Case Study

TREADWELL

Melbourne Substation

In order to maximise space and prepare for high capacity metro trains, a multi-storey substation was custom designed to be installed in Melbourne's CBD. This would be situated on a narrow strip of land, and had to be constructed within a tight timeframe. Prefabrication technology allowed the substation to be built off site at the same time as the foundation being installed; this saved time and eliminated the potential for weather delays. Consisting of a team of contractors, communication and action had to be precise.

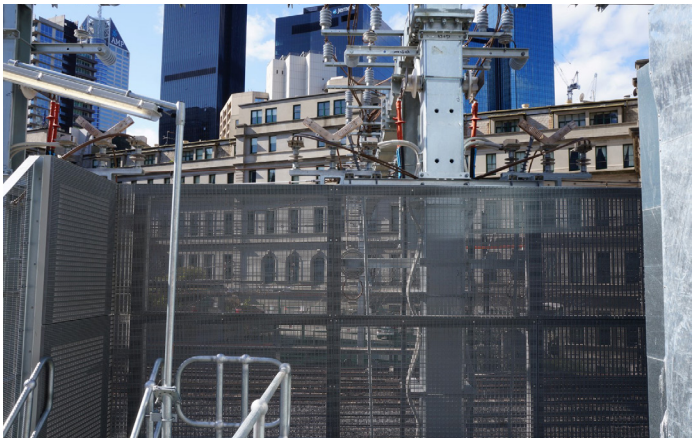
Treadwell was engaged to supply the FRP products for the structure and security perimeter.

Project Challenges

- It was a key consideration that the product be non-conductive. This was to ensure maximum safety for staff and public.
- Posts, rails and barrier mesh needed to be designed to withstand the wind load requirements of AS1170.
- The selected product had to be able to form a secure perimeter around the structure, proving a safe barrier against trespassing and various security concerns.

PROJECT INFORMATION

Project Category:	Utilities Infrastructure
Scope of Work:	Supply SecurEX® FRP Solution
Treadwell Products:	ArchitEX™ FRP Structural Profiles EX-Series® GratEX® FRP Micro Mesh Grating SecurEX® FRP Picket Fence System



Treadwell Solution:

1. Treadwell's SecurEX® FRP fencing is suited to a wide range of rail applications, especially in areas where stray electrical currents are concerns.
2. SecurEX® FRP Picket Fence is an anti-climb design, providing an added layer of security around the structure it protects. Easily installed on even and uneven ground.
3. GratEX® FRP Micro Mesh grating was selected as it accommodates wind loading concerns while providing a barrier against debris or foreign objects.
4. Being lightweight and easy to install, FRP is very manageable during construction.
5. Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.