

Expansion shell for rock bolt



Expansion shells are used with various types of rock bolts, for example combination bolts such as PC and NC bolt. Gives immediately working support and provides excellent anchoring in hard and medium-hard rock types.

Stock programme:

Thread /type	Surface	Hole diameter Ø (mm)	Weight (kg/pc)
M20 / 32-36	HDG	Ø32-33	0,25
M20 / 32-36	Galvanized	Ø32-36	0,38
M20 / 36-40 oversize	Galvanized	Ø36-40	0,43
M20 / 36-40 extra oversize	Galvanized	Ø36-40	0,43
M20 / 40-44 oversize	Galvanized	Ø40-44	0,43
M20 / 45-48 oversize	Galvanized	Ø45-48	0,64
M20 / 64-68 oversize	Galvanized	Ø64-68	1,65
M22 / 45-48 oversize	Galvanized	Ø45-48	0,64
M22 / 54 oversize	Galvanized	Ø54	0,81
M27/45-48 oversize	Galvanized	Ø45-48	0,61
R27 / 45-48 oversize	Galvanized	Ø45-48	0,58
M33 / 64-68 oversize	Galvanized	Ø64-68	1,65
R32 / 64-68 oversize	Galvanized	Ø64-68	1,65
R38 / 64-68 oversize	Galvanized	Ø64-68	1,65
R27 / 64 oversize	Galvanized	Ø64-68	1,65

Technical information:

Bail type expansion shell with conical nut and wedge-shaped jagged leaves. Most shells have oversized thread to fit bolts with PC Coat. Exceeds load capacity of bolt when anchored in hole of suitable diameter and rock quality. Pull out test on site is recommended for verification of anchoring capacity. Galvanized or hot dip galvanized surface. Hot dip galvanized surface can decrease the anchoring capacity negatively.

Installation guideline

The hole should be drilled to at least the length of the bolt. The expansion shell must be screwed onto the end of the bolt so it's in line with the rear of the conical plug. Normally the plastic ring falls off from the expansion shell when entering the bolt into the drill hole. However, if this does not happen it can be removed from the expansion shell prior to installation. Insert the bolt all the way in so that the spherical plate (when used) is touching the rock surface. The bail holding the blades on the expansion shell will adapt to the borehole creating resistance against the rock surface. Give the bolt a firm pull to activate the shells before tightening the nut. When the nut is rotated the bolt will be pulled outwards and the threaded plug is fixated firmly between the leaves of the shell. The bolt is now temporarily anchored and can be pretensioned.

Caution! Like other mechanical anchors, there is a risk of reduced pretension due to vibrations for example from blasting. For such applications the bolt might have to be re tensioned.