

ASSEMBLY INSTRUCTION FOR STEEL GALVANIZED POLYGONAL POLES

1- SCOPE

For galvanized steel polygonal poles;

- Foundation.
- Unloading of the poles.
- Assembly of the poles.
- Erection of the pole to the Foundation (Anchor Bolt).

2- APPLICATION for

Polygonal galvanized steel poles.

3- INSTRUCTION

3.1- PREPARATION of the FOUNDATION

After your order prepare your foundation according to the project provided to you.

- Perform excavation if necessary.
- Perform molding if necessary.
- Perform reinforcing acc. to the project.
- Establish anchor bolt by using templates.
- Pour the concrete. Enti recommends minimum 7 day wait after concrete is poured for proper curing.

Pole foundation types:

- reinforced
- concrete caisson.
 - pad foundation.
 - pier type foundation.
 - mat foundation.

IMPORTANT: Provide your soil report to the designer.

The anchor bolts and templates will be provided by Enti. Templates are for orientation purposes of the anchor bolts.



For more picture visit <http://www.enti.com.tr/FotoGaleri.htm> or www.highmast.net

For detailed info about template and anchor bolt visit <http://www.enti.com.tr/destek.htm> or <http://www.highmast.net/destek.htm>

3.2- UNLOADING

When delivering the poles to assembly site, special care should be taken during the unloading to prevent any damage to the pole or its component parts.

Necessary equipment for unloading:

- Required capacity Crane
- Required capacity rope.
- Hard wood lumber.
- Minimum 2 people.

IMPORTANT : Never roll the poles off the truck or drop the sections on the ground.

Poles should be unloaded at the proper location and aligned as required for easy installation.

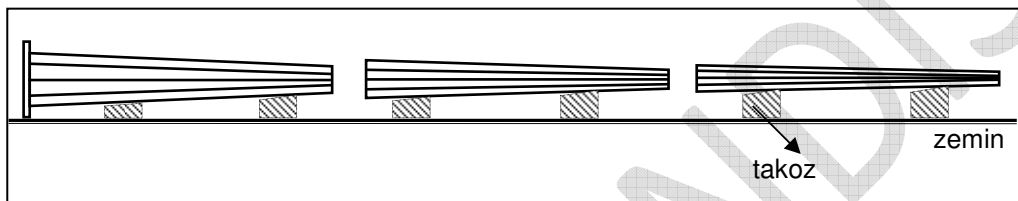


Figure-1

3.3- SLIP JOINT ASSEMBLY – joining the pole parts

Slip joint assembly is used for poles that have more than one piece.

Required Equipments;

- Required capacity Crane
- Required capacity rope.
- Hard wood lumber.
- Adequate capacity rope.
- Big hammer.
- Minimum 3 people.
- Jacking device. (Tirfor/Gripchoist)

The proper amount of joint overlap required (design overlap value), L: 1.5 times of the diameter of the female part.

Tolerance: Overlap in the range of 10% less than the design value as well as 10% over the design value is acceptable.

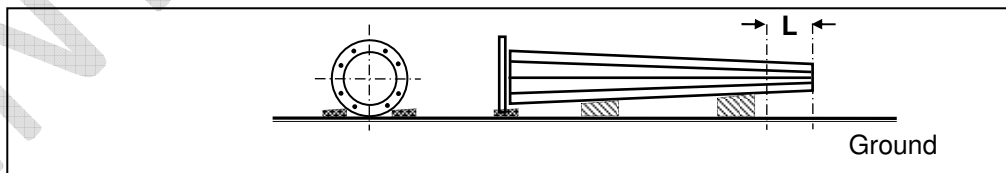


Figure-2

The male tube section should be marked with chalk or non-permanent marker to indicate the proper overlap into the female tube section. Prior to jacking, check the inside of the female slip joint for galvanizing debris or other debris. Debris may form a wedge during slip joint assembly and may inhibit achieving proper joint overlap.

Several methods are available for jacking the pole tube sections together depending on the pole design, section sizes, and the availability of equipment. Mechanical jacking devices are acceptable.

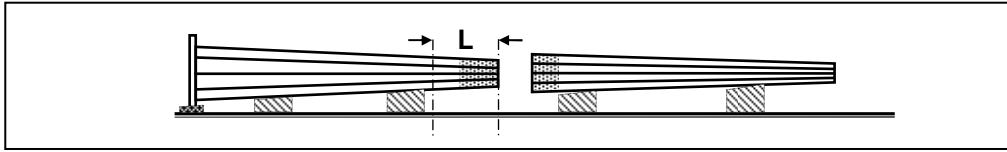


Figure-3

Lubricants applied to the slip joint may be used at the contractor's discretion. Care should be taken to not use a lubricant that will leak from the assembled slip joint and stain the galvanized finish. Soapy water may be utilized, however, a heavier lubricant like water soluble clear grease may prove to be more effective. The contractor will assume all responsibility for any stains to the pole finish.

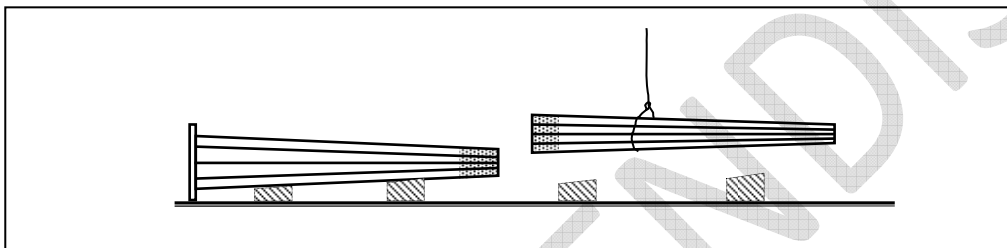


Figure-4

The female tube section should be aligned and its large end slipped over the small end of the male tube section. The longitudinal weld seams must be aligned the full length of the pole. The pole tube sections should be worked up and down to help bring the sections together. The alignment and pulling force must be even and steady. The pulling will be facilitated by flexing the joint either by lifting the small end of the pole slightly, or by lifting the joint slightly. The slip joint should be pulled until the application of additional pulling pressure produces little or no movement. The minimum and maximum insertion should be within +/- 10% of the design slip joint per the provided by Enti.

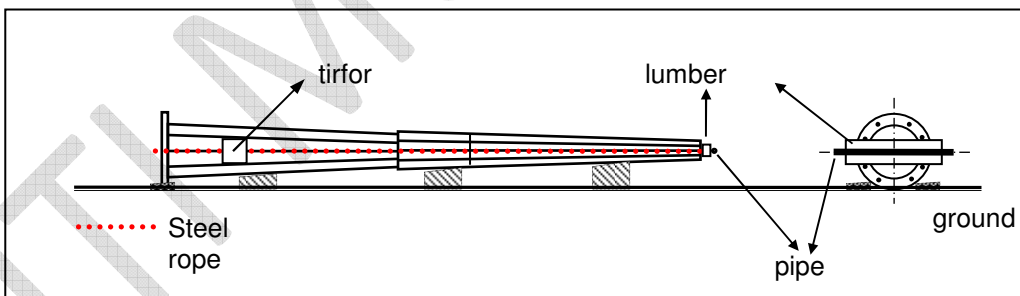


Figure-5

Equal forces should be applied by the two tirfor simultaneously.

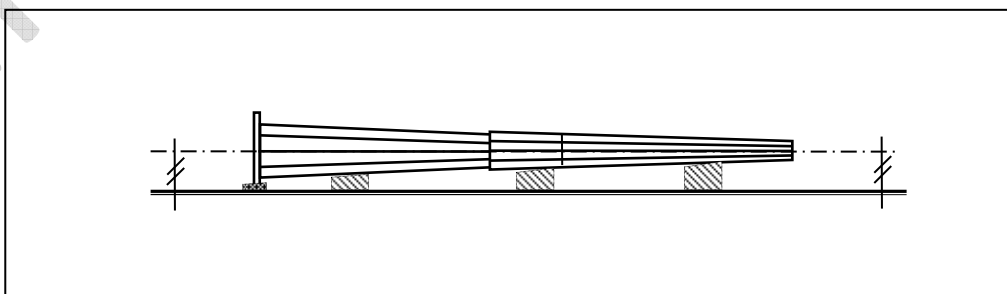


Figure-6



3.4- INSTALLING ACCESSORIES

Install the accessories (Platform, ladder, etc.) while the pole on the ground.

3.5- FOUNDATION ERECTION

Preparation of the nuts of the anchor bolts.

Aligning nuts: 4 nuts will be above the others. These nuts will be used to plumb the pole while erection. See Figure-7.

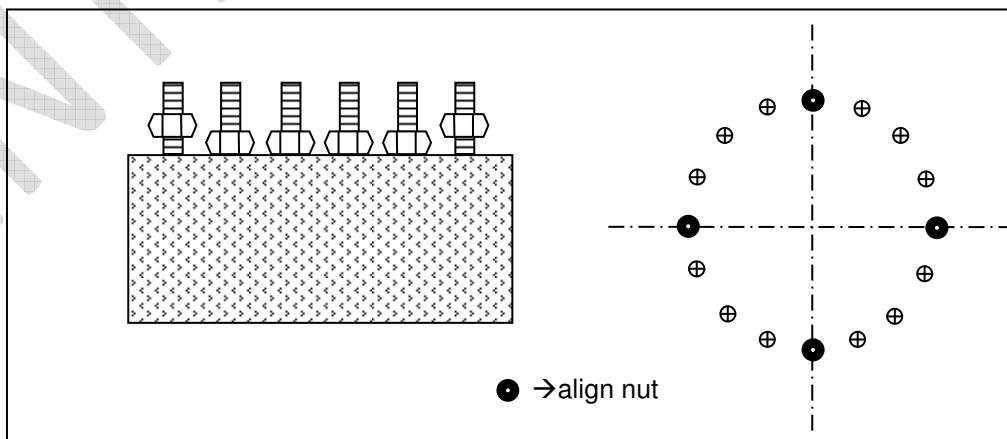


Figure-7



The base of the pole must be fixed to the crane lift position to prevent slip off the part while lifting. See Figure – 8.

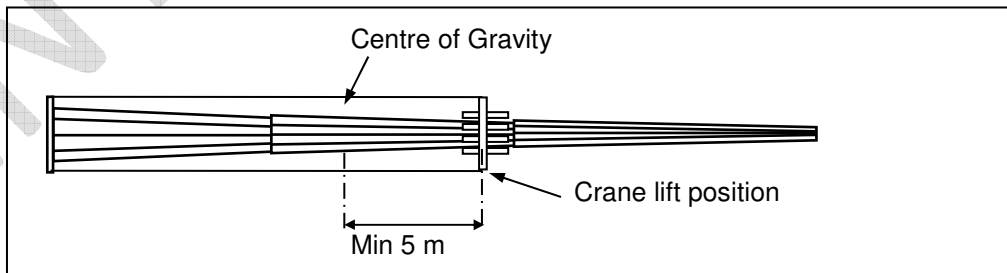


Figure-8

Crane Selection

Parameters:

- Pole length,
- Pole weight,
- Accessories,
- Ground topography,

IMPORTANT: Ask for advice for Crane number and selection.

