

# POSIMIX RESIN BOLT SYSTEM

**TB**

20MM DEBONDED BOLT

Product Code Guide	Bolt Type	Diameter	Length	Drive Nut & Accessories	Coating	Packaging
	TB	2	240	DFPHHPDB1	G	

## 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 Metre	2.47kg			
Bar Diameter	20.0mm			
Cross Sectional Area of Bar	300 mm <sup>2</sup>			
Major Bar Diameter	22.1mm maximum			

## Key Features

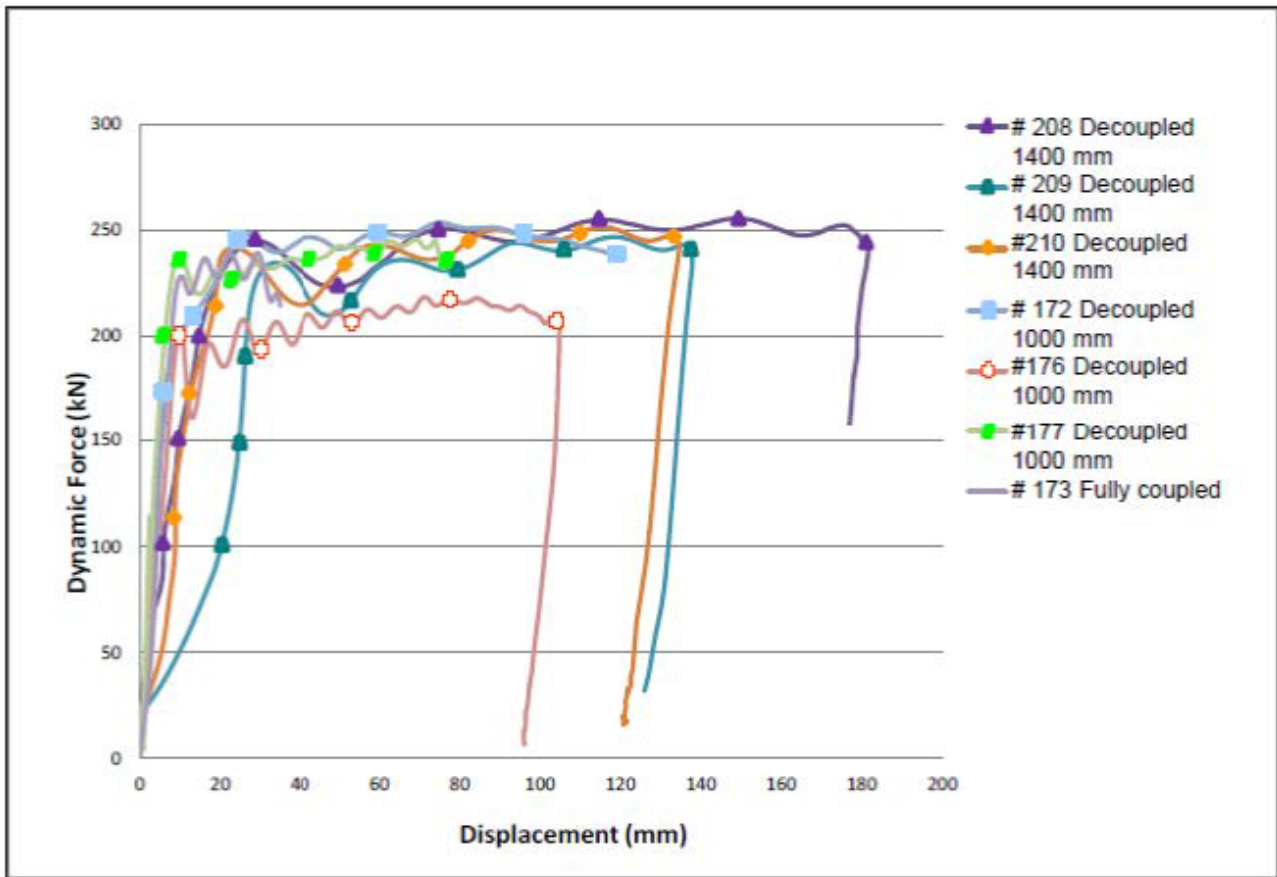
- The 20mm debonded Posimix bolt system is designed to allow for a specified amount of ground deformation according to the rock mass demand requirements.
- The system is fully resin encapsulated with various debonded lengths available on the bolt for particular mining situations. The debonded region 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.



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BOLT SYSTEM**

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Dynamic load-displacement response on various decoupled Posimix configurations



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

# T24 POSIMIX RESIN BOLTING SYSTEM

**TB4**

Ø24MM POSIMIX BOLT

Product Code Guide	Bolt Type	Diameter	Length	Drive Nut & Accessories	Coating	Packaging
	TB	4	240	DFPHHPDB1	G	100

## Physical Properties

	Minimum		Typical	
Yield Strength	500MPa	211kN	575MPa	244kN
Tensile Strength	600MPa	254kN	680MPa	288kN
Shear Strength (0.7 x UTS)	167kN		181kN	
Uniform Elongation	10%		12%	
Mass Per Metre			3.4kg	
Cross Sectional Area			433mm <sup>2</sup>	
Bar Core Diameter			Ø23mm	
Major Bar Diameter			Ø25mm	

## Key Features

- The 24mm 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.
- 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 handheld 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.



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## 20MM DEBONDED BOLT

### 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.**


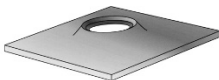




To watch a video demonstration of the Posimix Bolt product, scan the above code with a QR Code Scanning App available on your smartphone

### Product Accessories Examples

- DSI Underground manufactures a comprehensive range of plates specifically designed for this range of Bolts.
- For the full range refer to our product catalogue on our App; available on iOS and Android devices by searching "DSI Underground".

**Typically, plates used are:**

Product Group	Products			
	Star Plates	Dome Plates	Butterflies	OSRO Strap
Product Imagery				
Product Code Prefix	STP	D	BUTT	OS

### 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 DSI Underground Technical Services Engineers in selection of the correct Posimix bolt for the application together with its product code.
- DSI Underground is Quality Assured to ISO 9001:2015.



ROCK BOLTS > SOLID BAR

Product Code Prefix

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20MM DEBONDED BOLT

## Phone APP

Want to know more; our full product range, knowledge centre, and other details are available via the App; available on iOS and Android devices by searching "DSI Underground".



iOS



Android

**DSI Underground**  
25 Pacific Highway  
NSW 2290 Bennetts Green  
Australia

**Phone** +61 2 49489099  
**Fax** +61 2 49484087  
**E-mail** [sales@dsiunderground.com.au](mailto:sales@dsiunderground.com.au)  
[www.dsiunderground.com.au](http://www.dsiunderground.com.au)

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*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 DSI Underground representative for final confirmation of any key specifications.*