

MINING / CONSTRUCTION

Expansion shell cement bolts

TYPE AP-KRC-Ø42/Ø22-M24

DESCRIPTION

The bars are made from reinforced ribbed bar of $d_r=21,70$ mm of AP770 steel.

The expansion shell $\varnothing 42/M24$ with a diameter of $\varnothing 42$ mm is used to fix the bolt in the hole.

There are special sleeves (bulb) with a diameter of $\varnothing 65$ mm and plastic pumping pipe. For these sets 8mm thick round and square washers are applied with a hole of $\varnothing 54$ mm.



APPLICATION AND USE

Expansion shell cement bolts type AP-KRC- $\varnothing 42/\varnothing 22-M24$ are designed to be used:

- For roof and ribs support in mine working areas as an independent or secondary support system
- In tunnels

ADVANTAGES

- Technical solution dedicated to the tunnelling sector, guaranteeing separation of the steel bolt from the rock with the use of a plastic pipe
- The use of HDG and powder coating provides long-term anti-corrosion protection

TECHNICAL DATA

Parameter	Value
Rod diameter	$d_r = 21.70$ mm
Rod length	M24
Rod length	from 1300 to 6000 mm (or other acc. to customer need)
Shell diameter	$\varnothing 42$ mm
Strength bolts $d_r=21.70$	min 290 kN
Strength thread M24	min 270 kN

APPLICATION METHOD

1. Drill a hole of a diameter \varnothing 43÷45 mm and length equal to the rod length.
2. Insert the rod and then rotate it in order for the shell to expand. To expand the shell, a torque of at least 250 Nm should be applied.
3. Insert pumping hose into the \varnothing 15 hole in connecting sleeve.
4. Prepare cement-water mixture of ductile consistency.
5. Start pumping mortar through the injection head controlling air outflow.
6. Keep pumping until mortar flows out from the hole in the washer.

The injection material for the bolt setting is a water and cement mixture. Cement should be CEM brand and minimum 32.5R I class.

- Recommended volume proportion:
water - 3 volumes / cement – 7 volumes
- Weight proportion:
water / cement = 0.3

Fill up mixer with water on slow rotation and then add the cement and increase rotation when mortar is getting thicker. When consistency becomes homogeneous, pump the mortar into the bolting holes.

Attention! The recipe should be changed according to the geological conditions encountered.

PACKAGING AND TRANSPORTATION

As a standard practice, anchor poles are packed in bundles of 10pcs or in bundles of 100-300pcs and plates are stapled with 10pcs of wire.

Other packaging options available on request.

Expansion shells and plates are placed in containers and elements of the bolts can be transported by any means of transport in bundles or in containers.

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