UNIPASS STATIC ROCK BOLT

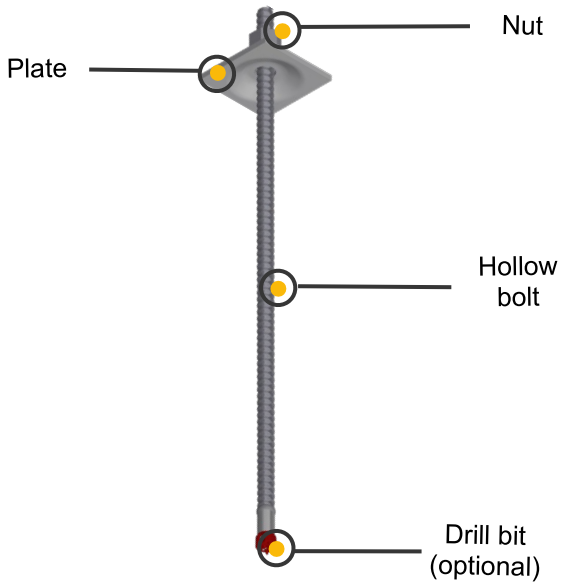
DESCRIPTION

The UniPass static bolt is intended for use in static rock conditions. The bolt comprises a fully threaded hollow bar.

The bolt can be installed in self-drilling mode, using a sacrificial drill bit (one step method) with the drill bit welded to the bolt, which minimises the annulus around the bolt, providing optimal bonding and reducing grout consumption. A range of cross and button drill bits is available.

The bolt can also be installed in pre-drilled holes.

The grouting agent (CarboThix resin or cementitious grout) is injected through the central hollow section of the bolt into the borehole and fills the annulus between the bolt and the borehole wall.



ADVANTAGES

- Developed for applications in hard rock mining and tunnelling
- Ideal solution for applications in difficult ground conditions, including broken ground and collapsing boreholes
- High advance rates in one step self-drilling mode
- Injectable with bulk resin or cementitious grout
- Extensively tested in the field and laboratories
- Proven system being applied in various mines around the globe
- Various configurations available to meet local requirements

APPLICATION

There are two options for the installation of the bolts:

One step application

Bolts can be installed in self-drilling mode, with a sacrificial drill bit. This is the preferred method to maximise the bolting efficiency, especially in unstable ground conditions with collapsing boreholes.

The installation process consists of the following steps:

1. Roto-percussive drill the hollow bar with plate and nut mounted
2. Pull back the drilled bolt and grip the bolt beneath the plate
3. Disconnect the shank from the rock bolt
4. Pull the hammer back to the near end of the feed and slide in the resin injection adapter
5. Push the resin injection adapter to the front and connect to the bolt
6. Open the grippers and push the bolt into the hole
7. Start the injection process and keep pumping the resin until it becomes visible at the borehole collar
8. Maintain feed pressure on the bolt until the resin is cured (20 to 40 seconds)
9. Remove the injection adapter and the feed
10. Tighten the bolt nut (if required)

Two step application

If boreholes are stable, bolts can be installed in pre-drilled holes following stages 5 to 10 above.

MECHANICAL DATA

Product	Length [mm]	OD [mm]	Cross section [mm²]	Ultimate Load [kN] 2)	Yield Load [kN] 2)	Elongation A_{gt}	Elongation at failure A_t	Borehole dia. recommended [mm]	Thread specification
R28 hollow bar	2400/ 3000 1)	28	436	300	240	≥ 5%	≥ 9%	34	R28 according to ISO 10208 (LH)
R28 nut	50/60 3)	46 4)	-	300	-	-	-	-	
R28 coupling	110	37	432	300	-	-	-	42	
R28 plate	150 x 150	Various thicknesses and shapes available							

All geometrical values are nominal

1) Other lengths on request

2) Ultimate Load and Yield Load are minimum values; cross section calculated based on nominal mass

3) Standard nut / Lock nut

4) Width across flats

HANDLING AND STORAGE

Components (hollow bars, nuts, couplings, drill bits and head plates) should be delivered to the construction site in undamaged manufacturer packaging.

Suitable lifting means, hoists and transportation shall be used for unloading and storing.

Components should be easily accessible for inspection and identification purposes.

Components should be safeguarded against any mechanical damage.

All steel parts and packed materials should be protected against corrosion. Store them clear of the ground, covered and protected against weather and soiling.

Components should be used according to the delivery sequence to reduce the risk of corrosion (first in – first out).

PACKAGING AND TRANSPORTATION

Bolts are supplied in bundles of 50 pcs. Nuts are either pre-mounted or supplied in cardboard boxes (50 pcs). Plates are supplied on pallets.

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