

CONCRETE FENCING

Prestressed and precast concrete palisade with purpose-made gates and overhangs. The company has been manufacturing and erecting the system for more than 18 years throughout the country e.g. about 100 sites for the Department of Posts and Telecommunications. The system is load-resistant enough for use as barrier fencing to crowd restraint. The system consists of easily transported components and is fast to erect. Even so, it resists vandalism and abuse and is difficult to dismantle without considerable effort. However, sections of the fence can be removed for temporary access, and replaced. In security applications, an advantage is that the system does not create a visual barrier, as the gaps between the pales are either 100 or 65 mm depending on the number of pales per section.

Authority
SABS 0160: 1980 The design of foundations for buildings.

Composition and manufacture
Off-shutter-finish concrete with wood-floated back, to 35 MPa at 28 days. All reinforcing is covered by at least 20 mm concrete. Reinforcing wires are of grade 1550/1700 MPa steel stressed to 75 % of UTS. Ends of all units are cut, ground level, and sealed with 2-part grey epoxy. Post reinforcing: 6 x 4 mm wires. Pale reinforcing: 4 x 2,65 mm wires. Rail reinforcing: 4 x 4 mm wires. Fixing bolts are electrogalvanised and passivated. Concrete foundations are 15 MPa at 28 days.

Size and mass
Posts: 3 000 x 195 x 125 tapered to 100 mm
Pale: 2 370 x 64 x 115 tapered to 100 mm
A rail (9- pales/section): 1 980 x 80 x 150 with 9 x 10 mm holes for 8 mm carriage bolts.
R rail (11 pales/section): 1 980 x 65 x 150 with 11 x 10 mm holes for 8 mm carriage bolts.
Blanking plates: 850 x 300 x 40 mm or 1 500 x 200 x 40 mm.

Appearance
The system has a natural concrete finish. The tapered pales give the system a pleasing look.

Strength
Point loading of the structure at both post and mid section of the rail gives safety factors of 1,66 and 3,22 respectively. Point loading on individual pales and rails gives safety factors of 2,5 and 1,85 respectively.

Sitework
Each post is sunk 600 mm into an excavated hole which is then filled with concrete. A blanking plate is cast into the foundation at ground level. The posts are slotted to receive two horizontal rails at 150 and 2 250 mm from ground level. The system is completed by bolting to the rails either 9 or 11 pales per post.

Accessories
Security gates and eight different overhangs for barbed wire and razor tape.

Service
The company offers a full design and erection service.

BETONOMHEINING

Vooraf gespanne en- gegote beton palisade met doelvervaardigde hekke en oorhange. Vir meer as 18 jaar het die maatskappy Armourcade landwyd opgerig, o.a. by meer as 100 terreine vir die Departement Pos- en Telekommunikasie. Die stelsel bied genoeg lasweerstand om as versperringsheining vir skarestuiting gebruik te word. Dit bestaan uit maklik-vervoerbare komponente en is sneloprigbaar. Nogtans bied dit weerstand teen vandalisme en wangebruik en is dit moeilik om dit, sonder aansienlike vermoeiens, te demonteer. Gedeeltes van die heining kan egter vir tydelike toegangsdoeleindes verwyder en terrugeplaas word. Die voordeel daarvan in sekuriteitsaanwendings is dat die stelsel nie 'n visuele versperring skep nie, aangesien die gapings tussen die pale, of 100, of 65 mm is, afhangende van die aantal pale per gedeelte.

Magtiging
SABS 0160: 1980. Die Ontwerp van fondasies vir geboue.

Samestelling en vervaardiging
Alhortjie-afgewerkte beton met houtvlootrugkant, tot 35 MPa binne 28 dae. Alle versterkings word bereik met minstens 20 mm beton bedek. Versterkende draad is van graad 1550/1700 MPa staalgespanne tipe tot 75 % UTS. Die ente van alle eenhede word op grondvlak gesny en met 2 dele grys epoksi verseel. Paalversterking: 6 x 4 mm draad. Sparversterking: 4 x 2,65 mm draad. Relingversterking: 4 x 4 mm draad. Hegboute word elektrogegalvaniseer en gepassiveer. Betonfondasies is binne 28 dae 15 MPa.

Grootte en massa
Pale: 3 000 x 195 x 125 gespit tot 100 mm
Sparre: 2 370 x 64 x 115 gespit tot 100 mm
A-reling (9- paal/gedeelte): 1 980 x 80 x 150 met 9 x 10 mm gate vir 8 mm balkhoute.
R-reling (11 pale/gedeelte): 1 980 x 65 x 150 met 11 x 10 mm gate vir 8 mm balkhoute.
Aldigplaat: 850 x 300 x 40 mm of 1 500 x 200 x 40 mm.

Voorkoms
Die stelsel het 'n natuurlike betonafwerking. Die gespitste pale verleen 'n aantreklike voorkoms aan die stelsel.

Sterkte
Puntlas van die struktuur by beide paal- en middelgedeelte van die reling, verskaf veiligheidsfaktore van , onderskeidelik, 1,66 en 3,22. Puntlas op individuele pale en relings verskaf veiligheidsfaktore van, onderskeidelik, 2,5 en 1,85.

Terreinwerk
Elke paal word in 'n 600 mm uitgegraafde gat ingelaat, waarna dit met beton opgevol word. 'n Aldigplaat word by grondvlak in die fondasie afgedruk. Die pale word gegeleuf ten einde twee horisontale relings teen 150 en 2 250 mm vanaf grondvlak te ontvang. Die stelsel word voltooi deur, of 9, of 11 sparre per paal vas te bout.

Bykomstighede
Sekuriteitshekke en agt verskillende oorhange vir doringdraad- en lemtipe.

Diens
Die maatskappy bied 'n volledige ontwerp- en oprigtingsdiens.

