SANDVIK

Versamix

Product code: VMX
Product specification: Ø22mm Resin bolt for squeezing and dynamic ground conditions
Category: Solid bolt – dynamic solid bolt

Introduction

The Versamix is a high performance dynamic resin bolt, ensuring excellent resin mixing, rigid anchoring and delivering high elongation properties for dynamic performance. This bolt has a unique, highly robust all-steel design and provides a smooth decoupled mid-region for dynamic elongation, without the need for a debonding sheath. The dual spring design ensures mixed resin is retained within the bore hole - and working in conjunction with the bar paddle features, provides excellent top and bottom end-anchoring of the installed system.



Key features

- Posimix spring and paddles at the toe end and collar optimized for resin mixing, retention and anchoring.
- The Posimix device centralizes the bolt in the borehole 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 borehole, assisting in mixing whilst consolidating the anchor for improved load transfer properties.
- Smooth 1400mm long section in the middle for resin debonding (2400mm long bolt).
- Dynamic Capacity has been measured above 50 kJ, with stable test outcomes and displacements up to 200mm - refer to the Dynamic Performance Chart below. Factors of safety need to be applied.
- Option of hot dip galvanized coating for corrosion protection.
- M24-LH 200mm long thread assembled to a pin nut and ball washer.
- Used with a dragonfly plate, standard resin capsules and standard installation spanner.

Product Code Guide

Bolt Type	Diameter (mm)	Length (cm)	Coating
VMX	22	240	G

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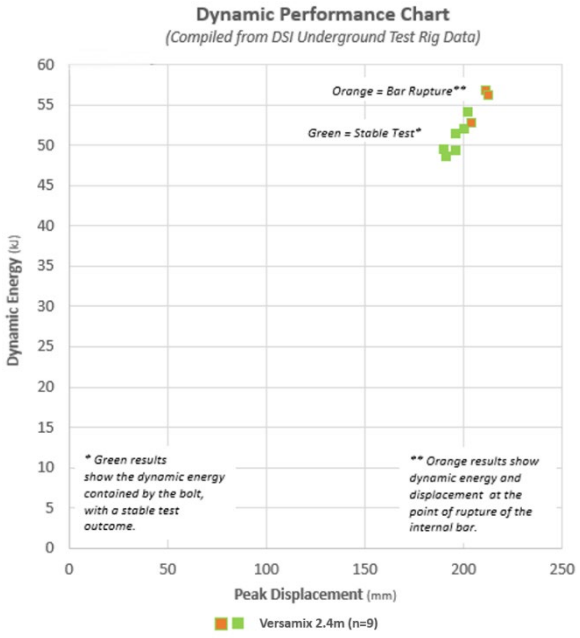
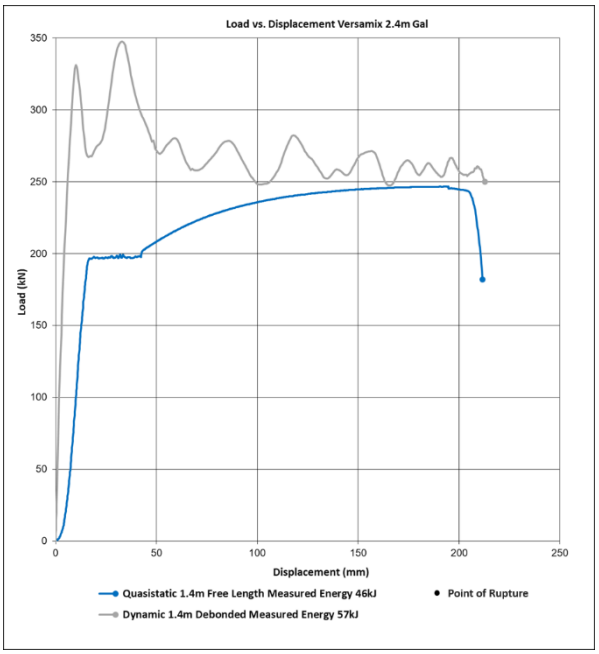
Date: 19.03.2025

Physical Properties

	Minimum		Typical	
Yield Strength Bar	TBA	TBA	558 MPa	207 kN
Tensile Strength Bar	TBA	TBA	680 MPa	254 kN
Measured Shear Force Bar		161 kN		
Elongation Bar Typical		22 %		
Mass Per Metre Bar		2.9 kg		
Diameter Bar		21.7 mm		
Cross Sectional Area Bar		370 mm^2		

Indicative Dynamic Performance





Installation/applications

- The rock bolt borehole is drilled as per mine support designs.
- Recommended borehole Ø 35–38mm.
- Borehole depth is critical. Borehole depth should be 100mm shorter than the bolt to allow for the height of the washer and nut.
- 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.
- After insertion of the resin capsule the bolt is rotated left hand through the capsule while being pushed to the back of the hole.
- Hold as per resin anchor guidelines.
- Rotate nut left hand to break pin and tension bolt.
- It is important to follow the resin anchor recommended mixing and hold times as printed on the resin anchor cartons. DO NOT OVER MIX.

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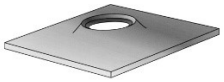
Packaging

Versamix bolts are supplied in standard packs of 100 bolts.

Product range and accessories

- Standard bolt length is 2400mm.
- Non-standard lengths are available by negotiation.
- We manufacture 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 “Ground Support”.

Typically, plates used

Product Group				
Product Imagery				
Product Code Prefix	STP	D	BUTT	OS

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.

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