

Newlands Rugby Stadium – Railway Stand

The application

The decision to buy the ground the stadium stands on was made by the Western Province Rugby and Football Union in 1888. The first official match at Newlands took place on 31 May 1890 when Stellenbosch defeated Villagers there in front of a crowd of about 2 400 people. The following year the stadium hosted its first rugby test when the British Lions toured South Africa.

It wasn't until 1919 that the first permanent concrete stands were erected on the grounds. Later, in 1927, the new grandstand was erected and the field layout was changed to run from North-South. Yet more changes came in 1931 when the South stand was also enlarged to make it bigger.

In the 1950s parts of a new grandstand as well as South stand were completed, facilities such as lifts and a Presidential room were added, a fourth bay was added to the grandstand, and an extension was added to the lower gallery.

The 1970s saw the stadium change once again as the headquarters of SA Rugby moved to Newlands, and

several stands including the Eastern Railway Stand were built (1979) or renovated, while the 1980s saw private suites and function rooms erected on top of the North stands as well as demolition of the old South stand and inauguration of the new Danie Craven stand (also with private suites and function rooms). The 1980s also saw 10 253 seats added to the stadium.

Between 1990 and 1995 the stadium was under constant renovation, adding technology, increasing capacity, and upgrading facilities, as part of a 3-phase redevelopment plan in anticipation of the 1995 Rugby World Cup, when Newlands hosted the opening match of the tournament.

After the World Cup, development continued with several redevelopment and expansion projects to make the stadium more modern and increase capacity.

The stadium's name was changed several times by various sponsors, first from Newlands to Norwich Park Newlands in 1996, then to Fedsure Park Newlands in 2000 due to a merger between Fedsure and

Norwich, and finally back to simply Newlands by Investec when they became the main sponsor in 2002. In late 2005, Vodacom became the stadium's main sponsor, but followed Investec's precedent and kept the stadium name as Newlands.

The environmental conditions

Newlands Rugby stadium is situated at the foot of Table Mountain about 6km from Table Bay, 15km from False Bay and over the mountain about 10km from Camps Bay. Conditions are most probably mild coastal. In accordance with ISO 9223-Corrosion of Metals and Alloys – Corrosivity of Atmospheres – Classification, the slow rate of corrosion achieved suggests that the micro-climatic environment on the East side of the Railway Stand, inside the stadium falls within the Corrosion Category C3. (Corrosion rate of about 2µm/year).

Hot dip galvanizing is specified primarily for corrosion protection. For this reason the two requirements to satisfy this, are coating thickness and continuity.

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General view of the Newlands Rugby Stadium (left) and the stadium seats (right).





Coating thickness readings on the round bar of the seat (152 μ m) (left), on the side support (117 μ m) (middle) and on the seat support (114 μ m) (right).



Coating thickness readings on the handrails (above left - 96.2 μ m and right - 89 μ m).

Removal of contaminants prior to taking coating thickness readings on seat side bracket.

The seat brackets were hot dip galvanized by the general process which was then specified by the previous national standard, SABS 763. Similarly, SANS 121 (ISO 1461) requires that for steel thickness greater than and equal to 1,5mm and less than 3mm, the local coating thickness shall be 45 μ m and the mean be 55 μ m.



Coating thickness readings of seat side bracket (above left - 92.1 μ m and right - 97.6 μ m).

The coating thickness readings taken on the seat bracket, seat support bracket and handrail, in accordance with the photos, still generously exceed this requirement.



Coating thickness readings on seat side support (above left - 149 μ m and right - 143 μ m).

Conclusion and recommendation

The Railway Stand at Newland Rugby Stadium is already 31 years old and the hot dip galvanized steel seat brackets and handrails has proved to be the correct material of choice notwithstanding effects of a common corrosion problem, known as differential aeration (or necking corrosion) that can be seen on some of the handrail/concrete interfaces. 🛠️



View of cast in non-galvanized bottom rail showing corrosion products.



Corrosion products removed and residual coating thickness (13.1 μ m) taken on bottom rail.

