

Pc-Bolt R27/15 Combination Bolt/Rock Support

Combination bolt designed for immediate and permanent rock support



Pc-Bolt R27/15 combination bolt for rock support. The bolt is used with an expansion shell for immediate work safety support. The bolt is subsequently grouted for permanent anchoring. The bolt is approved by both the Norwegian Public Roads Administration and Norwegian National Rail Administration for use as combination bolt/rock support bolt in tunnels.

Stock program:

R27x1500* R27x4000*

R27x2400* R27x5000*

R27x3000*

* Supplied with the expansion shell fitted

Technical information:

Material: 41Cr4/40Cr compliant with DIN EN 10083-3

Heat treated in accordance with GB/T 16923

Material tube diameter 26 x 15 mm

Thread length: R27 over entire length (the threads are cold rolled)

Weight: 2.78 kg/m

Specifications:

Reference drawing PTC-219 series

Characteristic values:

| Dimension: | Tension area A _s Thread | Yield ReH | Tensile Rm | Ductility Agt |
|------------|---------------------------------------|----------------------------|----------------------------|------------------|
| R27x15 | 319 N/mm ² | Min. 500 N/mm ² | Min. 600 N/mm ² | Min. 8% |

Minimum load capacity:

Point anchored: Yield: 159kN Failure: 191kN

Fully grouted: Yield: 159kN Failure: 191kN

Typical test values show that we achieve approx. 200 kN for both shear and tension at failure load. Tests done at SINTEF. Recommended torque on hexagonal nut against half ball: 200-300 Nm. This normally generates 40-60 kN of bolt tension. Recommended torque on Dome nut against spherical plate: 200-400 Nm. This normally generates 20-40 kN of bolt tension.

Corrosion protection/Pc-Coat

Hot-dip galvanization is carried out in compliance with NS-EN-ISO 1461 and epoxy powder coating in compliance with NS-EN 13438. With regard to coating thickness and further information, please see Document Q/PTC-T19A – Specification for Pc-Coat – SVV/JBV. Please also refer to the Pc-Coat Product Data Sheet and accompanying FDV documentation.

Grouting: Typical water/cement-ratio is 0,3-0,4. For more detailed information, please see own brochure "Grout recommendations" on www.pretec.no.

Recommended drilling:

Drill diameter: 45-48mm

Drill depth: Bolt length + 150mm

Accessories:

Spherical bearing plate with holes for evacuation of air and expansion shell R27x45/45-48 zinc plated.

Dome nut R27 with integrated half ball and joint sleeve for extension of bolt is available.

Pc-Packer to be used in the event water ingress to the borehole. See own product data sheet on www.pretec.no.