Titan Newsletter

Overheard Lines from The Reliable Titan

'The Bushfire Proof Titan is the Power Pole of the Century. Titan Reliability is Guaranteed'

- **Titan Info & Support**
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Titan Info & Support

Australian made Dulhunty Titan Poles continue to provide the opportunity for Titan Newsletter readers to access more Titan related information, or provide any comments they see fit to forward, through the enquiries email enquiries@dulhuntypoles.com and a Titan Help Desk team member will respond ASAP.

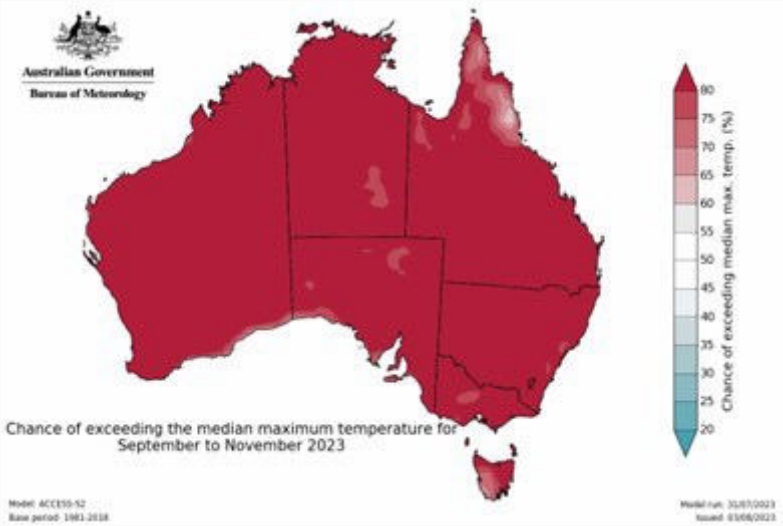
Although we are always extremely pleased to correspond in this manner, the answer to your questions may already be available on our website or in one of the many previous Titan Newsletters available at www.dulhuntypoles.com under the NEWS tag.

? Did You Know?

There are no natural degradation effects known for Titan fibreglass cement poles; 'Australia's most proofed pole.'

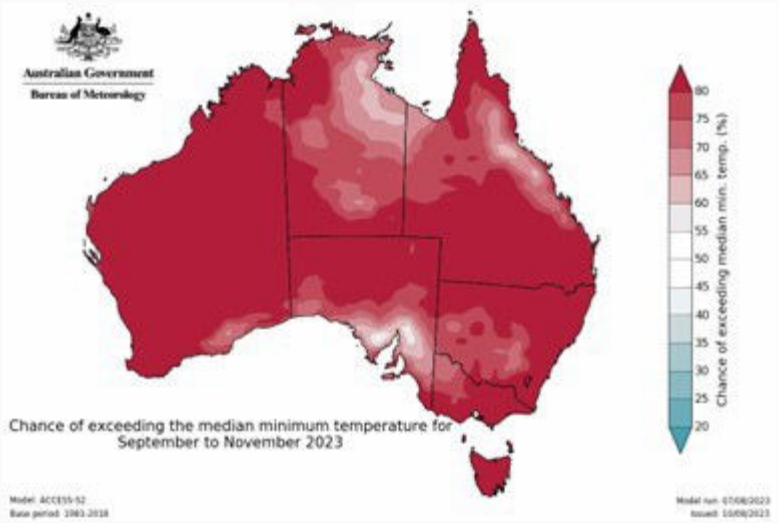
Summer Not Far Away

The Australian Bureau of Meteorology has issued their long-range forecasts for minimum and maximum temperatures for the coming summer period.



The above map indicates the percentage chance of exceeding the median maximum temperature for the period from September to November 2023 for all of Australia.

Likewise, the chance of exceeding the median minimum temperature for the same spring period is also upwards towards 80% in most parts - see map below.



With such warming predictions for spring, when we move into the middle of summer, it is projected this national warming trend will continue to develop into a dangerous bushfire period. We have even seen unofficial predictions touted already of a possible return to horrific bushfire prone conditions, similar to the Black Summer fire situations of 2019 – 2020 in eastern Australia.

Dulhunty Poles are not experts in predicting bushfire behavioral patterns, but we are highly proficient in manufacturing an ‘expert’ power pole that is specifically designed to survive such bushfires, which contributes to Titans low cost whole of life features for any ESI network.

Pole Top Fires - just don’t happen with Titans

Whilst still on the subject of fires, history of the Australian ESI suggests pole top fires could happen to wood poles – either hardwood or softwood, at any time, given the right seasonal conditionals.

The ideal preventative solution is the Titan Pole. Being a bushfire proof, no burn, non-conductive, engineered, and super resilient distribution pole, it overcomes all the issues associated with pole top fires and has an expected life of 70 to 100 years.

Being Australia's 'most proofed pole', Titan eliminates distribution pole top fire dangers.

? Did You Know?

Titan poles are manufactured and supplied to strength parameters specified by the purchaser – totally eliminating any problematic one size fits all concerns.

Pole Strength Validity in Repeatable Manufacturing

Given the Reliable Titan is an engineered designed pole, and the manufacturing process is state of the art computer controlled, it is near impossible to think that anything could happen to interfere with this high quality established system.

However, as a major part of our customer centric commitment, our rigorous Titan testing regime covers many issues in our efforts to eliminate any possible detrimental outcomes for in-service Titans.

One such unique test is designed to highlight how valid the repeatable Titan manufacturing process is in regard to resultant pole strength and shows it via bending load limits / values. Secondly, the test attempted to reveal the difference in ultimate breaking values of the samples that are more than 12 months old, verses those that are just 50 days old.

Introduction

A set of five full scale validation tests had been undertaken for a historical design tip load review of a single part 11m / 20kN (ULS) pole. The test consisting of poles resistance to working load and flexure to destruction, to determine ultimate pole strength for the above-mentioned poles.

A group of 5 x 20kN (ULS) Titan poles manufactured in different batches were tested to investigate this hypothesis, proving that all poles achieved consistent results in line with existing normal breaking loads over longer time. Some higher breaking value had been observed but not seen as uncommon due to poles performing at the peaks can exhibit remarkable endurance.

This investigation highlights that little or no noticeable effect on a large-scale testing, observed any negative impact of the performance of samples aged up to 12 months old.

Test Method

The test was conducted in accordance with AS/NZS 7000 and AS/NZS 4676, Structural design requirements for utility service poles, section 7 and appendix K. Test loads used are as defined by the customer in lieu of calculations according to AS/NZS 4676 clause 7.4.1.

Test results

Test results have been tabulated in this form for multiple pole results below.

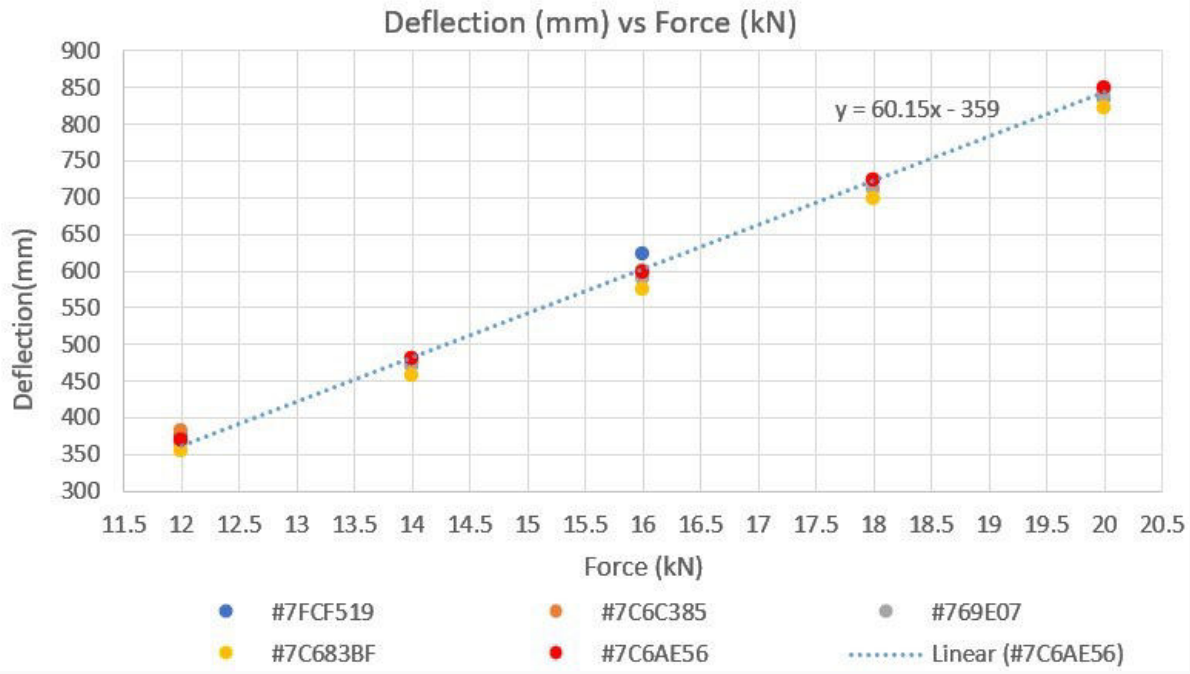
Pole Number	Tip OD	Base OD	Ultimate Breaking Load (kN)	Deflection @ Ultimate (mm)	Deflection @ 12kN Load (mm)	% HAG @ Load of 12kN	%HAG @ Design Load 20kN	% HAG @ Failure Load
#7FCF519	310	475	23.18	1174	375	4.07	9	12.7
#7C6C385	310	475	26.32	1243	382	4.15	9.2	13.5
#7C69E07	310	475	23.82	1516	364	3.96	9.1	16.5
#7C683BF	310	475	24.46	1069	353	3.84	8.9	11.6
#7C6AE56	310	475	23.12	1034	369	4.01	9.2	11.2

HAG: height above ground level.

Pole failure occurred in range of 23kN – 27kN above ground line by normal mode of compression at the joint on the side facing the application of load as shown in test results table.

Note: Burial depth of the pole is 1.8m of embedment.

Figure 1.



The result in the figure 1 graph above utilises values from 12kN to the target load of 20kN highlighting a very repeatable and linear performance of the poles reflecting the manufacturing process and material matrix control. Additionally, the pole failure loads have not reduced and show no negative change up to 12 months old.

Figure 2.

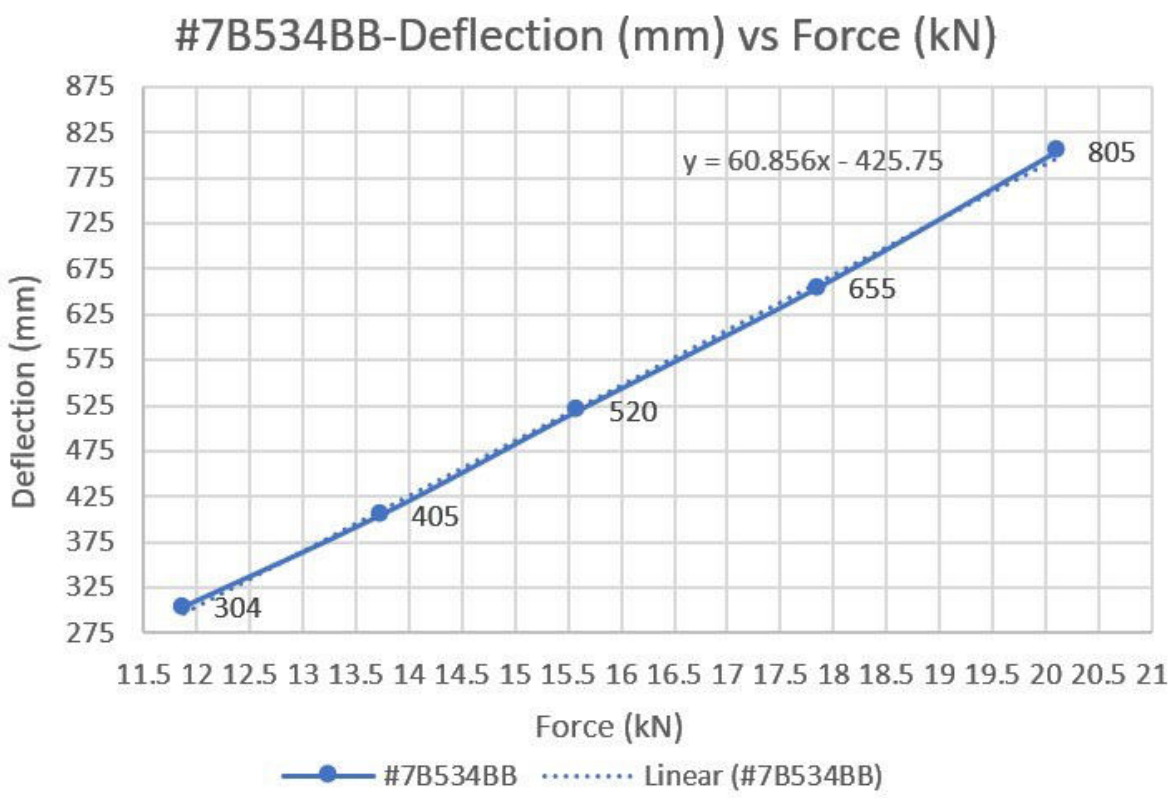


Figure 2 graph above shows an earlier pole test of a Titan pole performed on 21/11/18 of the same design and construction, undertaken by an independent outside organisation. That pole was a younger pole being 50 days old and as shown in figure 2, no reduction in breaking load is evident.

Moreover, the gradient of the line between 12kN - 20kN in both cases are very similar, meaning the rigidity has not shown any noticeable change.

Resistant / Retardant is not Proofed!

In situations where a power pole is required to still be standing after a bushfire has passed through, (and we think that is every related situation), the phrase ‘bushfire proofed’ should be the most important consideration.

We are aware that we do use the below picture relatively regularly in our Titan Newsletters, mainly because it is a perfect example of the point we are attempting to make on this subject. The intention in this fire prone area depicted, appears to be to reintroduce this previous network failure-causing risk factor,

back into the network, by reinstalling another burnable pole, which is obviously supporting crucial high voltage operational equipment.

By providing just a bit more initial consideration and investment in the network through utilization of the resilient Titan, that massive expense and inconvenience attached to replacing that new non-bushfire proof pole is avoided – not just for one fire season, but for virtually a lifetime.

The replacement of power poles destroyed through bushfires is a time consuming, expensive process for all involved, especially for the electricity network owner, right through to the consumers and the community at large. The no-power inconvenience is one thing, but the effects on safety and health services are far more serious.

Experienced operatives in this field have put the actual replacement of a destroyed pole back to an operational state, at between 70% to 90% of the total cost and time involved in achieving restoration of supply. Preparation is the key and installing a Titan Bushfire Proof pole in the first place is the best preparation possible.

And an ever so simple, yet highly effective example above of the plan to build back better, with a replacement bushfire proof Titan ready to go – again in a fire prone area. It is understood replacement occurred the day after photo was taken. Job done – it is that simple.

When searching to achieve that ideal resilient state for distribution networks, it would be highly beneficial to assign as many components as possible, that will individually and collectively, fit under a genuine resilient banner. We believe a proven bushfire proof support structure for overhead conductors and equipment is the ideal place to start. Furthermore, given the typical expected flame temperature associated with some Australian bushfires could be up around 1,200°C, that would be the considered target to aim for.

Tests carried out on Titans after being exposed to a bushfire, proved that no loss in strength was evident and no sign of melting or distortion observed.

? Did You Know?

There is no better way to manage risk in any situation, than to eliminate it.

Titan Factory Additions Keep Coming

When demand for products keep growing, not only does the manufacturing of the product have to increase to meet the demand, but other important support functions also need to follow. Our Titan Pole storage / pole curing area is one such feature that has now had its turn to expand.

Progress photos of construction underway, with project completion well in sight

Once in a Lifetime Job with Titan

Dulhunty Poles, can assist the Electricity Supply Industry (ESI), to invest wisely in their network for the long term of 70 to 100 years; virtually for a lifetime – not just prop it up for a few years with less resilient alternatives.

The Titan Pole's leading economical whole of life cost factors, support the proven maxim of 'Do the job right once in a lifetime with Titan.'

All this high maintenance, fundamental support infrastructure in the above picture, can be replaced with one no-maintenance engineered ‘Equipment Grade’ Titan Pole. The wood pole groundline inspection and treatment for this 3-pole existent installation is reduced to zero with one Titan.

The value of a ‘Once in a Lifetime’ consequence, is especially pertinent where distribution substations and or high voltage switchgear / equipment are required in the network.

Given the Titan’s many long-life attributes, it would be the obvious support structure for any critical equipment. Being an engineered manufactured pole, Titan can be designed and manufactured to be strengthen up in client selected areas along the pole length - accommodating any specific extra heavy equipment.

Get a Better Feel for the Reliable Titan

Dulhunty Poles offer to those interested, free Titan sample pieces in an attractive desk-top pen holder. They illustrate Titan’s lightweight fireproof features, natural robust structure, and ready drill-ability. If interested, please simply reply to this email, and provide your name and a postal address to receive your free sample.