


# Fluid Rock Drilling with the MINI-JET MJ 1600

Swiss made 



# TERRA MINI-JET MJ 1600

## Fluid Rock Drilling

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### Job site description

In St.Gallen, Switzerland a new power line was laid in rock. Space was limited. Therefore the contractor Stefan Klammsteiner decided to use his HDD pit machine TERRA MINI-JET MJ 1600.

The 20 m (66 ft) long pilot bore went through pure rock. This made Fluid Rock Drilling with the TERRA-ROCK 65 necessary. The TERRA-ROCK 65 is driven by compressed air, water is added into the air, the newly developed "TERRA Rock Add 1304" is mixed into the water.

The pilot bore took around one day. Then the directional rock bit of the TERRA-ROCK 65 was replaced by a hole opener to expand the bore channel in a second operation.

### Fluid Rock Drilling

The TERRA-ROCK Air Percussion Head is driven by compressed air. The air pressure should be 12-14 bar (175 - 200 psi). If you operate a 7 bar (100 psi) compressor, we recommend to increase the air pressure to 9 - 10 bar (130 - 145 psi).

Water is added to the compressed air. In advance the additive "TERRA Rock add 1304" is mixed into the water.

This drilling fluid is escapes at the directional rock bit and prevents a plugging of the air exhaust holes in the drill bit. This allows the operation of the TERRA-ROCK air percussion head even in mixed grounds and in clay.

Rock Add 1304 increases the drilling speed in rock.

Rock Add 1304 stabilises a bore channel, even in non-rocky ground like mixed grounds or clay.

Rock Add 1304 ensures the continuous backflow of the dismantled ground and cuttings.

Rock Add 1304 is environment friendly. The fluid drill mud must not be disposed.



Pic. 1: View into the starting pit



Pic. 2: Installation of the pit machine into the starting pit



Pic. 3: Mixing of the additive "Rock Add 1304"



Pic. 4: View onto the drill path



Pic. 5: Start of the pilot bore



Pic. 6: The split rod wiper prevents that the pit machine gets dirty by the blown out cuttings.



Pic. 7: The pilot bore has reached the target pit. The TERRA-ROCK is disassembled and prepared for the hole opening.

# Backreaming

Job site description

Pic. 8: The TERRA-ROCK 65 with assembled hole opener. This hole opener increases the diameter of the bore channel.



Pic. 9: These cuttings are broken by the TERRA-ROCK 65, mixed with the drilling fluid and blown backwards by the blow-out adapter along the 20 m (66 ft) long bore channel.



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