

# NORTH WEST 380 kV: GRUPPO BONOMI FOR TENNET



**BONOMI**  
moving energy since 1928



# TENNET'S PROUD SUPPLIER

## INTRO

Gruppo Bonomi has a long experience as **one of TenneT's most valuable suppliers**.

Our reliability both as engineering partner and manufacturer led us to **win of Noordwest 380kV (NW380kV) supplying tender**, with delivery scheduled in the second half of 2021.



# THE PROJECT IN PILLS

Noordwest 380kV (NW380kV), The Netherlands

TenneT's new power transmission line will be built in the **northern part of the Netherlands (Groningen area)**.

**The new 380kV power transmission line** between the 380kV substations Vierverlaten (new) and Eemshaven Oudeschip (existing) will replace the existing 220kV power transmission line between the 220kV substations Vierverlaten and Eemshaven/Robbenplaat (both existing).

The **total length** of the new power transmission line is about **40km**.



Gruppo Bonomi has been **supporting design projects also in T&D market.**

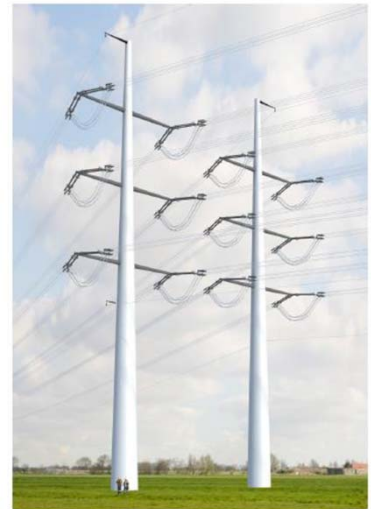
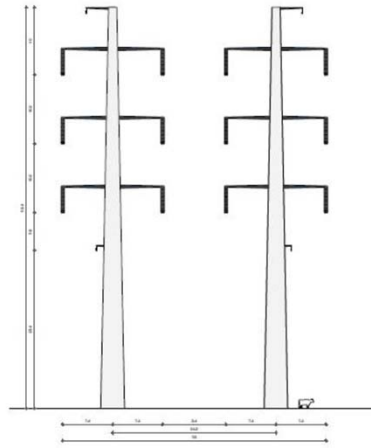
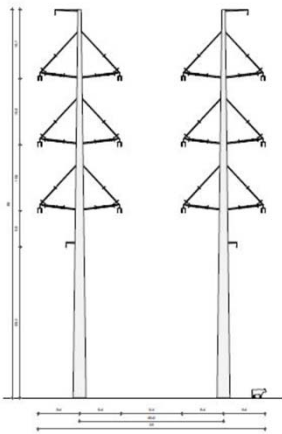
This one by TenneT has actually some specifications which has a lot to tell about **landscape architecture.**

**FEATURES:**

The towers of the new power transmission line has a new design. The slender bi-pole construction, called Wintrack, will minimise the visual impact and reduce the magnetic field zone.

Each tower (at one site) consists of two poles on a single foundation or on two foundations.

The tubular poles shall taper from base to top and have a circular cross section.





# ABOUT OUR INSULATORS

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What we supplied so far

Gruppo Bonomi, i.e. **EB Rebosio Italian plant**, has supported the client at every stage of this project (**from the engineering of the insulators to the very last delivery**).

## ABOUT THE SUPPLY

- 923 post insulators (BUL type), with a 110 bar and a mechanical load of 250kN;
- 923 tension insulators, with a 38 bar and a very high mechanical load of 500kN.

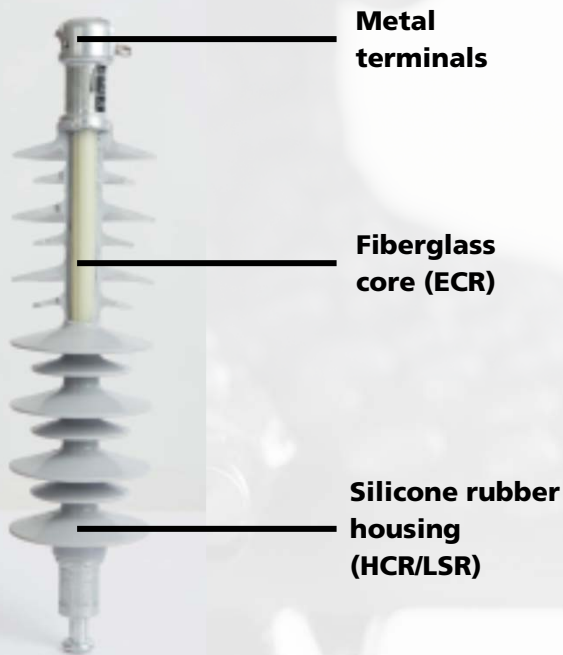


## HOW OUR INSULATORS ARE MADE

In the **1950s Rebosio** is among the first companies in Europe to introduce **Teflon** for the production of insulators, as an alternative to ceramics and glass.

In the 1960s and 1970s **significant investments were made in research and development to improve the material**, while in the 1980s Rebosio strengthened with the standardization of the raw material: **HCR/LSR SILICONE**.

Both these options are subjected to a high temperature vulcanization process (HTV). In the same period, Isoelectric also introduced the use of silicone for the production of insulators.



## MECHANICAL CHARACTERISTICS

The high quality of the fiberglass core and of the terminals their correct sizing allow, through an adequate mechanical compression, to obtain an intimate contact that ensures the mechanical seals that is required by international standards.

## ELECTRICAL CHARACTERISTICS

The high electrical performance of our insulators is given by three key factors, on which the technical energy office invests great attention:

- chemical stability of the cover;
- control of the electric field;
- hydrophobicity of the cover.

## LONG DURATION

Our Isolflon-E insulators have been operating on various lines for over 40 years. We have tested some lots to determine their status after years of activity here are the results:

- the inspected insulators showed no mechanical or electrical changes;
- housing materials tend to regenerate from high environmental pollution;
- there was very high resistance to erosion and trace;
- the high quality of Bonomi's mixture allows the water repellent property of the insulator to be kept constant over time.



# OUR ENERGY REFERENCES







هيئة مياه وكهرباء أبوظبي  
Abu Dhabi Water & Electricity Authority



Électricité Du Liban



الشركة العمانية لنقل الكهرباء ش.م.ع.م  
OMAN ELECTRICITY TRANSMISSION COMPANY S.A.O.C



swissgrid

endesa



enel

Terna



nationalgrid



VIETNAM ELECTRICITY  
EVN Enlightening Trust











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