SANDVIK

Connectable Omega-Bolt® 240/240 C

Product code: OBC
Product specification: Mining and tunneling
Category: Friction bolts / Inflatable

Introduction

Omega-Bolt® is manufactured from high-strength steel to assure high loading capacity and good elongation. Omega-Bolt® can accommodate large ground movement and can be utilized to stabilize underground excavation even in weak rocks. Omega-Bolt® is produced with modern tube-forming technology and 100% robotic assembly under strict quality control procedures. After two decades of experience, Omega-Bolt® now features a “full-open gap profile”, which allows the best quality of corrosion protection, avoiding areas with a too thin or too thick coating. Connectable Omega-Bolt® extend the use of inflatable friction bolts to secondary rock reinforcement or to any application where anchoring length is higher than excavation height. Connectable Omega consists of individual sections that are joined together via “R” type thread connections to reach the required length.



The system is formed by three design options:

— Injection Section featuring an Omega Bolt injection ferrule (ø41 mm) + a male R32 top connection
— Middle Section featuring a female R32 connection at the bottom + a male R32 connection top connection
— Blind (Top) Section featuring a female R32 connection at the bottom + a blind end cap at the top

Omega-Bolt® 240 kN

Blind	Middle	Injection
		

DSI Underground Merol Sp. z o.o.
ul. Przemysłowa 30
37-450 Stalowa Wola
Poland

Phone +48 15 8425008
E-mail info.dsimerol@sandvik.com
mining.sandvik/groundsupport

Date: 12.2021
Version

Suggested configurations for Omega-Bolt® 240

Sections	Comments
Injection + Blind	Most effective, this combination reduces the number of couplers and total cost
Injection + Middle + Blind	Most common and successful combination. Recommendable up to 12 m in total
Injection + Multiple Middle + Blind	Available to solve cases where only a short section can be used. Max 12 m in total

Main advantages

— Possibility to reach up to 12-meter-long rock bolt, even in 3x3 m or 4x4 m mining drifts
— Valid alternative for cable bolting if no cable bolting equipment is available or grout curing time is an issue
— Third generation of “R” couplers, featuring a new seal design, granting the O-ring to remain in correct position
— Easy installation, with low torque equipment
— Low sensitivity against vibrations caused by nearby blasting works
— Ability to maintain load-bearing capacity even in case of evident rock deformations
— Safe and easy installation, even in case of water-bearing formations
— No additional grouting materials required for installation
— Excellent to compensate for uneven borehole diameter
— Immediate rock support

Technical specifications

Nominal Loading Capacity kN [1]	Elongation A12 [2]	Required borehole diameter mm	Water pressure for inflation bar
240	>10 %	48÷51	300

1) Tensile test performed on the entire bolt, after profile inflation, i.e., simulating real condition after rock bolt’s installation
2) Elongation measured on expanded profile, simulating real working conditions after installation

Omega-Bolt® 240 C - Thermoplastic coating for corrosion protection and improved service life

Major parts of Omega-Bolt® are delivered in black steel and are intended for temporary rock reinforcement in corrosive environment, or when a longer service life is required. Sandvik Ground Support offers a corrosion-protected version, where the entire rock bolt is covered by a scratch-resistant and flexible thermoplastic coating. The thermoplastic coating is applied evenly to all surface parts, thanks to advanced spraying technology. A specially developed “full-open gap” profile creates a physical barrier to prevent water and corrosive elements from attacking the external steel surface Omega-Bolt®.

Type of coating - Thermoplastic Powder fused on steel surface

Chemical resistance in acid conditions (up to 60 °C)	Excellent	ISO 2812 and ISO 4628
Chemical resistance in alkane conditions (up to 60 °C)	Excellent	ISO 2812 and ISO 4628
Coating thickness on profile	≥150 µm	
Coating thickness on inflation bushing	<300 µm	
Durability (*) in class Im3	>15 years	ISO 12944 part 6, underground conditions
Durability (*) in class C5-M	>15 years	ISO 20340, for offshore applications

DSI Underground Merol Sp. z o.o.
ul. Przemysłowa 30
37-450 Stalowa Wola
Poland

Phone +48 15 8425008
E-mail info.dsimerol@sandvik.com
mining.sandvik/groundsupport

Date: 12.2021
Version

Omega-Bolt® full product range of bolts and accessories

- Omega-Bolt® 240 – 240C for extra loading capacity
- Omega-Bolt® 120 kN, the most popular mining bolt, 35-38 mm boreholes
- Omega-Bolt® 160/200: cost-effective solutions for 45-51 mm boreholes
- Complete range of flat and domed face plates, including the innovative Omega Opti-Plate 120
- Eye-ball to facilitate installation in broken ground, centralizers to facilitate installation through mining mesh, and ASTM color-code plugs
- Pneumatic, electric, and hydraulic high-pressure inflation pumps and chucks for manual or mechanized installation

Legal disclaimer

All dimensions, weights, quantities, and specifications are those applicable at the time of this publication and may be amended from time to time. Please contact your local representative for final confirmation of any key specifications.

DSI Underground Merol Sp. z o.o.
ul. Przemysłowa 30
37-450 Stalowa Wola
Poland

Phone +48 15 8425008
E-mail info.dsimerol@sandvik.com
mining.sandvik/groundsupport

Date: 12.2021
Version