



## EXPANSION SHELL HADES TYPE KE-4W/M20 , KE-4W/M24 , KE4-2K/M20 , KE4-2K/M24

### APPLICATION

Expansion shell heads type KE-4W/M20 ; KE-4W/M24 ; KE4-2K/M20 ; KE4-2K/M24 Are parts of expansion Shell bolts and are designed as designed to be used for roof and ribs support in mine working areas as an independent or secondary bolting support system and for attachment of various components of mining equipment.

### TECHNICAL SPECIFICATION

Expansion shell heads are elements which set the bolt in the borehole.  
Head components are :

Head type	Shell	Wedge	Spring $\varnothing$ 37
KE-4W/M20 KE-4W/M24	4 pcs	1 pcs	2 pcs

Head works with the rod of min 80 mm thread.

Head type	Shell	Wedge	Spring $\varnothing$ 37
KE4-2K/M20 KE4-2K/M24	4 szt	2 szt	2 szt

Head works with the rod of min 170 mm thread.

### TECHNICAL DATA

Expansion shell heads type KE-4W/M20 ; KE-4W/M24

Specifications	Value
Head diameter	$\varnothing$ 42 mm
Head length	93 mm
Wedge thread	M20 dla KE-4W/M20 M24 dla KE-4W/M24
Capacity	min 100 kN

Expansion shell heads type KE4-2K/M20 ; KE4-2K/M24

Specifications	Value
Head diameter	ø 42 mm
Head length	136 mm
Wedge thread	M20 dla KE4-2K/M20 M24 dla KE4-2K/M24
Capacity	150 kN

## INSTALLATION PROCEDURE

Drill a hole of  $\varnothing 44 \pm 0,5$ mm in diameter and length equal to the length of the bolt.

Reassemble the bolt by placing the washer and head on the rod. Insert the bolt into the hole and push until the washer rests against the rock surface. Rotate the rod and as a result the shell expands in the hole. Tighten the bolt by applying at least 250 Nm torque in order to obtain the prestress of at least 30kN.

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