

# Pole audits for Tennis Clubs

---

SERVICE BY D&A LIGHTING SYSTEMS

# You should consider auditing your poles if:

- 1) They are over 15 years old
- 2) They show noticeable rust or damage
- 3) They appear unstable (e.g. slight movement during windy conditions, showing a slight lean)



# Why councils should audit poles at sporting complexes

Many clubs and residents turn a blind eye to pole condition without understanding how rust, weather factors and outdated galvanizing can impact pole integrity.

Over the last year, a combination of extreme weather events and long-term neglect of lighting columns have caused poles to collapse, damaging light fittings and court surfaces.

Additionally, this poses a major safety concern for all surrounding a tennis club. Lighting pole health should be a major priority for all clubs and councils to prevent any risk of poles falling.

## SHS Lighting Columns

D&A Lighting Systems are experts in all facets of club lighting installations and are very familiar with SHS lighting columns commonly installed at tennis clubs.

Poles made of 'DuraGal' steel have an average lifespan of 15-20 years in moderate atmospheric conditions when not painted or provided with further protection.

Pole corrosion is not uncommon. Different atmospheric conditions, the type of painting or coating on the poles will all affect the rate of corrosion.



# About pole auditing

---

We use **Ultrasonic Thickness Gauge (UTG) Spot Testing** to gauge the quality of lighting poles carrying luminaires.

This test is done on the steel around the base of each pole to assist in determining poles which have deteriorated due to oxidation of the pole material.

This is especially important as it identifies poles that could potentially be in danger of collapse.

Ultrasonic spot thickness testing is one of the most accurate ways of assessing the 'thickness' of lighting columns. The 'thickness' can show the extent of corrosion within a pole.

# What is UTG testing?

---

Ultrasonic thickness gauge (UTG) spot testing induces a frequency into the test material and records the response time in millimetres.

---

The test is done on the steel around the base of each pole to assist in determining poles which have deteriorated due to oxidation of the pole material that could potentially be in danger of collapse.

---

Various factors can interfere with the induced frequency – including water ingress and flaking rust plates in close proximity to the solid material being tested thus providing higher than the nominal readings.

---

UTG test results are therefore considered indicative and are usually combined with a visual examination conducted by a specialist.

# What's included in a report?

A visual examination of the pole's condition (with notes and photos)

UTG test results with a colour coded summary (see right)

Further analysis and recommendations for poles showing notable defects (see next slide)

**Table 1 shows the results from the UTG tests**

Cells marked as green indicate minor or no defect

Cells marked as yellow show greater defects

Cells marked as red are considered high risk

Marked cells are determined by overall Inspection

**TABLE 1**

<b>POLE NO.</b>	<b>1M ABOVE GROUND LEVEL FACE (mm)</b>	<b>1M ABOVE GROUND LEVEL SIDE (mm)</b>	<b>GROUND LEVEL FACE (mm)</b>	<b>GROUND LEVEL SIDE (mm)</b>
1	3.10	2.97	3.10	3.10
2	3.10	3.10	3.10	3.10
3	3.10	3.00	3.10	2.80
4	4.10	3.66	2.40	2.28
5	2.97	3.10	3.10	3.10
6	3.97	3.85	3.90	2.47
7	2.72	2.85	2.72	2.60
8	2.72	2.85	2.35	2.60
9	2.78	2.90	1.85	2.70
10	3.10	3.10	2.97	3.08
11	2.97	3.10	2.97	3.10
12	3.10	3.10	3.03	2.97
13	3.10	3.10	2.97	3.10
14	3.10	2.91	3.10	2.97
15	2.91	3.10	3.10	3.10

## Pole 4



### UTG Results:

4	4.10	3.66	2.40	2.28
---	------	------	------	------

### Comments:

Pole 4 with a nominal wall thickness of 4mm shows extreme signs of internal deterioration due to corrosion.

As identified on the UTG test, the wall thickness of the pole at ground level has almost halved over its lifetime and is now at a critical point.

With a wall thickness of 2.28mm the strength of the steel is not suitable to support the attached light fittings and is considered 'high risk' and should be replaced.

### Recommendation:

- Install new pole and foundation adjacent existing.



## Pole 6



### UTG Results:

6	3.97	3.85	3.90	2.47
---	------	------	------	------

### Comments:

Pole 6 has a nominal wall thickness of 4mm. Being one of the original poles installed at Williamstown, it is also suffering from severe internal rust.

UTG tests show that there is significant decay around the base of the pole, measuring just 2.47mm on one face. Despite a solid reading on the adjacent face of the pole of 3.90mm and not being categorized as 'high risk', this pole is still very much at risk.

### Recommendation:

- Install new pole and foundation adjacent existing.





# Solutions following pole audit

- Pole replacement for poles with excessive corrosion
- Cleaning of pole surfaces with additional ormonoid protection provided
- Steel protective conduit cover installation

