

Properly treated your
transmission and
telecommunication poles
can last a lifetime...



**PRESSURE TREATED
POWER & UTILITY POLES**





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Throughout the world, timber poles have been successfully utilised as an adaptable, cost effective and durable product in the power and utility industries. The service life of these poles can be extended by effective preservative treatment to protect the timber against the threat of fungal decay or insect attack. The treatment industry has traditionally had a choice between chromated copper arsenate (CCA) based preservatives and creosote.

Over the years, **Tanalith®** treated poles have been subjected to every soil and environmental condition imaginable. The results are well-proven in terms of long service life, reliability, cost, cleanliness and safety, and their unique position as a renewable resource.

Tanalith® treatment also provides excellent resistance to oxidation, corrosion, fatigue and spalling, making **Tana®-Pole** the number one choice in Africa.



Tanalith® v Creosote

Creosote has been a traditional alternative to treatment with CCA preservatives. However, creosote prices are continuing to rise. Specified retentions for creosote are in the region of 115kg/m³ - 150kg/m³.

Based on a creosote retention of 150kg/m³ treatment costs are as follows:

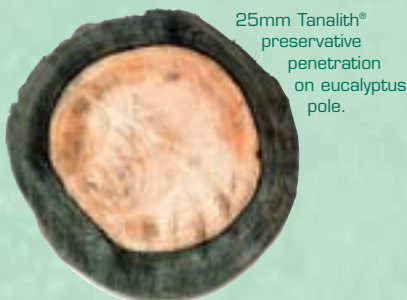
14 metre pole actual cost ex works:

Tanalith®	Creosote
\$118	\$180

In addition, creosote treatment requires increased transport and storage costs due to the large amount of product consumed and no concentrate being available.

Creosote treatment plants are also more expensive to run and maintain because of the energy required to heat the treatment fluid. Moreover, creosote is also aggressive towards the plant itself.

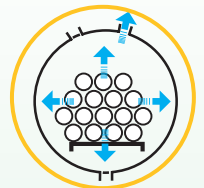
A full list of benefits of treatment with **Tanalith®** is shown on the back cover of this folder.



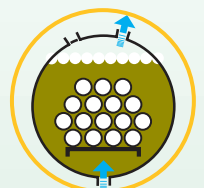
25mm Tanalith® preservative penetration on eucalyptus pole.

The Treatment Process

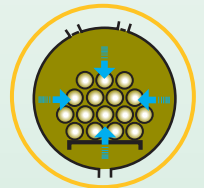
1. Timber is placed in an industrial treatment cylinder and an initial vacuum is created. The timber cells are evacuated of air and the vacuum is held.



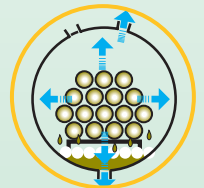
2. The cylinder is flooded under vacuum with **Tanalith®** wood preservative.



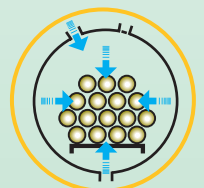
3. Hydraulic pressure is applied, forcing the preservative into the timber cells.



4. A final vacuum extracts excess preservative solution, which is pumped back to storage.



5. Low pressure inside the timber draws in surface preservative solution when vented to atmosphere.



Treated timber is then stored until dry before despatch.



Creosote can leach from treated timber and taint the surrounding environment.



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Standards and References

The current European Standard is EN 12465 - Wood poles for overhead transmission - durability requirements.

EN 12465 refers to EN 351 Part 1, EN 599 Part 1 and EN 252, which relate to field testing. Preservatives used to treat transmission poles must be approved according to the requirements of these Standards, including the need for supporting field test data.

In Europe, as an alternative to traditional CCA, industries are now successfully using Tanalith® E preservative, which meets these Standards. Tanalith® E is now approved by the following international authorities.

USA – AWPA	Japan - JWPA
Scandinavia – NTR	Germany - RAL, DIBt
Australia – ANS	South Africa – SABS
Italy - Italia Telecom	France - CTBA

In Africa, there are several specifications that are in operation.

Most specify that the CCA preservative composition meets the requirements of BS 4072 type 2.

Retention levels shall be at least 20kg/m³ with full sapwood penetration. To meet the Pole Supply Standard both penetration and retention levels must be tested to ensure a 30 year desired service life.

Users

Kenya Power and Lighting Co Ltd.
Ethiopian Telecom Corporation
UMEME Ltd. (Uganda)
Uganda Telecom
Ethiopian Electric Power Corp.
TANESCO (Tanzania)

Providers

Sao Hill Industries Ltd. (Uganda and Tanzania)
Mufindi Woodpoles Plant & Timber Ltd. (Uganda and Tanzania)
Dupaul Wood Treatment (GH) Ltd. (Ghana)
AES Sonel (Cameroon)
Gilgil Telecoms Industries Ltd. (Kenya)
Kakuzi Ltd. (Kenya)
Cabro East Africa (Kenya)
Timber Treatment International (formerly EATEC) (Kenya)

History of CCA

1933 - CCA introduced as the first clean, easy to handle preservative as an alternative to creosote.

1940 - 18,000 poles for telecommunications were treated with CCA in USA. This was the first large scale use by the utility industry.

1945 - Field tests on CCA treated stakes were started in a forest site in Mississippi, USA. Pine stakes have an average life of 1.8 - 3.6 years when untreated.

1949 - Additional CCA stakes were treated and installed at the same site.

1968 - US Dept of Agriculture and other professional bodies sponsor the development for improvement of CCA in construction applications such as foundation poles.

1982 - Tanalith® CCA treated wood in USA is warranted for 30 years against termite and decay damage in residential structures.

1983 - No failures reported from the 1945 field test stakes. 34 year service life is proven. Retention levels still conform to present specifications.

2002 - CCA preservatives in USA and Europe became restricted in their use. New generation preservatives such as Tanalith® E are now providing continued assurance to users of treated timber.

2006 - Supply of CCA is banned in the EU as from 1st September 2006. Chrome and arsenic both classified as very toxic and severe marine pollutants.

In Africa Tanalith® preservative has been supplied for pole treatment since 1950 and is now the number one choice. Over the past 50 years Tanalith® treated poles throughout the world have been subjected to every soil and environmental condition imaginable.

The results prove a long service life of up to 30 years giving a durable, clean, cost effective and safe solution for power and utility poles.



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Benefits of Tanalith® treated poles

- Treated with the most effective waterborne wood preservatives ever developed.
- Complete protection against all wood destroying organisms - including termites.
- Odourless, non-tainting, non-flammable product that is fully compatible with other materials.
- Economical solution for power and utility requirements.
- Anticipated service life up to 30 years.
- Treated poles are safe to humans, animals and plants.
- When impregnated into the timber, the chemical components of **Tanalith®** preservative bond within the wood structure and cannot easily be removed, minimising any ground pollution.
- Poles with a high moisture content treated with **Tanalith®** are easier to impregnate than with creosote.
- Because there is virtually no migration of preservative, remedial ground line treatment is not necessary with ageing **Tanalith®** treated utility poles.
- Pole strength - full-scale testing has shown that **Tanalith®** treated poles meet all specifications required.
- Cleanliness - **Tanalith®** treated utility poles are clean and safe to handle.



Creosote can migrate from treated poles causing contamination problems.



Tanalith® preservative bonds within the timber after treatment and cannot easily be removed.



**Arch
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