

INSTRUCTIONS FOR TRANSPORT, UNLOADING, STORAGE, ASSEMBLY AND OPERATION OF COMPOSITE TELETECHNICIAN POLES

I. TRANSPORT

- 1) The party organizing the transport is responsible for properly securing the product during loading and transport. In case of contamination of the poles on the way to the investment site, the obligation to remove it rests with the Employer.
- 2) 2) The transport organizer should ensure that the means of transport is suitable for transporting long items. The transport of transported products must not disturb or pose any danger to road traffic. The person organizing the transport should ensure that the means of transport has:
 - a. Unless otherwise agreed, a transport platform with a minimum length 20% longer than the longest transported element,
 - b. With side sides removed, for loading by forklift, crane or manually.
 - c. Platform transport equipped with tarpaulin in order to cover the transported products for the duration of transport during adverse weather conditions (snowfall, slush, wet road salt), the tarpaulin should be removed immediately after delivery of the goods to the place of unloading, do not store products under the tarpaulin,
 - d. Attested belts made of soft material, meeting the requirements of standards, in order to properly protect products during transport.
 - e. Transport conditions in accordance with Incoterms 2020
- 3) NCT S.A. reserves the right to refuse to load products if the means of transport does not meet the requirements set out in point 2. If the party organizing the transport requests loading despite failure to meet the above requirements, full responsibility for damage caused during transport and the resulting consequences is borne by its own responsibility. NCT S.A. reserves the right to refuse to load products, without incurring any legal and financial consequences, in any case when transport for any objective reason may pose a threat to human health or life.
- 4) In the case of NCT S.A. poles, they should be transported evenly stacked, secured with a packing sleeve.
- 5) Products should not be thrown, dragged or rolled.
- 6) After loading, teletechnician poles should be secured with certified belts, preventing the poles from moving during transport, it is recommended to tighten the transport lanes after driving about 5 km.
- 7) Accessories and other elements should be placed on pallets during transport and properly secured in a way that prevents them from moving or tipping over.

II. UNLOADING

- 1) Unloading should be carried out with particular care, observing health and safety rules in a way that ensures the safety of all persons involved in this process.
- 2) Before proceeding with the unloading procedure, a place for storing products should be prepared (description of a properly prepared place can be found in point III "Storage").
- 3) Unloading should be carried out in such a way as not to damage the unloaded products. It is forbidden to load and unload on the bare forks of the trolley, due to the high risk of damage to the surface of the poles. It is recommended to load manually (in the case of lighter poles) on a car or manually load on secured forks of the trolley using e.g. a pallet and manual transfer from secured forks and laying on the car. In the case of heavier poles, belts can be used, poles can be lifted using an appropriate loading medium and lowered onto the car by laying them flush with spacers that allow the belts to be planted and removed. Do not use for loading and unloading chains, rods, wires, hooks or other means that may damage the surface of poles.
- 4) During unloading, the following not be allowed:
 - dropping products from the car,
 - pulling products on the side of the car or dragging on surfaces that may damage the surface of the pole,
 - hitting the product during movement,
 - any other activity threatening to damage the surface or the entire pole.
- 5) After unloading, check the completeness of all elements included in the set and the condition of the products after transport. Any noticed damage should be documented with a photo and immediately reported to the manufacturer.

III. STORAGE

- 1) The yard, the area where the products will be deposited, must first be cleaned of sharp and hard objects that may damage the stored elements and pose a threat to people working during storage.
- 2) Storage of products should take place in places inaccessible to animals, away from places where chemicals are stored.
- 3) Products should be stored in a dry place on hardened surfaces, do not store directly on the ground. Before laying the columns on the surface, you must first place spacers that guarantee a stable position of the pile.
- 4) It is not recommended to cover or wrap the stored elements with foils or tarpaulins.
- 5) Products should not be thrown, dragged or rolled.
- 6) Stack evenly, according to the arrangement for transport.
- 7) The poles must be unpacked/unwound from the protective foil within 72 hours.
- 8) Components should be placed on pallets during storage.

IV. ASSEMBLY

- 1) Placing and assembly of the poles should be carried out by qualified persons with particular care, observing the health and safety rules in a way that ensures the safety of all persons involved in this process
- 2) Before starting the foundation in the ground, you should check the correctness of the building with the land development project and the construction project.
- 3) Earthworks are carried out in accordance with the Polish Standard PN-86 / B-02480 or the currently applicable standard in the country.
- 4) Before commencing excavations, the Contractor is obliged to check:
 - location
 - utilities of underground terrain,
 - soil and water conditions - in order to select the appropriate method of excavation preparation.
- 5) Changes and deviations from the foundation conditions require the preparation of a project or, if it has been made, consultation and approval of the author of the project.
- 6) The excavation should be made using technology that takes into account the depth of the excavation, terrain, ground conditions in accordance with the construction project, width adapted to the type of trench compaction machines.
- 7) Installation of accessories should be done in a horizontal position or using a lifting device. However, NCT allows the installation of telecommunications devices and/or accessories in a vertical position, on permanently and correctly positioned telecommunications poles. For poles with top forces below 0.7 kN, it is recommended to use a free-standing ladder to avoid excessive load on the pole. When using leaning ladders, the optimal angle of fall is 85 - 75 degrees. It is also important to remember that the support point - the contact between the upper part of the leaning ladder and the body of the telecommunications pole protects against slipping of the ladder itself and scratching or mechanical damage to the pole. Additionally:
 - The support point of a leaning ladder cannot be higher than 0.5 m in front of the top of the pole. The installer should be assisted by another employee.
 - In the case of poles with a top strength of 0.7 kN, the load on the ladder should not exceed 100 kg.
 - The installer should have valid and appropriate licenses to work at heights, required in a given country.



Illustrative graphic Free-standing ladder



Illustrative graphic leaning ladder

7) **Installation of a teletechnician pole** requires the following steps:

- 1 Carry out the installation of the pole accessories, the installation height of the cable suspension accessories should be made in accordance with the construction design, but not higher than 15 cm from the top of the pole.
- 2 Preparation of a suitable excavation:
 - a) For the use of standard or cement-sand backfill - prepare a hole with a minimum depth equal to the nominal foundation depth of the pole and a width that allows free foundation of the pole. The width of the excavation must allow compaction of the soil in layers every 30 cm,
 - b) For the use of native soil - prepare a hole with a minimum depth equal to the nominal foundation depth of the pole and a width that allows free foundation of the pole,
 - c) For the use of resin assembly mass - only for poles with a maximum active height of 7 meters. Make a borehole in the coherent native soil, using a specialized drilling rig with a diameter adapted to the diameter of the installed pole and a minimum depth equal to the nominal foundation depth.
- 3 With the help of workers (in the case of light poles) or a lifting device equipped with belt slings made of plastic, the pole should be fixed in such a way as not to damage the external surface and place it in the trench.
- 4 Level the column (using a spirit level) and then fill the hole:
 - a) When using a standard or cement-sand backfill - backfill with a standard backfill with a grain size of 0-31.5 (natural crushed aggregate) or a cement-sand mix. The backfilled material should be compacted in layers approximately every 30 cm using a combustion jumper until the soil compaction index I_s is obtained in the range of 0.95 to 1.02
 - b) When using native soil - backfill with material obtained from the excavation and then pour water before compacting the soil, this will result in better compaction of the soil. After backfilling the excavation, the native soil (set aside from the outer layer) should be scattered around the perimeter of the pole up to 15 cm above the ground, with a slope outwards to the outline line of the filled excavation,
 - c) When using a resin assembly mass - only for poles with a maximum height of 7 meters. Follow the instructions for use of the Product Technical Data Sheet (Appendix 1).
- 5 The pole placed in a vertical position should be supported with slings or with the help of employees until its underground part is backfilled to the ground level and the backfill and the soil around it are compacted, or after about 15 minutes from filling the hole in the case of using a resin assembly compound.
- 6 Fastening the telecommunications line using an lifting device or a ladder (operation in accordance with Chapter IV, point 7 of this document).

V. INSPECTIONS AND MAINTENANCE

Long-term and safe use will ensure that this instruction is followed.

It is recommended to carry out regular operational inspections.

INSPECTIONS AND MAINTENANCE

- 1) The use of the product and the warranty period begin when the correct assembly is completed in accordance with the manufacturer's instructions.
- 2) Under pain of losing the warranty imposed by the manufacturer, during the operation of the products it is not allowed:
 - In the harness type of additional loading of the structure not in accordance with the manufacturer's recommendations, contained in the data sheets and/or technical specifications of products. The installation of additional elements such as road signs, Christmas decorations, information boards, etc., is possible only with the written consent of the manufacturer.
 - In making any alterations or repairs to the structure.
- 3) It is recommended to carry out a detailed operational inspection at least once every two years.
- 4) If irregularities are found, it is recommended to correct the foundation of the pole in accordance with the above assembly instructions. If mechanical damage is found, posing a threat to safe operation, it is imperative to contact the manufacturer.
- 5) If mechanical damage to the structure is detected, contact the manufacturer.