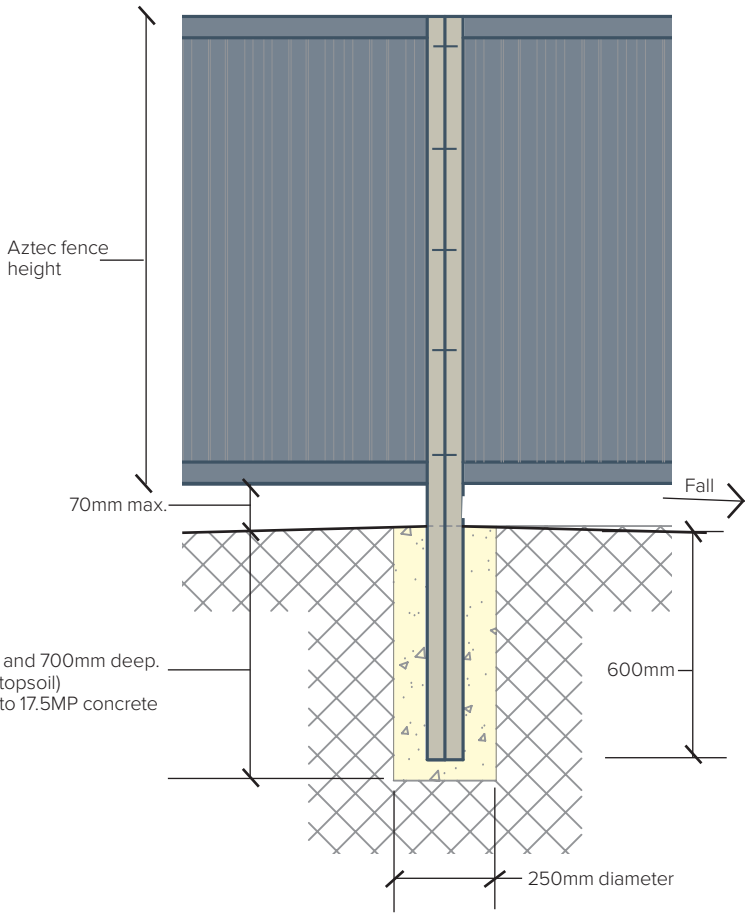
The required barrier loading was taken as a top rail uniform load of 0.75kN/m vertical or horizontal, or a point load of 0.6kN horizontal or vertical (type C3 in table 3.3 of AS/NZS 1170.1, reference from B1/VM1) for an area not subject to overcrowding.

BARRIER FENCE OPTIONS:

Barrier fence height options as per the attached PS1 - issued by JD Consulting Engineers Ltd and dated June 2019:

1m high Aztec fence with posts at 2.4m max centres.
1.2m high Aztec fence with posts at 2.0m max centres.

For fences over 1.2m high and / or wind zones exceeding "High" in NZ3604, the wind may exceed the barrier forces.



Foundation to be 250mm diameter and 700mm deep. into firm original ground (excluding topsoil)
Fence posts embedded 600mm into 17.5MP concrete foundation.

- Barrier fence -Tech Datasheet version: May 2020

CONSULTING ENGINEERS LTD.

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7 June, 2019

Industrial Investments Group Ltd
P O Box 51 286
Pakuranga

re: Metalcraft Colorsteel Fence System

A range of structural tests on the Metalcraft Colorsteel Fence System has been carried out to confirm that the system will meet the barrier load requirements of the NZ Building Code.

The fence system comprises:

0.75 mm G550 posts 69 mm wide and 42.5 mm long in pairs back-to-back.
0.75 mm G550 rails 50.8 mm wide and 50.5 mm deep.
0.35 mm G550 infill profiled sheeting

The tests used posts cast into concrete.

The required barrier loading was taken as a top rail uniform load of 0.75 kN/m vertical or horizontal, or a point load of 0.6 kN horizontal or vertical (type C3 in Table 3.3 of AS/NZS 1170.1, referenced from B1/VM1), for an area not subject to over-crowding.

The test results showed that a 1 metre high fence with posts at 2.4 m centres can resist the above loads. For higher top rails (load height), the post centres would need to be proportionally closer. The maximum load height to be considered is 1.2 m and in this case the posts would be at 2.0 m maximum centres. Minimum barrier heights are given in Table 1 of F4/AS1.

For fences over 1.2m high and/or wind zones exceeding "High" in NZS 3604, the wind load may exceed the barrier forces.

On behalf of the design firm, and subject to the verification of the following design assumptions:

i. Soil allowable bearing 100 kPa
ii. Posts cast a minimum 0.6 m into 17.5 MPa concrete, 0.25 m diameter x 0.7m deep
iii. all proprietary products meeting the performance specification requirements,

I believe on reasonable grounds that the fence rails and posts described above, if constructed in accordance with the drawings, specifications and other documents provided or listed in the attached schedule, will comply with the relevant barrier load provisions of B1 of the Building Code.

Yours faithfully,

J T Dale

J T Dale,
CPEng 55660,
Director, on behalf of JD Consulting Engineers Ltd.

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