

SWELLEX ROCKBOLTS ®

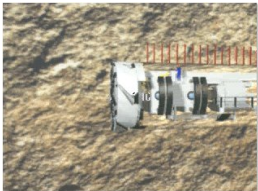
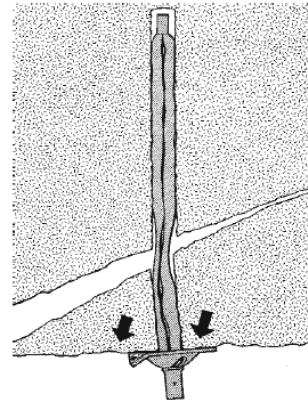


Swellex ® rockbolts are designed to provide excellent support in strata consisting of hard competent to weak fissured rock as well as soil ranging from clay to sand. The effectiveness of the Swellex Rock Bolts in a wide range of ground conditions makes the system as one of the best solution to meet the demands of rock reinforcement applications in mining and civil engineering.

Applications

in Mining

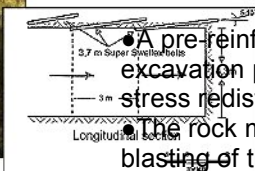
- Swellex is the most cost-effective rockbolt in mining operations, both in development and cultivation works.
- Swellex grips to the irregularities of the drilled hole and gives immediate full-column, full loading capacity.
- Swellex can accommodate large ground movement and shear displacement.
- Manual installation is easy, fast and does not require heavy equipment.
- With mechanized bolt installation, Swellex dramatically reduces unproductive time, problems and wear part consumption of bolting rigs.
- Swellex is insensitive to blasting and variations in bore hole diameter.
- Swellex is versatile and can be used in any excavation geometry.



Swellex and TBM

Modern hard rock TBMs have immense thrust and torque, with high production rates. However, in poor or very poor ground, traditional TBM utilization decreases by as much as 60 %, and with it the production. Rock reinforcement acts as a major bottleneck. In these applications, the Swellex Bolting System has proved its effectiveness for solving problems. features of Swellex bolts are highly valuable. Swellex can be used in a variety of ground conditions, are insensitive to water inflow and vibrations, and the length of the Swellex can almost be equal to the diameter of the tunnel. Excavation size is a key parameter in the stability of underground openings in rock, and the larger the excavation, the less stable the roof tends to be. In very poor rock masses, large excavations have an unsupported stand-up time inferior to the minimum time required to support the roof after the blast.

Spiling/Face Stabilization



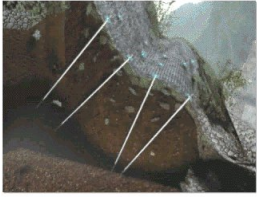
- A pre-reinforced rock mass will be less damaged and influenced by the excavation process, namely the blasting and the elastic and non-elastic stress redistribution.
- The rock mass is never without support, even at the split second following blasting of the round
- The support can be more active when installed early, rather than passive when installed later.
- Pre-reinforced ground will not deteriorate or collapse as rapidly as a totally unsupported excavation, allowing a safe working period for installation of regular support.

Swellex rockbolts can be efficiently used as a pre-reinforcement system in order to improve productivity and safety while excavating mining tunnels in roof, or to prevent caving from a nearby fault zone. The method is fast, improves safety and can be easily integrated into development operations.

Rock Mechanics
Division Turkey
Representative of

Atlas Copco

Slope stabilization/ Soil Nailing



Pit walls and rocky slopes often present large fractures and open cracks, loose blocks and hanging wedges resulting with the large quantities of grout can disappear into the voids. Swellex bridges open cracks and anchors the rock on either sides of the crack. With Swellex, slopes can be contained and drained at the same time.

In soft rock and soil the expansion of Swellex increases compactation of the surrounding material, obtaining high load capacity even in loose material.

Wire mesh can be installed at any time on pre-installed bolts with the simple mesh washer available with Swellex.

The Swellex high pressure pump can be used to perform a fast, inexpensive and non-destructive quality control test, even long time after the installation.

For more technical information please see below ;

Premium Line



Swellex® Premium Line is engineered to provide safety and productivity in areas where stiff rock bolting is expected to work within its elastic range and to minimize the deformation in and around the excavation. Improved yield and breaking load values extends the use of well known Swellex concept into applications where the design requires higher work load from a bolt. A special steel composition coupled with the inherent Swellex advantages; offer perfect installation, immediate support on the entire length and an ideal bolt for demanding excavations.

[Swellex Pm 12](#)

[Swellex Pm16](#)

[Swellex Pm24](#)

[Swellex Pm24C](#)



Manganese Line

Swellex Manganese Line products are recommended for rock support in mining, tunneling and civil engineering applications, where a wide range of rock reinforcement capacities is needed.

[Swellex Mn12](#)

[Swellex Mn24](#)

[Swellex Mn16](#)

Standard Line

[Swellex Standard](#)

[Swellex Coated](#)

Plates & Washers

[Swellex Mn Face Plates](#)

[Swellex Mn Mesh Washers](#)



Swellex Equipment

Swellex Pumps

[PSP 300](#)

[ESP A51 MKII b](#)

[HC1](#)

Quality Assurance Tools

[Pull Tester](#)

[Gauges](#)



Rock Mechanics
Division Turkey
Representative of

Atlas Copco