CLAIMS

1. Method for producing a trench wall element in the ground, in which a trench is produced in the ground through removal of ground material by means of a removal device and a hardening medium is introduced into the trench in order to form the trench wall element,
   wherein
   - between the removal device and a carrier device at least two ropes are tensioned, for which the respective positions of at least two vertically spaced rope points of a rope are ascertained through angle and distance measurements by means of a measuring device, and
   - in that the ascertained positions of the rope points are used to determine a location of the removal device in the ground.

2. Method according to claim 1,
   wherein
   at least one of the ropes is a support rope, on which the removal device is suspended.

3. Method according to claim 1,
   wherein
   a depth location of the removal device in the ground is ascertained and used to determine the location of the removal device.

4. Method according claim 1,
   wherein
   the removal process is interrupted prior to ascertaining the positions of the rope points.

5. Method according to claim 1,

wherein

the ropes are tensioned prior to ascertaining the positions of the rope points.

6. Method according to claim 1,

wherein

more than two ropes are provided, on which the respective positions of at least two rope points are determined.

7. Method according to claim 1,

wherein

between two rope points the position of at least one third rope point is determined as a measurement checkpoint.

8. Method according to claim 1,

wherein

for angle and distance measurement a tachymeter is used as a measuring device.

9. Method according to claim 1,

wherein

a position of the measuring device and/or of the removal device is determined in relation to a construction site coordinate system.

10. Method according to claim 1,

wherein

by means of an inclinometer an inclination of the removal device to the vertical is measured.

11. Method according to claim 1,
wherein
by means of an evaluation means the location of the removal device is indicated and/or an instruction for a correction of location is given by making use of the data of the measuring device.

12. Method according to claim 1,
wherein
the location of the removal device is controlled automatically with a control means by making use of the data of the measuring device.

13. Arrangement for producing a trench wall element in the ground with
- a carrier device,
- a removal device suspended on the carrier device for removing ground material to produce a trench in the ground and
- an introduction means for introducing a stabilizing medium into the trench,

wherein
- between the removal device and the carrier device at least two ropes are tensioned,
- a measuring device is provided, through which the respective positions of at least two vertically spaced rope points can be ascertained by means of angle and distance measurements for the at least two ropes, and
- in that an evaluation means is provided, with which a location of the removal device in the ground can be determined by making use of the data of the measuring device.

14. Arrangement according to claim 13,
wherein
the measuring device is arranged in a spaced manner from the carrier device.

15. Arrangement according to claim 13,
wherein
an indication means is provided which indicates the location of the removal device by making use of the data of the measuring device.

16. Arrangement according to claim 13,
wherein
a control means is provided for automatically controlling the removal device by making use of the data of the measuring device.

CLAIMS

1. Method for producing a trench wall element in the ground, in which a trench is produced in the ground through removal of ground material by means of a removal device and a hardening medium is introduced into the trench in order to form the trench wall element,
   wherein
   - between the removal device and a carrier device at least two ropes are tensioned, for which the respective positions of at least two vertically spaced rope points of a rope are ascertained through angle and distance measurements by means of a measuring device,
   - the ascertained positions of the rope points are used to determine a location of the removal device in the ground, and
   - for angle and distance measurement a tachymeter is used as a measuring device.

2. Method according to claim 1,
   wherein
   at least one of the ropes is a support rope, on which the removal device is suspended.

3. Method according to claim 1,
   wherein
   a depth location of the removal device in the ground is ascertained and used to determine the location of the removal device.

4. Method according claim 1,
   wherein
   the removal process is interrupted prior to ascertaining the positions of the rope points.

5. Method according to claim 1,

wherein
the ropes are tensioned prior to ascertaining the positions of the rope points.

6. Method according to claim 1,
wherein
more than two ropes are provided, on which the respective positions of at least two rope points are determined.

7. Method according to claim 1,
wherein
between two rope points the position of at least one third rope point is determined as a measurement checkpoint.

8. Method according to claim 1,
wherein
a position of the measuring device and/or of the removal device is determined in relation to a construction site coordinate system.

9. Method according to claim 1,
wherein
by means of an inclinometer an inclination of the removal device to the vertical is measured.

10. Method according to claim 1,
wherein
by means of an evaluation means the location of the removal device is indicated and/or an instruction for a correction of location is given by making use of the data of the measuring device.

11. Method according to claim 1,
wherein

the location of the removal device is controlled automatically with a control means by making use of the data of the measuring device.

12. Arrangement for producing a trench wall element in the ground with
- a carrier device,
- a removal device suspended on the carrier device for removing ground material to produce a trench in the ground and
- an introduction means for introducing a stabilizing medium into the trench, wherein
- between the removal device and the carrier device at least two ropes are tensioned,
- a measuring device is provided, through which the respective positions of at least two vertically spaced rope points can be ascertained by means of angle and distance measurements for the at least two ropes, and
- in that an evaluation means is provided, with which a location of the removal device in the ground can be determined by making use of the data of the measuring device.

13. Arrangement according to claim 12,
wherein
the measuring device is arranged in a spaced manner from the carrier device.

14. Arrangement according to claim 12,
wherein
an indication means is provided which indicates the location of the removal device by making use of the data of the measuring device.

15. Arrangement according to claim 12,
wherein
a control means is provided for automatically controlling the removal device by making use of the data of the measuring device.