

Posimix resin bolt system

Category: Dynamic solid bolts

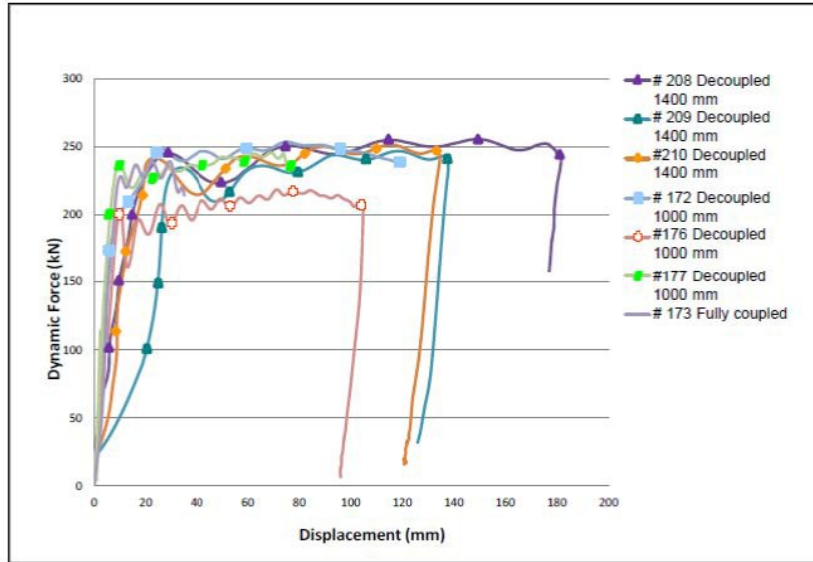


Physical properties

	Minimum		Typical	
Yield Strength	540MPa	160kN	615MPa	185kN
Tensile Strength	660MPa	195kN	725MPa	215kN
Calculated Shear Strength	120kN		130kN	
Standard Elongation	16%		19%	
Uniform Elongation			12%	
Mass Per Meter			2.47 Kg	
Bar Diameter			20.0mm	
Cross Sectional Area of Bar			300mm ²	
Major Bar Diameter			22.1mm maximum	

Key features

- Developed specifically for dynamic support in seismic and ground conditions
- The 20mm debonded Posimix bolt system is designed to allow for a specified amount of ground deformation according to the rock mass demand requirements.
- The system is fully resin encapsulated with various debonded lengths available on the bolt for particular mining situations. The debonded region of the bolt means the majority of the energy is dissipated by deformation of the bolt within this region.
- The debonded Posimix section is provided in lengths of 1m-1.4m for most practical mining applications.
- Extensive dynamic testing has been completed by the WA School of Mines.
- The Posimix bolting system was designed to assist in the installation of rock bolts with chemical anchors in larger diameter holes 35-38mm by providing:
 - Substantially enhanced mixing of the chemical anchors
 - Increased load transfer capabilities
 - Ability to be installed with a face jumbo as well as hand held machines
- The Posimix device centralizes the bolt in the hole allowing an even distribution of the chemical anchor around the bolt. It also acts as an Archimedes screw pump forcing the chemical towards the back of the hole, assisting in mixing whilst consolidating the anchor for improved load transfer properties.
- Recommended hole size is 35-38mm in diameter
- Corrosion protection alternatives to hot dip galvanizing may be provided.



Energy dissipation Posimix bolts

Sample Number	Bolt Length	Debonded Length	Deformation at Discontinuity	Energy Dissipated	Test Result	Demand Category Application
	mm	mm	mm	kJ		
173	2400	0	35	7	Rupture	Low
172	2400	1000	115	26	Rupture	Medium
176	2400	1000	96	21	Stable	Medium
177	2400	1000	77	27	Rupture	Medium
208	2400	1400	171	42	Stable	High
209	2400	1400	113	29	Stable	High
210	2400	1400	128	33	Stable	High

Installation guidelines

- The rock bolt hole is drilled as per mine support designs.
- Hole depth is critical. Hole depth should be shorter than the bolt to allow for the height of the washer and nut.
- After insertion of the resin anchors the bolt is rotated through the anchors while being pushed to the back of the hole. In the case of full encapsulation, anchors of different setting times are often used and the higher speed anchor is to be inserted first followed by the slower speed anchors.
- It is important to follow the resin anchor recommended mixing and hold times as printed on the resin anchor cartons. DO NOT OVER MIX.



To watch a video demonstration of the Posimix Bolt product, scan the above code with a QR Code Scanning App available on your smartphone

Product accessories examples

- We manufacture a comprehensive range of plates specifically designed for this range of Bolts.

Typically, plates used are:

Products

Product Group	Star Plates	Dome Plates	Butterflies	OSRO Strap
Product Imagery				

Standard length & packaging

- Standard bolt lengths range from 1500 to 3000mm in 300mm increments.
- Non-standard lengths are available by negotiation.
- Bolts are packaged in bundles with threads protected by heavy duty polythylene bags.
- Bolt fittings, such as nuts, anti-friction washers and dome balls, are supplied fitted to rock bolts in the configuration requested.

Notes

- Only DSI Underground rock bolt components should be used to enable the optimum performance of the bolt system to be obtained.
- Assistance should be sought from Technical Services Engineers in selection of the correct Posimix bolt for the application together with its product code.
- It is Quality Assured to ISO 9001:2015.

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.

Scan to get our app



iOS



Android