MasterRoc RBA 728
Cement-based cartridges for fully grouted or part grouted rock anchors

Product description
MasterRoc RBA 728 cement cartridges represent a new cementitious non-shrink grout designed for rapid installation of rock anchors of high tensile steel, bolts of continuous screw type, or for cable bolts. This dry pre-mixed cement grout is encapsulated in a water permeable wrapping. Once the grout capsule is saturated in water it becomes a fast setting thixotropic grout and is easily inserted in the anchoring hole.

Fields of application
MasterRoc RBA 728 are developed to anchor rebar or dowels in concrete or rock. They can be used for civil engineering, mining or geological projects with plain, threaded or deformed bars. In civil tunneling and mining the product can be used:
- For fully grouted or partly grouted rock bolts and cable anchors
- Where full bolt load capacity must be reached within short time.
- For permanent bolts where non-shrink mortar is needed for corrosion protection

Features and benefits
- No toxic emanation or fumes in application
- No classification needed for transport
- Ready for use and time saving
- No product mixing on site
- Fast setting and strength development
- Very high final strength
- Shrinkage compensated mortar
- No mixer or pump needed, no equipment cleaning
- Rapid and simple installation procedure
- Chloride free system
- Quality controlled system of work

Package
NOTE: Customer tailored. When ordering, please ensure that the cartridge diameter and length required is clearly stated.

Technical data
Compressive strength of cement cartridges mortar (water/cement ratio of 0.35, at 20 ºC):
- 2 hour 15 MPa
- 6 hour 25 MPa
- 1 day 35 MPa
- 3 day 50 MPa
- 28 day 65 MPa

Setting time (water/cement ratio of 0.35, at 20 ºC):
- Initial setting 4 min
- Final setting 10 min

Note: The information presented is based on testing performed under laboratory conditions. Variations can be expected in the field and this must be considered and if necessary tested locally in practical cases. Early load capacity of a bolt will also depend on the bolt length actually embedded in grout, the diameter difference between bolts steel and bore hole and the temperature.

Application procedure
- Open the box and take out the required number of cartridges
- Place the cartridges in a container with water, and leave until no more air bubbles can be seen (approx. 1 min, the w/c will be 0.3)
- Insert the cartridges into the borehole. Use a suitable wooden pole or similar to squeeze the cartridges against the borehole end to ensure that they do not slip or fall out.
- Insert the bolt steel using the rock drilling
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Machine for rotation and forward pressure until the full bolt length has been installed.
- This will break the cartridge package and mix the mortar (water/cement ratio of 0.3), ensuring a complete annular space mortar filling.
- About 10 minutes after installation the cement paste will set and the accelerated hardening process will start.

For optimal application results, the ambient and rock temperature should be within the range of 5 and 40ºC.
Make sure that the water used for soaking the cartridges is of adequate quality to avoid introducing chlorides or other harmful components to the mortar.

Consumption
The consumption of cartridges depends on which grouted length that is required, borehole diameter and bolt diameter. Sometimes, weak rock may also cause local oversize of the bore hole, leading to higher consumption of grout (or shorter grouted length). Generally, one should check that the volume of grout cartridge is equal to or higher than the volume of annular space, both taken per unit length of bolt.

Storage
Cementitious material is sensitive to humidity. Shelf life is 1 year if stored in original, unopened boxes between +5°C to +40°C and protected from rain or direct water drips.

Safety precautions
The product has no toxic components, but contains cement and will react with water. It can inflame eyes and skin. In the case of direct contact with eyes, rinse several times with water, do not rub eyes and see a doctor. Wearing rubber gloves, dust mask and safety glasses is highly recommended. Keep away from children. For further information please refer to the Material Safety Data Sheet.

Technical service
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