

ROCK REINFORCEMENT

Normet ERB Expandable Rock Bolts



Normet ERBs are hydraulically expandable rockbolts comprising of omega-profile steel tubes that expand within the support hole, providing immediate full-length frictional anchorage and reinforcement. ERB offer rapid installation rates and are typically installed as temporary roof and rib support in tunneling, mining and civil engineering applications.

The bolts are made up of a welded steel tube folded into an omega shape in cross-section, with welded bushings at the ends to close the openings.

WORKING PRINCIPLE

The folded tube is inserted into a pre-drilled hole and expanded by injecting high pressure water into the bolt, pressing the tube against the borehole walls, and generating radial pressure on the surrounding rock.

This profile expansion generates a combination of frictional and mechanical interlocking along the bolt-rock interface, providing strong anchorage along the full bolt length.

ERB is suitable to both manual and mechanized installations and is ideal for applications requiring a fast support installation rate.

BENEFITS

- > Easiness of installation
- > High Productivity: 50% faster than typical rock bolts
- > Instant anchorage after expansion, no grouts or resin needed.
- > They are suitable for varied ground conditions
- > Full-length anchorage and load distribution
- > Can accommodate large rock displacements while maintaining load-bearing capacity.
- > The radial pressure exerted by the expanded bolt compresses the surrounding rock, radially pre-stressing the rock mass and enhancing the stability and integrity of the opening.

RANGE AND SPECIFICATIONS

Description	ERB 120	ERB 160	ERB 240
Tube Thickness (mm)	2	2	3
Bolt Diameter (mm)	28	38	38
Original Tube Diameter	41	54	54
Hole Diameter (mm)	32 - 39	43 - 52	43 - 52
Min Breaking Point (kN)	120	160	240
Min Yield Point (kN)	90	140	200
Min Elongation (%)	ERB	15	15
	ERB +	20	20
Typical Elongation (%)	ERB	25	25
	ERB +	30	30

Normet ERBs are available 120 kN, 160 kN, and 240 kN capacities. Each capacity is available in Standard and Plus versions which have the same tensile capacity but different elongation capacity to suit specific ground conditions.

ERB 240s are also available in Light versions which offer the same tensile capacity as a standard 240 but has lower tube thickness resulting to a lighter product for improved transport and handling ergonomics.

