



GMA Ground Machinery Applications AB
Box 21
686 21 Sunne
SWEDEN

The Thorbolt comes with an adaptor/sleeve, with a thread length of 40mm. Thread for rebar according to customer's demand.

Job description mounting Thorbolts in drill holes facing upwards

1. Measure and mark a distance of 40 mm on the rebars threaded end.
2. Assemble the rebar and with the Thorbolt. Pull together by using a fixed plier and a pipe wrench. The fixed plier is attached to the recess in the adaptor/sleeve.
3. Check that the rebar is tightened all way to the mark on the rebar thread was made according to point 1.
4. Assemble distance springs or equivalent on the rebar according to instruction.
5. Attach the evacuation tube with the plastic hose. The plastic hose is pressed on the evacuation tube about 25mm and pulled along the rebar up to about 30 mm from its end. Attach the plastic hose with wire or tape to the rebar. Note! Tape near the end of the plastic hose so it can't fold and prevent the evacuation (in top of rebar).
6. Bring the rebar with the Thorbolt into the drilled hole. The rear rubber part of the Thorbolt shall be inserted about 10-20 mm into the drill hole (measurement for std.length of Thorbolt = 42 cm).
7. Expand the rubberpacker with nut. Tight the nut firmly, use about 140-150 Nm torque. If needed tighten the packer once more before grouting.
8. Assemble the hose nozzle for the grouting material. Inject the grouting material. Adjust the pressure to mountain coverage and geology. VCT according to instructions.
9. At first, air and water come out of the evacuation tube, when clean grouting material comes out, bend the pipe so it will be dense. Then continue to pump grouting material until a predetermined pressure alt. quantity is reached.
- 10 Disassemble the hose nozzle. **NOTICE! Disassemble the nut and tension tube only when the grouting material has solidified (to avoid ejection of the Thorbolt/rebar). **Combi-coated Thorbolts, are delivered without locking washers to avoid damage to the corrosion protection.****
11. Fill the area between the Thorbolts' rubber part and the dome plate with a clod of cement / concrete (the space between the dome plate, rock and Thorbolt rubber shall be completely filled with concrete).