



**JENNMAR**

PRODUCT CATALOGUE

HARDROCK

MISSION STATEMENT

VISION

To be the safest and most innovative Australian manufacturer relentless in the pursuit of employee and customer excellence.

MISSION

To be a responsible employer and leading innovator of sustainably manufactured high quality products for mining, industrial and infrastructure markets. Accountable to our stakeholders by creating employee and customer excellence, and positive outcomes for all.



Contacts

Anthony Dodds

National Manager - Hardrock
E-mail: adodds@jennmar.com.au
Mobile: 0427 488 442

Brendan Crompton

National Technical Manager - Hard Rock
E-mail: BCrompton@jennmar.com.au
Mobile: 0427 415 057

Steve Pisarskis

WA Mine Service Representative
E-mail: spisarskis@jennmar.com.au
Mobile: 0429 362 363

Brad Williams

WA Mine Service Supervisor
E-mail: bwilliams@jennmar.com.au
Mobile: 0473 181 947

Charlie Kenny

Cobar Mine Service Representative
E-mail: ckenny@jennmar.com.au
Mobile: 0427 775 133

Max Wallace

Broken Hill Mine Service Representative
E-mail: mwallace@jennmar.com.au
Mobile: 0439 315 647

Peter Gilby

VIC/NSW Mine Service Supervisor
E-mail: pgilby@jennmar.com.au
Mobile: 0409 033 680

Paul Horne

VIC/NSW Mine Service Representative
E-mail: phorne@jennmar.com.au
Mobile: 0408 859 007

Bill Kingdom

QLD Mine Service Representative
E-mail: bkingdom@jennmar.com.au
Mobile: 0457 101 080

Contacts

Administration

Head Office and Plant

40-44 Anzac Avenue
Smeaton Grange NSW 2567
Phone: 02 4648 7537
Fax: 02 4648 7555

Matthew Berry

Commercial Manager
E-mail: mberry@jennmar.com.au
Mobile: 0408 269 658

Blair Moses

National Safety & Environmental Manager
E-mail: bmoses@jennmar.com.au
Mobile: 0455 612 821



Accreditations

Jenmar Australia is certified as compliant with the following standards:



OHS
ISO 45001



Quality
ISO 9001



Environment
ISO 14001



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ROCK BOLTS & ACCESSORIES



Rock Bolts

Falcon Bolt

The FALCON BOLT represents a shift in design philosophy by aiming to provide an innovation on installation methodology. Adoption underground has demonstrated the FALCON BOLTS' viability as an innovation that can enhance safety and efficiency of ground support operations by providing faster installations, immediate pre-tension, and reduced manual handling.



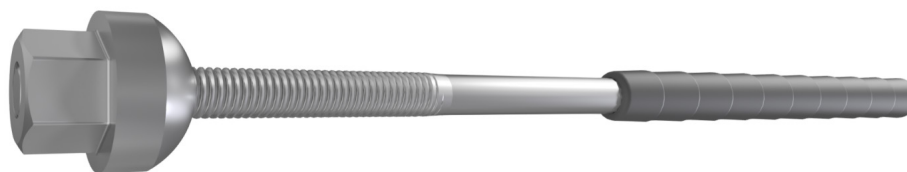
Features:

- Rapid one pass installation achieves time savings in bolting cycle
- Increased installation efficiency
- In-line grouting or post grouting using resin or cement
- Installations up to 9 m possible, an excellent alternative to cable bolts
- High dynamic capacity options
- Decreased manual handling
- Available in a range of lengths from 2 m to 9 m
- Compatible with a variety of cementitious and polymeric grouts and resins
- Compatible with Jenmar's resin injection technology

Property	Unit	R32X	R32S	R32E	R32 MPA
Ultimate Yield Strength	kN	≥ 500	≥ 360	≥ 280	≥ 300 (smooth zone)
Yield Strength	kN	≥ 450	≥ 280	≥ 230	≥ 250 (smooth zone)
Elongation at Break	A100	≥ 6%	≥ 6%	≥ 15%	≥ 20%
Nominal Outer Diameter	mm	32			
Nominal Internal Diameter	mm	12	17	17	17
Mass per metre	kg / m	4.4	3.5	3.5	3.5

Rock Bolts

Yield Lok® Bolt 23 mm



Features:

- The Yield Lok Bolt is designed for high seismic demand conditions utilizing its simple patented engineered polymer ploughing design to dissipate over 50kJ of energy
- Dynamically tested at multiple dynamic test facilities with complete independent test and installation data available on request
- Yielding not effected by resin / grout properties, hole diameter or encapsulation length
- Softer energy absorption system than compared to steel stretch options
- Consistent and repeatable results
- Bolt performance can be changed to suit varying geotechnical domains
- High shear stiffness and strength
- No rig changes required for Jumbo installation and also suitable for handheld methods
- Available with a range of shear pins to suit required break out torque

Property	Unit	Minimum Value	Typical Value
Bar Yield strength	kN	200	245
	MPa	517	633
Bar Ultimate tensile strength	kN	267	328
	MPa	688	844
Cross sectional area	mm ²	-	405
Elongation	%	7	9
Mass/meter	kg/m	-	3.2
Recommended hole size	mm	36-40	

Rock Bolts

J-Tech® 25 mm Bolt



Features:

- Left hand continuously threaded bar, with 6 mm pitch allowing higher tension for a given torque
- Available as debonded version, or plain bar with a number of possible configurations of accessories
- Suitable for use with either resin capsules or cementitious grout
- Resin shredder actively promotes shredding of the capsule film and mixing of the resin components while centralizing the bolt in boreholes up to 40 mm
- Alternative paddle resin mixing device also available for smaller hole diameters
- Available with a range of shear pins to suit required break out torque
- Range of dollies and accessories including couplers and 3T Hanger Nuts available
- Supplied with Kanga Plate which collapses when the bolt goes into yield
- Available in plain or hot dipped galvanised corrosion protection

Property	Unit	Minimum Value	Typical Value
Bar Yield Strength	kN	215	245
	MPa	500	565
Bar Ultimate Strength	kN	260	294
	MPa	600	685
Dynamic Energy Capacity <small>*for 2.4 m De-bonded J-Tech® Bolt</small>	kJ	50	64
Dynamic Elongation <small>*for 2.4 m De-bonded J-Tech® Bolt</small>	mm	152	190
Cross-Sectional Area	mm ²	-	433
Mass/meter	kg/m	-	3.4
Recommended Hole Size	mm	33.5-40	

Rock Bolts

J-Tech® 20 mm Bolt



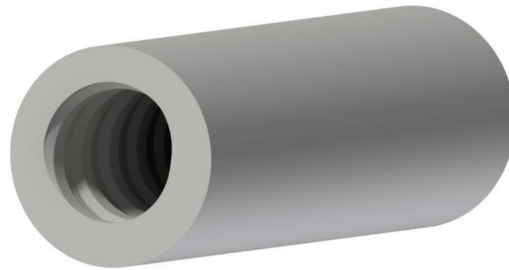
Features:

- 20 mm left hand fully thread bar for wide range of applications and equipment
- Debonded version available for dynamic conditions with independent test reports available
- Dynamic testing conducted without bolt failure <20kJ of absorbed energy
- Can be purchased as plain bar or fitted with range of accessories including, shear pin torque nuts and resin shredders
- Patented resin shredder promotes mixing and installation in up to 38mm holes
- Versatile range of accessories and dollies for handheld and mechanical application
- Utilizing standard 36 mm A.F socket or spanner, the 20 mm J-Tech design allows for retorquing and tensioning along the entire length of the bolt assisting applications such as paste pipe hanging
- Rated couplers for multiple lengths and up to 2 tonne load rated hanger nuts available
- Suitable for use with either resin capsules or cementitious grout
- Available in plain or hot dipped galvanised

Property	Unit	Minimum Value	Typical Value
Bar Yield strength	kN	160	170
	MPa	500	550
Bar Ultimate tensile strength	kN	185	200
	MPa	600	650
Cross sectional area	mm ²	-	300
Elongation	%	15	19
Mass/meter	kg/m	-	2.5
Recommended hole size	mm	32-38	

Rock Bolts

J-Tech® Coupler



Features:

- Allows for versatility in support options.
- Multiple bar lengths can be joined together to maximize reinforcement length as required
- Load tested for capacity compatibility with the J-Tech bar
- All accessories available plain or hot dip galvanised for corrosion protection

Length (mm)	Outer Diameter (mm)
110	35

Rock Bolts

J-Tech® Nut 20 mm



Features:

- Allows centralization of the bolt onto the surface support maximizing load transfer in non-axial conditions

Dome Diameter (mm)	Hex Diameter (mm)	Unit Mass (kg)
25	54	0.35
48	36	0.35

Rock Bolts

J-Tech® Shredder



Features:

- Resin shredder actively promotes shredding of the capsule film and mixing of the resin components
- Allows hole sizes up to 38 mm to be used
- 20 mm J-Tech® Shredder - Options for upto 38 mm hole size
- 25 mm J-Tech® Shredder - Options for upto 45 mm hole size

Rock Bolts

J-Tech® Hanger Nuts



Features:

- 10 mm diameter “U” hanger
- Available in all thread types
- Readily threaded onto the tail of rock bolts for use as a hanger
- Recommended for carrying static loads
- Not recommended for lifting or pulling
- Avoid side loading of the “U” hanger

Length (mm)	Width (mm)	Mass (kg)	Load Rating (tonnes)
92	56	0.28	2

Rock Bolts

D-Tech Bolt 20 mm



Features:

- The D-Tech Bolt 20 mm is designed for highly seismic and converging geotechnical domains
- Specialty steel to maximize capacity and energy absorption
- Energy dissipation minimum 60kJ - Energy dissipation Typical 75kJ
- Typical Yield Load 190kN (604MPa) - Typical Tensile Load 247kN (788MPa)
- Typical Elongation 25%
- Dynamically tested using the Jenmar 105kJ Dynamic Test facility
- Yielding consistent using various / grout properties, hole diameter or encapsulation length
- Linear dynamic capacity in-line with steel elongation
- Consistent and repeatable results and data available
- High shear stiffness and strength
- Simple bolt installation with excellent resin mixing and bond strength
- Available with a range of shear pins to suit required break out torque
- 36AF Drive domed nut with DIN405 M22x3 Thread

Property	Unit	Minimum Value	Typical Value
Bar Yield Strength	kN	185	190
	MPa	591	604
Bar Ultimate Tensile Strength	kN	224	247
	MPa	778	788
Dynamic Capacity	kJ	60	75
Elongation	%	20	25
Cross Sectional Area	mm ²	314	
Mass/Metre	Kg/m	2.78	
Recommended Hole Size	mm	32-35	

Rock Bolts

D-Tech Bolt 23 mm



Features:

- The D-Tech Bolt 23 mm is designed for highly seismic and converging geotechnical domains
- Specialty steel to maximize tensile capacity and energy absorption
- Energy dissipation minimum 90kJ - Energy dissipation Typical 105kJ
- Typical Yield Load 228kN (550MPa) - Typical Tensile Load 300kN (715MPa)
- Typical Elongation 25%
- Dynamically tested using the Jennmar 105kJ Dynamic Test facility
- Yielding consistent and repeatable results using various grout properties, hole diameter and encapsulation lengths
- Linear dynamic capacity in-line with steel elongation
- High shear stiffness and strength
- Simple bolt installation with excellent resin mixing and bond strength
- Available with a range of shear pins to suit required break out torque
- 36AF Drive domed nut with 1"- 8 TPI Thread
- Large data set available

Property	Unit	Minimum Value	Typical Value
Bar Yield strength	kN	210	228
	MPa	500	550
Bar Ultimate Tensile Strength	kN	274	300
	MPa	660	715
Dynamic Capacity	kJ	90	105
Elongation	%	20	25
Cross Sectional Area	mm ²	405	
Mass/Metre	Kg/m	3.2	
Recommended Hole Size	mm	35-38	

Rock Bolts

Mech-Lok Bolt - D20



Features:

- The 47 mm Mech-Lok Bolt D20 Hybrid Friction Bolt is designed for easy installation in poor and difficult ground conditions, such as squeezing and seismic ground conditions
- Easy installation, even in collapsed drill holes
- Specialty steel to maximize capacity and energy absorption
- Energy dissipation minimum 32kJ - Energy dissipation Typical 58kJ
- Typical Bar Elongation 25%
- Manufacturing using proven high elongation 20 mm bar
- Dynamically tested using the Jenmar 105kJ Dynamic Test facility
- Increased system capacity utilizes a combination of mechanisms working together
- The resistance of the 47 mm Friction-Lok along the length of the bolt along with a unique expansion shell design improving energy dissipation and impact resistance
- Inclusion of a solid internal bolt increasing load bearing capacity and shear resistance
- Energy absorbing ring retains internal bolt in premature shearing failure mode
- No changes required to existing drill rigs for installation

D20 Bar Property	Unit	Minimum Value	Typical Value
2.5 mm Thick Friction Bolt Tensile Strength	kN	150	160
	MPa	355	500
20 mm Bar Tensile Strength	kN	190	247
	MPa	604	788
Mech-Lok D20 Dynamic Capacity	kJ	60	68
Bar Elongation	%	20	25
Bar Cross Sectional Area	mm ²	314	
Mass/Metre	Kg/m	5.7	
Recommended Hole Size	mm	44-45	

Rock Bolts

Mech-Lok Bolt - D22



Features:

- The 47 mm Mech-Lok D22 Hybrid Friction Bolt is designed for easy installation in poor and difficult ground conditions, such as squeezing and seismic ground conditions
- Easy installation, even in collapsed drill holes
- Utilizes thicker 3.2 mm friction bolt material wall thickness to increase installed radial force
- Retains the typical 22 mm rebar used in the Jennmar static Mech-Lok Bolt
- Energy dissipation minimum 32kJ - Energy dissipation Typical 60kJ
- Typical Bar Elongation 25%
- Dynamically tested using the Jennmar 105kJ Dynamic Test facility
- Increased system capacity utilizes a combination of mechanisms working together
- The resistance of the 47 mm Friction-Lok along the length of the bolt along with a unique expansion shell design improving energy dissipation and impact resistance
- Inclusion of a solid internal bolt increasing load bearing capacity and shear resistance
- Energy absorbing ring retains internal bolt in premature shearing failure mode
- No changes required to existing drill rigs for installation

D20 Bar Property	Unit	Minimum Value	Typical Value
3.2 mm Thick Friction Bolt Tensile Strength	kN	160	190
	MPa	355	500
22 mm Bar Tensile Strength	kN	250	265
	MPa	660	700
Mech-Lok D22 Dynamic Capacity	kJ	60	70
Bar Elongation	%	18	22
Bar Cross Sectional Area	mm ²	355	
Mass/Metre	Kg/m	6	
Recommended Hole Size	mm	43-45	

Rock Bolts

Mech-Lok Bolt



Features:

- The Mech-Lok Bolt is designed for easy installation in poor and difficult ground conditions such as squeezing and quazi-static ground conditions
- Increased system capacity utilizes a combination of mechanisms working together
- The resistance of the Friction-Lok along the length of the bolt along with a unique expansion shell assembly on a solid internal bolt increasing load bearing capacity and shear resistance
- Energy absorbing ring retains internal bolt
- No changes required to existing Jumbo drill rigs for installation
- Pull Rings and installation accessories available

Property	Unit	Minimum Value	Typical Value
Bar Yield strength	kN	171	190
	MPa	500	550
Bar Ultimate tensile strength	kN	250	265
	MPa	660	700
Shear Strength (0.7 x UTS)	kN	185	223
Cross sectional area	mm ²	-	355
Mass/meter	kg/m	-	6
Recommended hole size	mm	43-45	

Rock Bolts

Eye Nuts



Features:

- Readily threaded onto the tail of rock bolts for use as a hanger
- Recommended for holding static loads
- Not recommended for lifting or pulling

Length (mm)	Width (mm)	Working Load Limit - WLL (tonnes)
92	56	3

Rock Bolts

Hawkeye Bolt



Features:

- Patented system for the elimination of protruding bolt tails minimizes tyre, bolt damage, and improves mine safety. Installed height is 39 mm from rock surface
- Significant overall operational cost savings possible
- Debonded version available
- Nut designed to fit J-Tech bolt with its range of fittings shredders and paddles
- Full pre-tension achieved which clamps damaged rock mass together on walls and gradeline
- Reduces fibrecrete requirements to cover exposed bolts on gradeline
- Full column resin encapsulated
- Easily installed from standard bolting machine
- Provision for in-situ proof load testing
- Available with a range of shear pins to suit required break out torque
- Available in black or galvanised

Property	Unit	Minimum Value	Typical Value
Nut Yield strength	kN	263	-
	MPa	655	-
Nut Tensile strength	kN	343	-
	MPa	850	-
Bar Yield strength	kN	215	245
	MPa	500	565
Bar Tensile strength	kN	260	294
	MPa	600	685
Elongation	%	15	20

Rock Bolts

Hawkeye Bolt Dolly



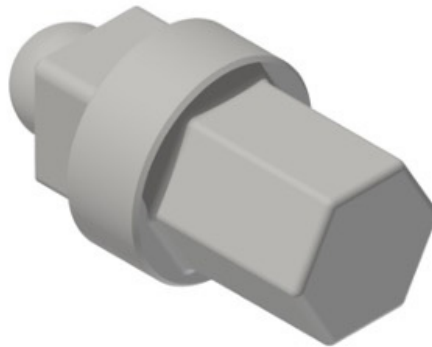
Features:

- Hardened Hawkeye bolt dolly, length to suit customer requirements
- T38 or R38 threads available

Drive (mm)	Length (mm)	Socket
30 square	120	T38
30 square	750	T38

Rock Bolts

Hawkeye Nut Driver



Features:

- Unique driver to fit 36AF hex socket
- Hand held installation option

Drive (mm)	Socket (mm)
30 square	36 hex

Rock Bolts

M24 Torque Tension Bolts



Features:

- Jenmar has a range of support options in its M24 torque tension bolt range
- Options include, mild steel “JBS bolts” to “JX bolts” using “X” grade steel providing superior toughness and ductility
- The Jenmar “X” grade bolts provide better performance in mines where Stress Corrosion Cracking is evident and also in areas of high localized horizontal stresses
- Compatible plates and shear-pin with varying ranges of torque break-out strength are available for all bolt options
- Suitable for use with Resin or Cementitious Grout
- Mechanical anchors may be supplied fitted to the bar
- Available with Right or Left Hand Thread and a full range of M24 accessories and tools to suit requirements and installation equipment from hand held to mechanized
- Available plain or with galvanized corrosion protection options

Property	M24 JX - ‘X’ Grade Bolt		M24 JBS Mild Steel Bolt	
	Minimum Value	Typical Value	Minimum Value	Typical Value
Yield strength (kN)	218	246	109	129
Ultimate Tensile strength (kN)	305	348	160	185
Shear Strength (kN)	213	243	112	130
Elongation %	15	19	22	27
Bar core diameter (mm)	21.5	21.7	21.5	21.7
Cross sectional area (mm ²)	363	378	363	378
Rib height (mm)	1.1	1.5	0.5	1
Rib Spacing (mm)	23	30	9	13
Mass/meter (kg/m)	2.8	3.0	2.8	3.0

Rock Bolts

SR Bolt



Features:

- The SR Bolt rock bolt is a mechanical point anchored, pre tensioned, post groutable rock bolt with a grout injection head connection
- Typical applications include high corrosion and life-of-project infrastructure in the mining industry
- Fully automated or manual installation
- M24 “X” grade steel bar Gr. 650/890MPa, supplied by Jennmar has superior toughness and ductility through the use of grain refining alloys. The Jennmar “X” grade bolts should provide better performance in mines where Stress Corrosion Cracking is evident and also in areas of high localized horizontal stresses
- The expansion shell capable of pre-tensioning bolt to 50kN prior to grouting
- Fully encapsulated in high-strength thixotropic grout
- Durable, high-density polyethylene (HDPE), corrugated sheath provides superior corrosion protection achieving a 100 year design life
- Corrugations in sheathing provide excellent load transference between inner and outer grout annuli
- Recommended for drill hole size 45 mm diameter
- Screw on adaptor available for grouting through the head connection
- Bolt can be supplied black or galvanised. Face plate and grout bell available in Gr. 316 stainless steel and are electrically isolated from dissimilar metals to prevent galvanic corrosion
- Low profile Hawkeye version also available
- All standard lengths are available and any length can be produced upon request
- Also available in black

SR Rock Bolt

Property	Minimum Value	Typical Value
Yield strength (kN)	228	246
Ultimate Tensile strength (kN)	310	348
Shear Strength (kN)	213	243
Elongation %	15	19
Bar core diameter (mm)	21.5	21.7
Cross sectional area (mm ²)	363	378
Mass/meter (kg/m)	2.8	3.0
Drill Hole size (mm)	45	

Rock Bolts

Python Bolt



Features:

- The Python bolt is specifically designed with the percussion dollie and python eye for installation and inflation in very poor ground and collapsed drill holes
- Specifically developed water injection dollie to fit Jumbo machines to allow percussion installation in collapsed holes and the ability to slide through centralisers
- Suitable for common civil and hard rock drill hole diameters with bolt inflation diameter up to 54mm
- Complete range of face plates and accessories including pull rings to suit
- Modern high flow and pressure injection pumps and accessories available
- Corrosion protection available

Property	Unit	Minimum Value	Typical Value
Bar	kN	220	240
Ultimate tensile strength	kN	220	240
Elongation	%	-	25%
Mass/meter	kg/m	-	3.8
Recommended hole size	mm	45-51	
Inflated bolt diameter	mm	Up to 54	
Inflation Pressure	Bar	300	

Rock Bolts

Python Dollie and Centraliser



Features:

- Full Jenmar installation kit allows Python bolts to be installed using percussion in poor ground utilizing the drill bushing and Jumbo Percussion Python Dollie (Patent Pending)
- Enables mine mesh to be firmly pressed against the rock surface profile
- Used in conjunction with the Python EYE (ball) for maximum performance
- T45 and T38 thread available to suit drifter shanks
- Spare part kits available for easy maintenance

Drive (mm)	Socket
T38 or T45	Python

Rock Bolt Accesories

Python Pull Ring



Features:

- The Python Pull Ring allows insitu pull testing of the Python bolt
- Can be supplied plain or with hot dip galvanization corrosion protection

Diameter (mm)	Galvanised option available
70	Yes

Rock Bolts

Friction-Lok



Features:

- The radial compression of the slotted steel tube inside a borehole provide both radial and axial restraint to rock movement
- Extensive quality control processes including testing and traceability throughout the manufacturing process
- Can be post grouted for extra corrosion protection and support capacity along with being available in black or hot dipped galvanised
- Oversized ring on 39 mm Friction-Lok to allow use with 47 mm Friction-Lok plates, requiring the use of one plate on site
- A range of installation dollies and testing accessories available
- Bolt lengths up to 4 m available

33 mm Friction-Lok

Property	Unit	Minimum Value	Typical Value
Yield strength	kN	80	100
	MPa	415	510
Ultimate tensile strength	kN	100	120
	MPa	510	610
Cross sectional area	mm ²	-	204
Mass/meter	kg/m	-	1.53
Recommended hole size	mm	28-31	

39 mm Friction-Lok

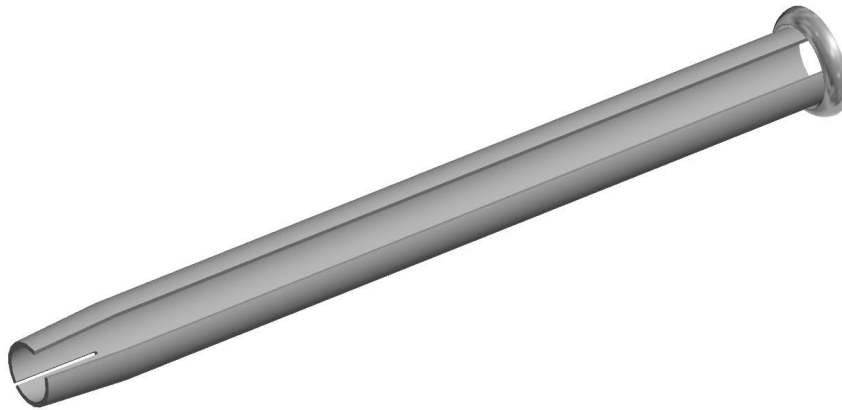
Property	Unit	Minimum Value	Typical Value
Yield strength	kN	90	115
	MPa	415	510
Ultimate tensile strength	kN	115	135
	MPa	510	610
Cross sectional area	mm ²	-	225
Mass/meter	kg/m	-	1.77
Recommended hole size	mm	35-38	

47 mm Friction-Lok

Property	Unit	Minimum Value	Typical Value
Yield strength	kN	120	160
	MPa	345	460
Ultimate tensile strength	kN	165	180
	MPa	445	510
Cross sectional area	mm ²	-	355
Mass/meter	kg/m	-	2.79
Recommended hole size	mm	43.5-45	

Rock Bolts

Domed Friction-Lok 47 mm



The Domed Friction-Lok is designed to be easily installed in poor ground conditions, providing maximum load capacity across a wider range of installation angles. The uniquely designed and tested domed ring reduces point loading and resultant premature peeling.

Features:

- Improved design and performance on the standard Friction-Lok with the same quality
- Unique domed ring design for improved performance in quazi-static and dynamic conditions
- Improved system performance matched to plate performance reducing rehab requirements
- Operationally beneficial to typical site conditions through a wider tolerance to installation angle
- 30% improvement in point load strength and increased resistance to ring peeling and plate “pop off”
- Available in black or hot dip galvanized
- Installed with larger 73 mm centraliser bush and standard Jenmar installation dollies and pull rings

Property	Unit	Minimum Value	Typical Value
Yield strength	kN	120	160
	MPa	345	460
Ultimate tensile strength	kN	165	180
	MPa	445	510
Cross sectional area	mm ²	-	355
Mass/meter	kg/m	-	2.79
Recommended hole size	mm	43.5-45	

Rock Bolts

Friction-Lok Paste 47 mm



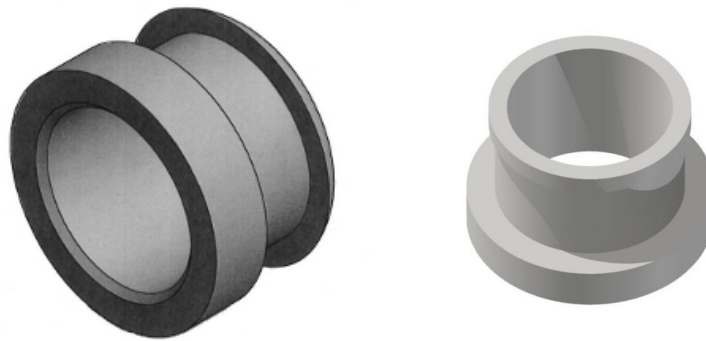
Features:

- Taperless Friction-Lok designed for application with paste and backfill operation with contact along both the internal and external bolt surfaces
- Available in range of lengths up to 4 m
- Available as plain or with hot dip galvanised corrosion protection

Property	Unit	Minimum Value	Typical Value
Yield strength	kN	120	160
	MPa	345	460
Ultimate tensile strength	kN	165	180
	MPa	445	510
Cross sectional area	mm ²	-	355
Mass/meter	kg/m	-	2.79
Recommended hole size	mm	43.5-45	

Rock Bolt Accesories

Friction Bolt Pull Ring



Features:

- Jenmar have pull rings to fit;
 - Friction-Lok Bolts
 - Mech-Lok Bolts
 - Python Bolts
- Can be supplied plain or with hot dip galvanization corrosion protection
- Domed versions also available

Friction-Lok Size (mm)	Mass (kg)	Galvanised option available
33	0.41	Yes
39	0.42	Yes
47	0.43	Yes

Rock Bolt Accesories

Friction-Lok Airleg Dolly



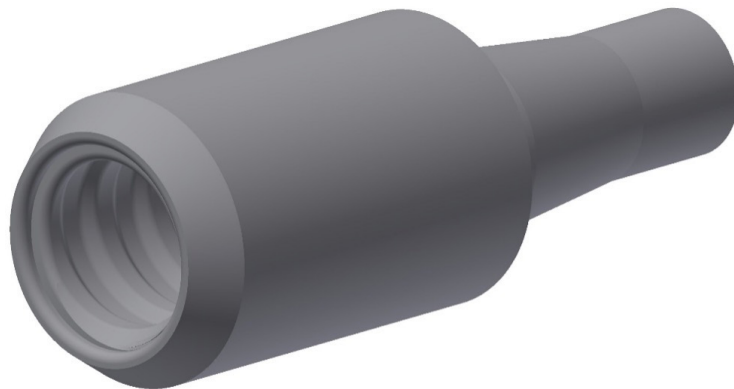
Features:

- Designed for the installation of Friction-Lok bolts with a range of hand held drills

Drive Shank (mm)	Length (mm)	Drive (mm)
22 * 108	337	28

Rock Bolt Accesories

Friction-Lok Combination Dolly



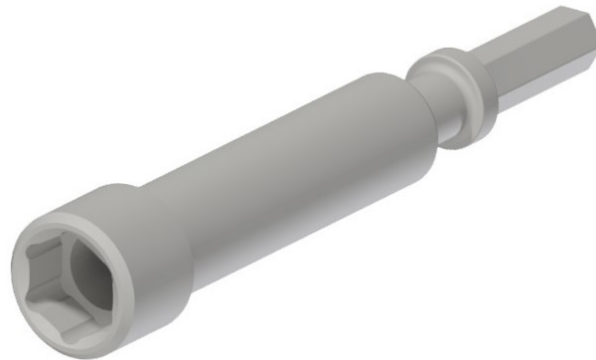
Features:

- Combination dolly used to install 39 and 47 mm Friction-Lok Bolts
- Available with a T38 or R38 thread

Drive	Length (mm)	Drive (mm)
T38 or R38	175	30

Rock Bolt Accesories

Airleg Dolly 36AF



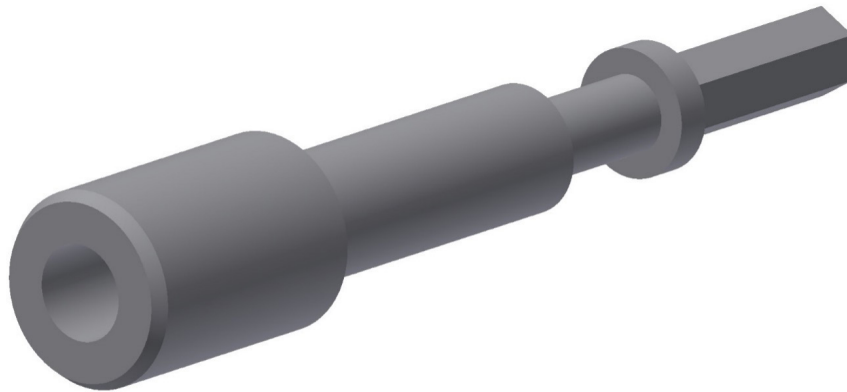
Features:

- Airleg dolly for installation of Jenmar bolts and nuts utilizing 36AF socket

Drive	Length (mm)	Drive (mm)
22 mm hex	300	36 hex

Rock Bolt Accesories

Airleg Dolly To Suit J-Tech



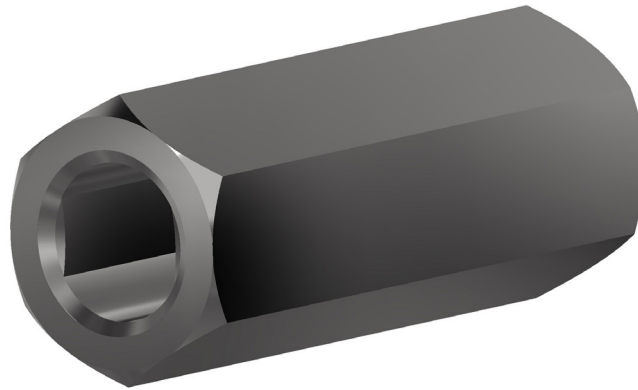
Features:

- Airleg Dolly with Oval socket designed for installation of 20 mm J-Tech Bolts
- 25 mm version also available

Drive	Length (mm)	Drive (mm)
22 mm hex	300	20 oval
25 mm hex	300	23 oval

Rock Bolt Accesories

J-Tech Airleg Spin Adaptor



Features:

- Airleg Dolly with Female 22 mm extension socket for installation of 20 mm J-Tech Bolts using the oval socket

Socket (mm)	Length (mm)	Socket (mm)
22 Hex	100	20 mm Oval

Rock Bolt Accesories

Speed Rod



Features:

- Hardened steel, high quality for use with hex socket bolt adapters

Drive (mm)	Length (mm)	Drive (mm)
T38	600	T38

MM_A_T38MSR600T38F-Rev1

Drive (mm)	Length (mm)	Drive (mm)
T45 Female	600	T38 Male

MM_A_T38MSR600T45F-Rev1

Rock Bolt Accesories

Mech-Lok Dolly



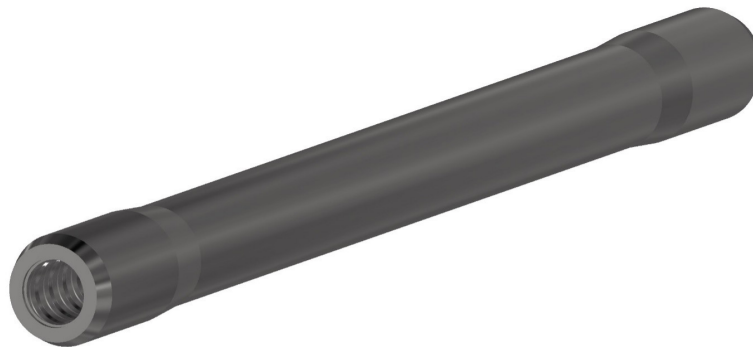
Features:

- 36AF dolly to suit T38 or R38 threads
- Compatible for use with speed rod

Drive (mm)	Length (mm)	Socket (mm)
T38	240	36 Hex

Rock Bolt Accesories

Resin Bolt Dolly



Features:

- High quality, hardened, long lasting resin bolt 36AF driver
- Available for either “T” or “R” thread systems
- other lengths available on request

Drive (mm)	Length (mm)	Socket (mm)
T38	300	36 Hex
T38	750	36 Hex
T38	900	36 Hex

Self Drilling Hollow Bolts And Accessories

Self Drilling Hollow Bolt



Features:

- Installation using J-Lok P resin, PUR and grout
- Installation suited for very poor and unstable ground
- Corrosion resistant coatings available
- Reliable self-drilling installation with single pass drilling and grouting installation
- Wide range of drill bit types and diameters to suit ground conditions and design requirements
- Wide range of hollow bar diameters and capacities
- Available in a range of standard lengths with variations available on request
- Ability to couple to required bolt lengths based on ground conditions and limited drilling area
- Continuous thread profile to enhance the ability of achieving better load transfer in varying ground conditions

Applications:

- Ground Anchor
- Slope Stabilisation
- Micropile
- Roof and Rib Bolts
- Tie Backs
- Injection Bolts
- Foundation
- Ground Stabilisation
- Forepoling

Property	R25	R32N	R32S	R38N	R38S	R51N	R51S
Ultimate Tensile strength \geq (kN)	200	280	360	500	550	550	800
Yield strength \geq (kN)	150	230	280	400	430	430	630
Elongation \geq (%)	8	8	8	8	8	8	8
Average Outside Diameter (mm)	25	32	32	38	38	51	51
Hollow Bar Internal diameter (mm)	12	19	17	22	18	36	31
Cross sectional area (mm ²)	299	376	446	631	764	783	1045
Mass/meter (kg/m)	2.35	2.95	3.5	4.95	6	6.15	8.2
Thread Handing	LH	LH	LH	LH	LH	LH	LH
Available Lengths	1 m, 2 m, 3 m, 4 m, 6 m						

*Common sizes and capacities shown with other options available on request

Project based lengths available on request

*Available in Black or Galvanised

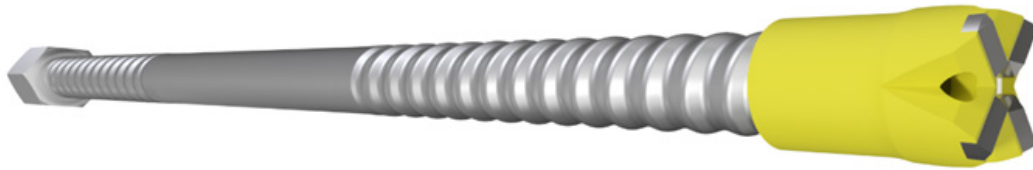
* Duplex Coating HDG and Epoxy available on request

*Other Lengths are available on Request

**"T" Thread Self Drilling Hollow bolts available on request

Self Drilling Hollow Bolts And Accessories

MPA Bolt



Features:

- The MPA Bolt is a high dynamic capacity hollow “self drilling bolt” for squeezing, dynamic, and quazi-static broken ground conditions
- The hollow bolt design with sacrificial anchoring drill bit allows in cycle rapid development or post grouting making it ideal for broken ground and speeding up rehabilitation jobs
- Smooth annealed sections allow for deformation and energy absorption of up to 40kJ with independent test reports available
- Range of drill bits available
- Compatible with cementitious and pumpable resin systems. Dynamic test results available with J-Lok P pumpable resin system
- Galvanised and PE corrosion protection coatings available

Property	MPA R32
Ultimate Tensile strength (kN)	300
Yield strength (kN)	250
Annealed Elongation (%)	20
Average Outside Diameter (mm)	32
Hollow Bar Internal diameter (mm)	17
Standard Lengths (m)	2.4 & 3.0

*stated specifications are for product supply in regions other than the USA

Self Drilling Hollow Bolts And Accessories

Self Drilling Hollow Bolt Accessories

DB SIZE	Drill Dia (mm)	Description/Application
EX		Hardened Cross Bit / Sands, Fills, Gravel
R25/42	42	
R25/51	51	
EXXC		TC Cross Bit / Softer Sedimentary Rocks, Marls, Mudstone, Siltstone
R25/42	42	
R25/51	51	
ES		Hardened Button Bit / Gravel, Soft Rock
R25/42	42	
R25/51	51	
ESSC		TC Button Bit / Weathered Rock, Stone Walls, Rubble
R25/42	42	
R25/51	51	
EX		Hardened Cross Bit / Sands, Fills, Gravel
R32/42	42	
R32/51	51	
R32/76	76	
EXXC		TC Cross Bit / Softer Sedimentary Rocks, Marls, Mudstone, Siltstone
R32/42	42	
R32/51	51	
R32/64	64	
R32/76	76	
ES		Hardened Button Bit / Gravel, Soft Rock
R32/42	42	
R32/51	51	
R32/64	64	
R32/76	76	
ESSC		TC Button Bit / Weathered Rock, Stone Walls, Rubble
R32/51	51	
R32/64	64	
R32/76	76	
EX		Hardened Cross Bit / Sands, Fills, Gravel
R38/76	76	
R38/90	90	
R38/100	100	
EXXC		TC Cross Bit / Softer Sedimentary Rocks, Marls, Mudstone, Siltstone
R38/76	76	
R38/90	90	
R38/100	100	
R38/115	115	

Self Drilling Hollow Bolts And Accessories

Self Drilling Hollow Bolt Accessories

DB SIZE	Drill Dia (mm)	Description/Application
ES		Hardened Button Bit / Gravel, Soft Rock
R38/76	76	
R38/90	90	
R38/115	115	
ESSC		TC Button Bit / Weathered Rock, Stone Walls, Rubble
R38/76	76	
R38/90	90	
R38/115	115	
EX		Hardened Cross Bit / Sands, Fills, Gravel
R51/90	90	
R51/100	100	
R51/115	115	
R51/130	130	
R51/150	150	
EXXC		TC Cross Bit / Softer Sedimentary Rocks, Marls, Mudstone, Siltstone
R51/90	90	
R51/100	100	
R51/115	115	
R51/130	130	
ES		Hardened Button Bit / Gravel, Soft Rock
R51/76	76	
R51/100	100	
R51/115	115	
ESSC		TC Button Bit / Weathered Rock, Stone Walls, Rubble
R51/76	76	
R51/100	100	
R51/115	115	
R51/130	130	
R51/150	150	

*Common Drill bit types and sizes shown with alternative drill bits and sizes available on request to suit the application



Self Drilling Hollow Bolts And Accessories

Self Drilling Hollow Bolt Accessories

Item	Hex Size (mm)	Length (mm)	Outside Diameter (mm)	Suit Plate Hole Size (mm)	Weight (kg)	Thread Handing
R25 Hex Nut	41	35	-	30	0.23	LH
R25 Dome Nut	41	40	-	30	0.31	LH
R25 Coupler	-	150	36	-	0.68	LH
R25 Centralizer (Steel)	-	20	48	-	0.11	-
R32 Hex Nut	46	43	-	36	0.37	LH
R32 Dome Nut	46	45	-	36	0.38	LH
R32N Coupler	-	160	42	-	0.84	LH
R32S Coupler	-	190	42	-	1.0	LH
R32 Centralizer (Steel)	-	30	72	-	0.27	-
R38 Hex Nut	50	60	-	42	0.47	LH
R38 Dome Nut	52	60	-	42	0.61	LH
R38N Coupler	-	180	51	-	1.38	LH
R38S Coupler	-	200	51	-	1.55	LH
R38 Centralizer (Steel)	-	30	78	-	0.28	-
R51 Hex Nut	75	80	-	56	1.84	LH
R51 Dome Nut	75	80	-	56	1.82	LH
R51N Coupler	-	200	63	-	1.84	LH
R51S Coupler	-	220	63	-	2.0	LH
R51 Centralizer (Steel)	-	30	91	-	0.30	-

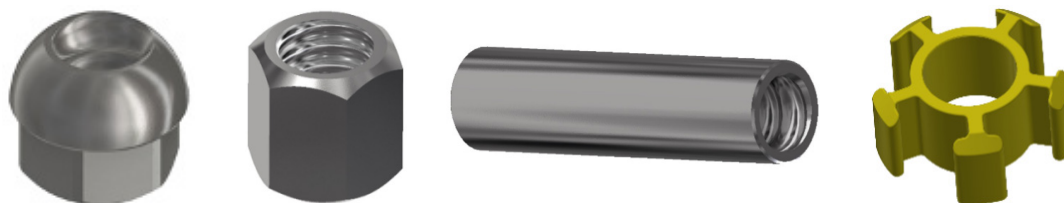
*The Mechanical Properties of the nuts and couplers shown are designed to meet the ultimate load of the SDHB

*Available in Black or Galvanised

* Duplex Coating HDG and Epoxy available on request

*PVC Centralizers available on request

Conformance Certificates provided for all products



CABLE BOLTS & ACCESSORIES



Cable Bolts

Cable Reels & Bolts 15.2 mm



Features:

- Lowest cost to capacity cable bolt configurations for the hard rock mining industry
- Multiple options and configurations can be manufactured with the stress relieved, low relaxation 7 strand cable to suit ground conditions and support requirements
 - Cut to length
 - Premade with fish-hooks, grout and breather tube
 - Mechanized reels for cable bolting rigs
- Cables are coiled for transport efficiency
- Bulbing configurations up to 6 bulbs per metre available for maximum bond strength with the grout and rock
- Number of tails protruding can vary for each configuration
- Can be used in either top-down or bottom-up cementitious grouting applications

Property	Unit	Minimum Value per strand	Typical Value per strand
Grade	-	1830	
Relaxation	-	Relax 2	
Tensile Strength	MPa	-	1830
	kN	261	275
Characteristic 0.1% Proof Load	kN	214	-
Total Elongation at Maximum Force, A_{gt} (GL \geq 500mm)	%	3.5	6.5

Property	Unit	Minimum Value per strand	Typical Value per strand
Strand diameter	mm	14.8	15.2
Cross-sectional area	mm ²	-	143
Mass per metre	kg / m	-	1.13
Bulb Diameter	mm	-	23-27
Minimum Bulb Spacing	mm	-	180

Cable Bolts

Secta® Dynamic Cable Reel & Bolt



Features:

- Manufactured from high strength, stress relieved, low relation 7 strand wire, the Secta Dynamic cable is available in a number of configurations from reels to precut lengths
- Dynamic testing with varying grout quality up to 40kJ input energy
- Available as plain or hot dip galvanised for corrosion protection
- Compatible with yield tube device to increase displacement capacity and domed barrel and wedge

Property	Unit	Minimum Value per strand	Typical Value per strand
Strand diameter	mm	-	17.8
Yield strength	kN	280	330
Ultimate tensile strength	kN	350	370
Elongation	%	3.5%	6%
Cross sectional area	mm ²	-	208.4
Mass/meter	kg/m	-	1.65

Bulbed Option			
Bulb diameter	mm	-	32-38
Minimum Bulb Spacing	mm	-	180

Cable Bolts

Superstrand Cable Bolt



Features:

- Flexible and easy to handle even around the tight working areas of bolting rigs
- Plain SuperStrand of any length can be readily installed with hand bolters as point anchored, pre-tensioned support
- The 4 m SuperStrand can be “fully encapsulated” with resin installed alongside primary support at the face. Installation time between 6–8 minutes
- Special “through-the-chuck” drill motors allow full resin encapsulation of SuperStrands up to 8 m in length

Property	Minimum Value
Strand diameter (mm)	21.8
Number wires	19
Wire type	smooth
Steel area (mm ²)	313
Mass (kg/m)	2.5
Typical yield strength (kN)	525
Typical Ultimate tensile strength (kN)	590
Breaking load with barrel & wedge/ ToTo (kN)	510
Elongation %	5-7

ToTo Device

Diameter (mm)	Length (mm)	Torque:Tension Ratio (Nm: tonnes)
70	150	40:1

Cable Bolts

70T 10 Wire Hollow Cable Bolt



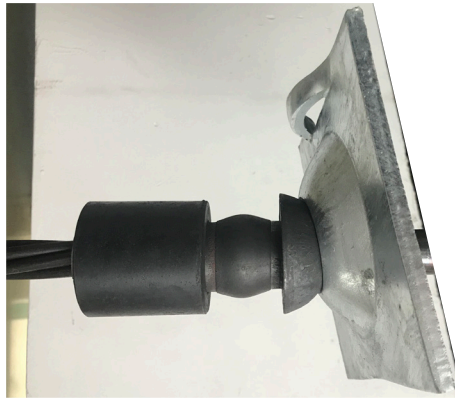
Features:

- 70 tonne capacity, 10 wires
- Smooth wires for improved strength against shearing
- Standard 31 mm diameter and hex drive to suit existing cable bolt accessories i.e. dollies, tensioners and grout lances
- Birdcaged along entire length for maximum load transfer
- Point anchored with J-LOK “Post-Grout” resin capsules, specifically designed for mixing in larger drill holes
- Top-down grouted using thixotropic grout
- Plated with new higher capacity 12 mm thick volcano plates with grout indicator slots. Available in 200x200 mm and 300x300 mm sizes.
- Plates available for trussing
- Lengths available up to 10 m

Property	Min Value
Strand diameter (mm)	31
Number wires	10
Wire type	smooth
Bulb diameter (mm)	36
Bulb spacing (mm)	500
Steel area (mm ²)	385
Mass (kg/m)	3.5
Typical yield strength (kN)	640
Typical Ultimate tensile strength (kN)	705
Breaking load with barrel & wedge (kN)	640
Elongation %	5-7

Cable Bolts Accessories

Yield Tube



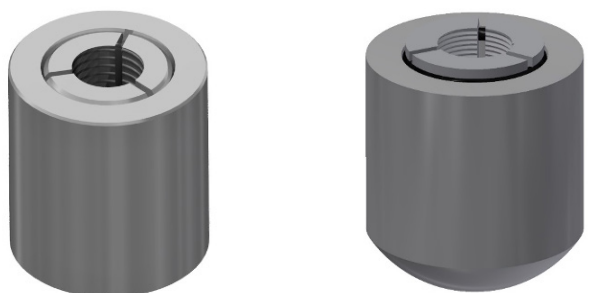
The patented Yield Tube provides proven dynamic and quazi-static capacity when used with cable and rockbolts. High and consistent collapse loads and easy installation, make the Yield Tube a great “simple go to” solution.

Features:

- Yield Tube available for 15.2 mm, 17.8 mm and 21.8 mm cables and Jennmar cable bolts
- Dynamic tested with cables, confirmed to increase dynamic capacity by 10kJ
- Supplied separately and easily installed, without changing current installation processes
- Allows improved application in squeezing ground
- Anti-corrosion coating available on request

Cable Bolts Accessories

Cable Bolt Barrel & Wedges



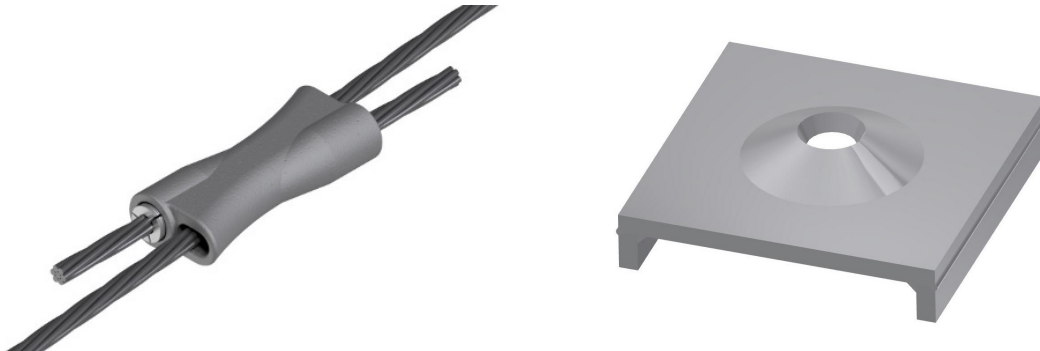
Features:

- Designed for Jenmar 15.2 mm to 31 mm cable range including twin, triple strand tendons and trusses,
- Flat barrels & wedges are used with flat plates
- Dome barrels & wedges are used with volcano plates
- All barrels & wedges to be pretensioned to a minimum 8 tonnes to ensure the wedge teeth penetrate the strand to achieve maximum load capacity
- All barrels & wedges have an oil film coating and are pre-packaged in strong 4 litre buckets for corrosion protection
- Other corrosion protection options available

Type	Cable Diameter (mm)	Length (mm)	Diameter (mm)	Qty/Bucket
Flat	15.2	44	42	20
Domed	15.2	44	42	20
Flat	17.8	57	50	10
Domed	22	60	58	10
Domed	31	74	70	5

Cable Bolts Accessories

Cable Truss With Splice Tube 15.2 mm



Features:

- Designed for ease of use joining truss tails
- All barrels & wedges to be pretensioned to a minimum 8 tonnes to ensure the wedge teeth penetrate the strand to achieve maximum load capacity
- Suit 15.2 mm or 18 mm Twin and Triple Strand Trusses
- Curvature of the outlet minimizes stress concentration of the cable at the bend
- Less wastage compared to traditional tension blocks

Length (mm)	Width (mm)	Unit Weight (kg)	Qty/Bucket
200	95	3.8	5

Cable Bolts Accessories

Grout Guns



Features:

- Pressure rated quick connection to poly grouting hose
- Easy to use even with heavy rubber grouting gloves
- Colour coded to suit the grout hose colour

Suit Tube Diameter (mm)	Colour code	Rated Working Pressure (Bar)	Length (mm)	Unit Mass (kg)
16	Red	34.5	340	1.4
20	Yellow	34.5	340	1.4

Cable Bolts Accessories

Grout And Breather Tube



Features:

- Pressure rated
- Available in rolls or cut to length
- Colour coded diameters for easy identification

Part Number	Tube O.D. (mm)	Tube I.D. (mm)	Pressure rating	Mass (kg/m)	Length per roll
TUBE16GR	16	12.5	PN16	0.07	300
TUBE20GR	20	16	PN16	0.11	300

Cable Bolts Accessories

Breather Tube



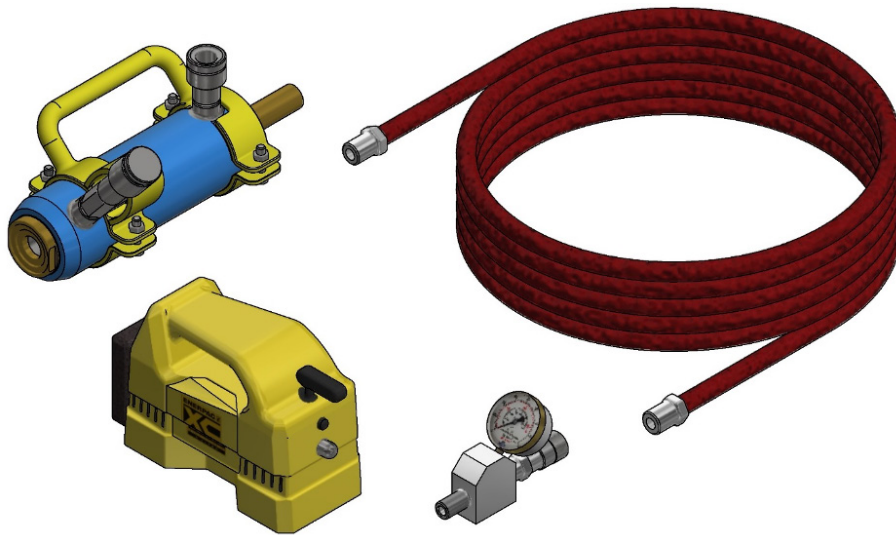
Features:

- Available in rolls or cut to length

Tube O.D. (mm)	Tube I.D. (mm)	Length per roll	Colour
5	3	200	Yellow
13	9	100	White

Cable Bolts Accessories

10T Tensioner - 15.2 mm Cable



Features:

- Portable stand alone 10T Cable Tensioner for 15.2 mm cable systems
- Changeable battery operation with no air hose required
- Customizable hose length

Tensioning Capacity (kN)	Max. Operating Pressure (Bar)	Stroke (mm)	Mass (kg)	Min. strand length required (mm)
98	550	150	10	150

Cable Bolts Accessories

30T Tensioners



Features:

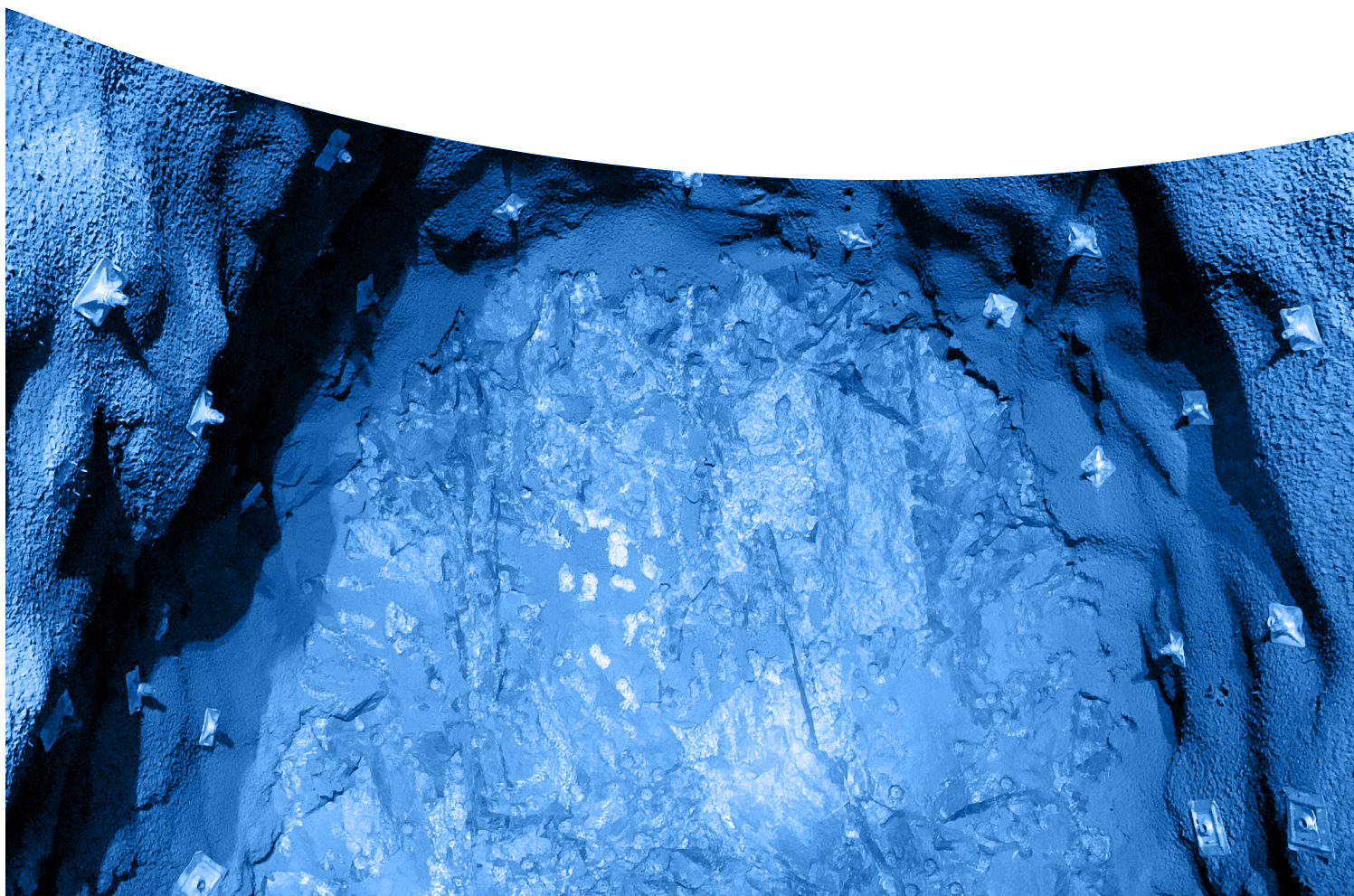
- 30 tonne cable bolt tensioner
- MDG41 specification
- Light weight
- Low operating pressure (370 Bar)
- Double acting to release tensioner off the cable under hydraulic power
- Patented design has engineered out possible pressure intensification within the double acting cylinder by having equal advance and retract ram areas
- Patented design used special high capacity wedge setting springs to minimize tensioning bleed-off while maintaining a short tail on the cable bolts

Features:

- Designed for 31 mm Hollow, Goliath, Sumo, and SuperStrand Cables and can be used adapted for Secta and 15.2 mm cables
- Can be connected to hydraulic equipment, air, or portable air/hydraulic power packs

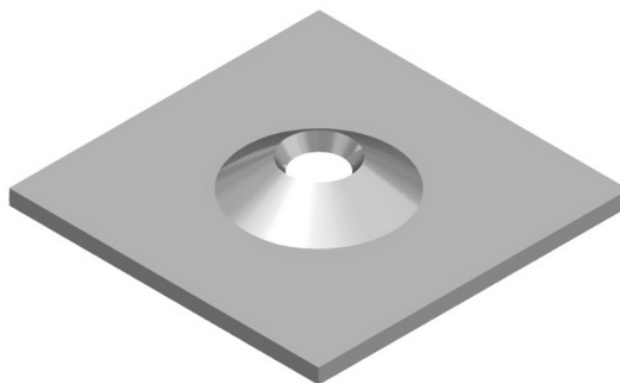
Tensioning Capacity (kN)	Max. Operating Pressure (Bar)	Ram Area (cm ²)	Stroke (mm)	Weight (kg)	Min. strand length required (mm)
294	370	79.9	87	14	100

PLATES



Plates

Cable Bolt Volcano Plate



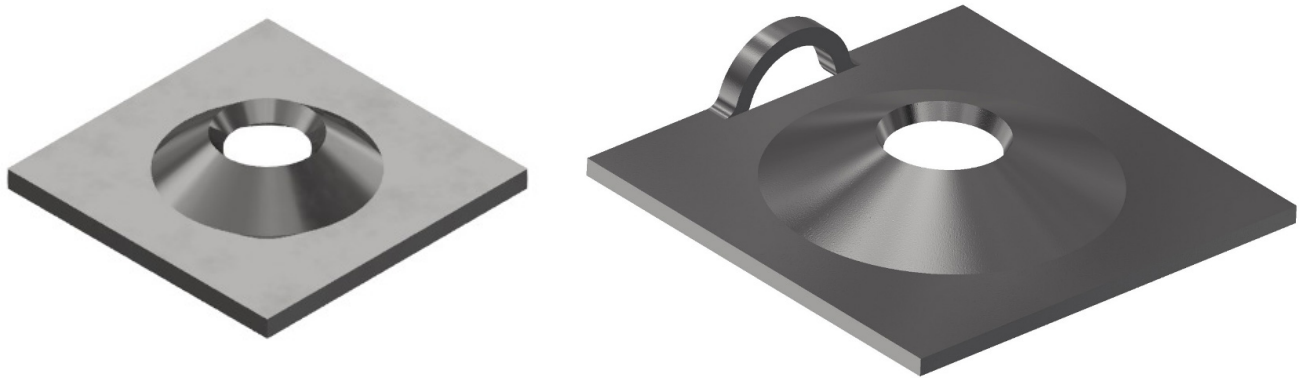
Features:

- Designed for used with domed barrel and wedge for better alignment with non-axial installation
- Optional grout indicator slots
- Available as plain or with hot dip galvanised corrosion protection
- Other plate thickness of 12, 14 mm also available

Square dimension (mm)	Thickness (mm)	Hole diameter (mm)	Minimum Collapse load (kN)	Mass (kg)	Standard pack
200 x 200	10	30	200	1.76	500/pallet

Plates

Rock Bolt Volcano Plate



Features:

- Dome profile allows for 18° angles of alignment when installing the rock bolt with a domed ball washer
- Can be supplied with a “hanger” slot
- Available as “rumbled” to take off sharp edges

Square dimension (mm)	Thickness (mm)	Hole diameter (mm)	Minimum Collapse load (kN)	Minimum Pull Through load (kN)	Mass (kg)	Standard pack
150 x 150	6	36	120	294	1.1	980
150 x 150	10	36	216	294	1.76	980/pallet

Plates

Combination Volcano Plate – Mech-Lok



Features:

- A combination of 2 plates for load bearing capacity over a larger surface area
- User friendly “rumbled”, rounded and smoothed edges
- Available as plain or with hot dip galvanised corrosion protection

Plate Type	Dimension (mm)	Hole diameter (mm)	Minimum Collapse load (kN)	Standard pack
Volcano	150 x 150 x 10	50	220	250/pallet
Butterfly	300 x 280	50		

Plates

Combination Volcano Plate



Features:

- A combination of 2 plates for load bearing capacity over a larger surface area
- User friendly “rumbled”, rounded and smoothed edges
- Optional 50kg WLL hanger slot
- Available as plain or with hot dip galvanised corrosion protection

Plate Type	Dimension (mm)	Hole diameter (mm)	Minimum Collapse load (kN)	Standard pack
Volcano	150 x 150 x 10	36	220	250/pallet
Butterfly	300 x 280	50		

Plates

Combination Volcano Plate



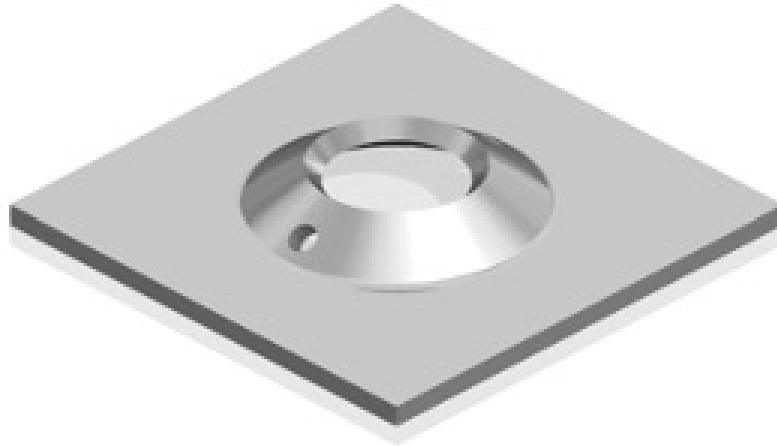
Features:

- A combination of 2 plates for load bearing capacity over a larger surface area
- User friendly “rumbled”, rounded and smoothed edges
- Available as plain or with hot dip galvanised corrosion protection

Plate Type	Dimension (mm)	Hole diameter (mm)	Minimum Collapse load (kN)	Standard pack
Volcano	150 x 150 x 4	36	120	250/pallet
Butterfly	300 x 280	50		

Plates

Volcano Plate - Falcon Bolt



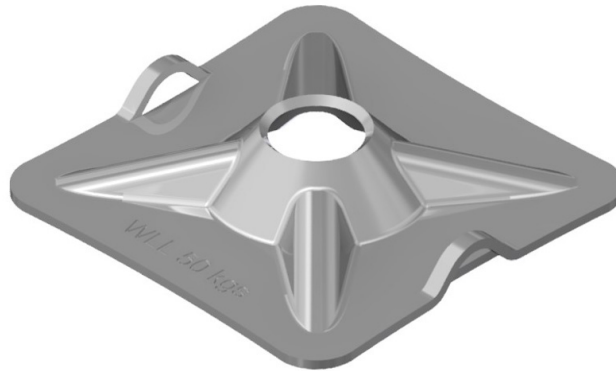
Features:

- Designed for use with Falcon Bolt products
- Features Grout indicator slots
- Available in black or hot dip galvanized steel
- Other plate thicknesses available upon request

Property	Minimum Value	Typical Value
Length (mm)	-	200
Width (mm)	-	200
Thickness (mm)	-	10
Hole Diameter (mm)	-	55
Minimum Collapse Load (kN)	200	-
Mass (kg)	-	2.8 kg
Standard Pack Size	-	500/pallet

Plates

Kanga Plate



Features:

- High load bearing characteristics
- Light weight and rounded corners
- Lesser tendency to cut mesh upon loading
- Varying combination plate applications available
- Load rated hanger slot with 50kg WLL
- Available as plain or with hot dip galvanised corrosion protection

Square dimension (mm)	Thickness (mm)	Hole diameter (mm)	Minimum Collapse load (kN)	Standard pack
150 x 150	5	41	205	980/pallet
200 x 200	5	42	205	500/pallet
200 x 200	5	50	205	500/pallet

Plates

Combination Kanga Plate



Features:

- A combination of 2 plates for load bearing capacity over a larger surface area
- User friendly “rumbled”, rounded and smoothed edges
- 50kg WLL hanger slot
- Available as plain or with hot dip galvanised corrosion protection

Plate Type	Dimension (mm)	Hole diameter (mm)	Minimum Collapse load (kN)	Standard pack
Kanga	150 x 150 x 4	41	205	250/pallet
Butterfly	300 x 280	50		

Plates

Combination Roll Top Plate



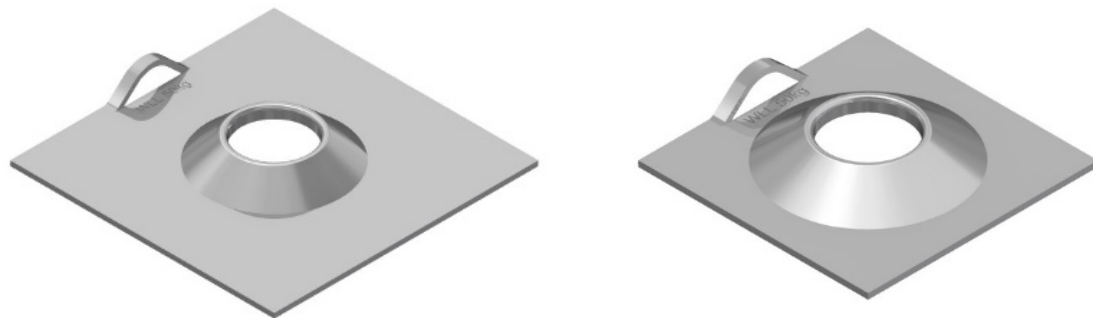
Features:

- A combination of 2 plates for load bearing capacity over a larger surface area
- User friendly “rumbled”, rounded and smoothed edges
- 50kg WLL hanger slot
- Available as plain or with hot dip galvanised corrosion protection
- Same single plate compatible for Jenmar 39 mm and 47 mm Friction-Loks

Plate Type	Dimension (mm)	Hole diameter (mm)	Minimum Collapse load (kN)	Standard pack
Roll Top	150 x 150 x 4	50	100	250/pallet
Butterfly	300 x 280	50		

Plates

Roll Top Plate



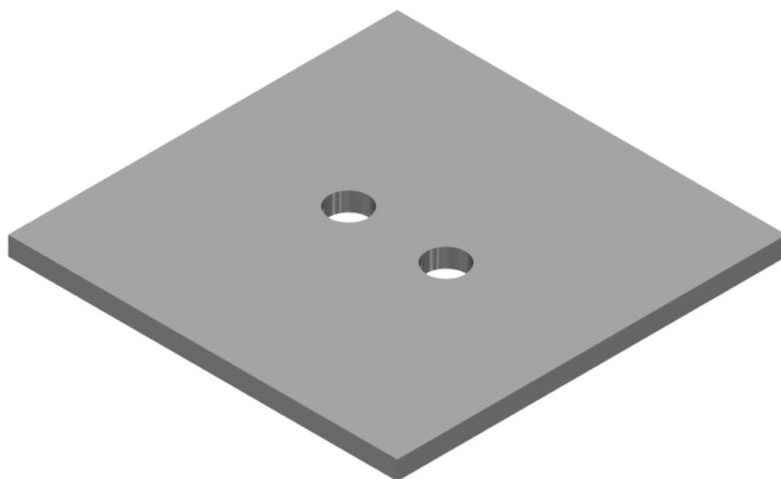
Features:

- Same single plate compatible for Jenmar 39 mm and 47 mm Friction-Loks
- User friendly “rumbled”, rounded and smoothed edges
- Available as plain or with hot dip galvanised corrosion protection

Square dimension (mm)	Thickness (mm)	Hole diameter (mm)	Minimum Collapse load (kN)	Standard pack
150 x 150	4	50	100	980/pallet
200 x 200	4	50	100	500/pallet

Plates

Flat Plate



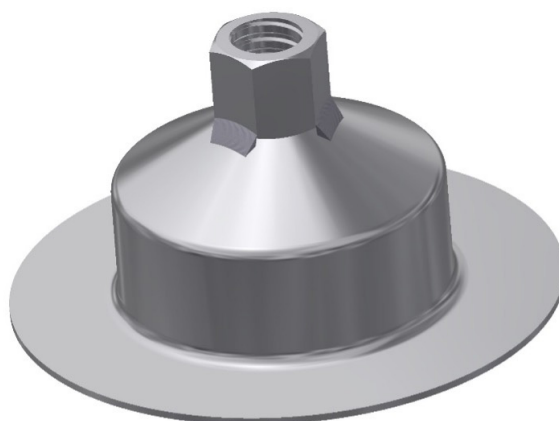
Features:

- Can be supplied “rumbled” to take off edges. Unless specified, plates are supplied un-rumbled
- Used predominately with 15.2 mm cable bolts can be supplied with 2 holes for cable bolting and grout tube application
- 200 x 200 mm plates are often used on single tail twin-strand cable bolts with a flat barrel and wedge. Can be used in conjunction with a pizza pan
- Available as black or hot dipped galvanised
- Other plate thickness of 12, 14 mm also available

Dimension (mm)	Thickness (mm)	Hole diameter (mm)	Mass (kg)	Standard pack
200 x 200	10	20	3.2	250

Plates

Mesh Plate

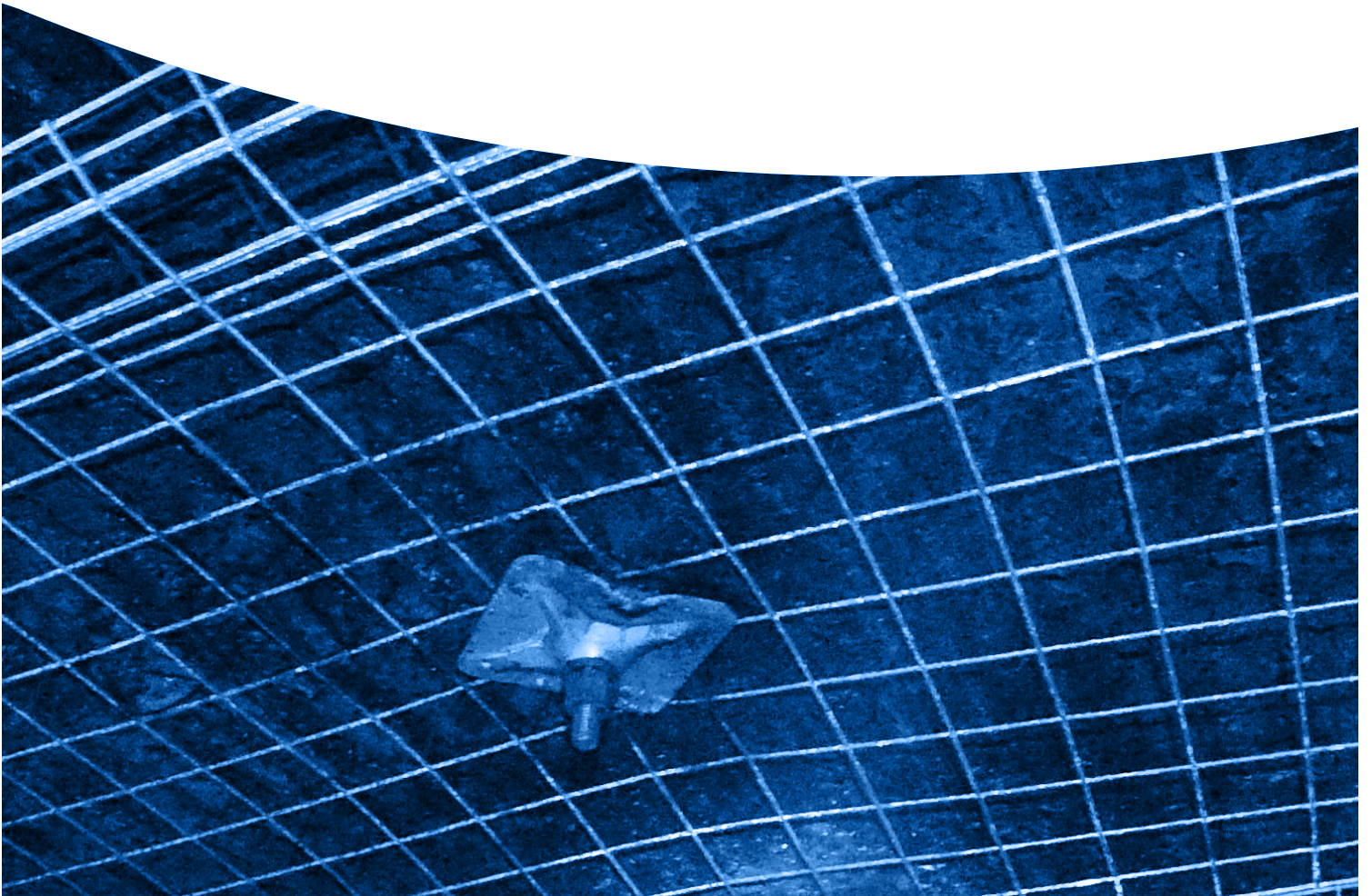


Features:

- For pinning mesh against the rock face over top of pre-installed rock bolts
- Welded nut of any size to thread onto existing installed rock bolts
- 200 mm round plate to aid spinning the plate against mesh, no corners to catch in the wires
- Extruded height to accommodate the standard tail length of an installed bolt, allowing the mesh to be pushed tight against the rock face
- 3 mm thick plate for extra strength
- Good for pinning rock fall netting over installed dynamic ground support

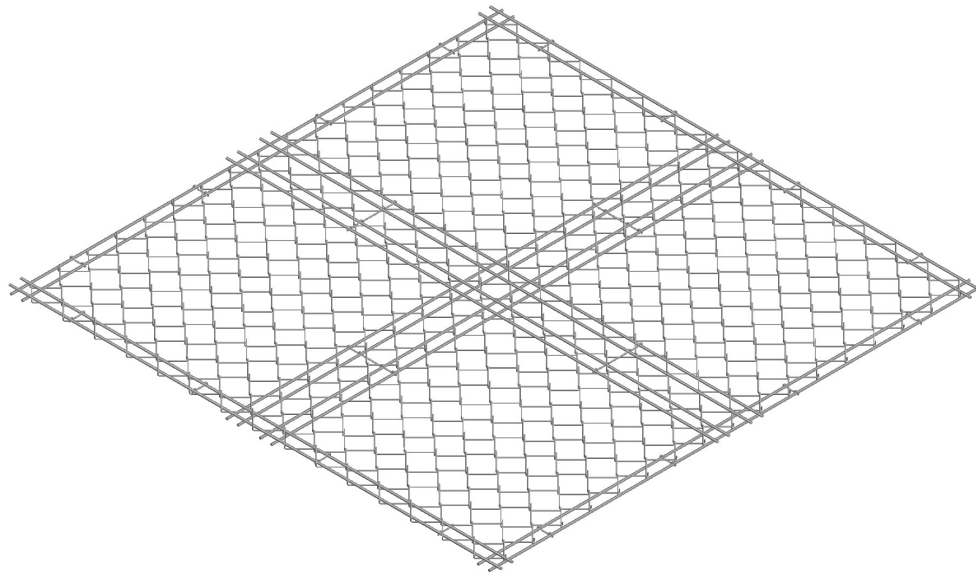
Nut	Diameter (mm)
20 mm J-Tech	200
25 mm J-Tech	200

MESH



Mesh

ST Mesh

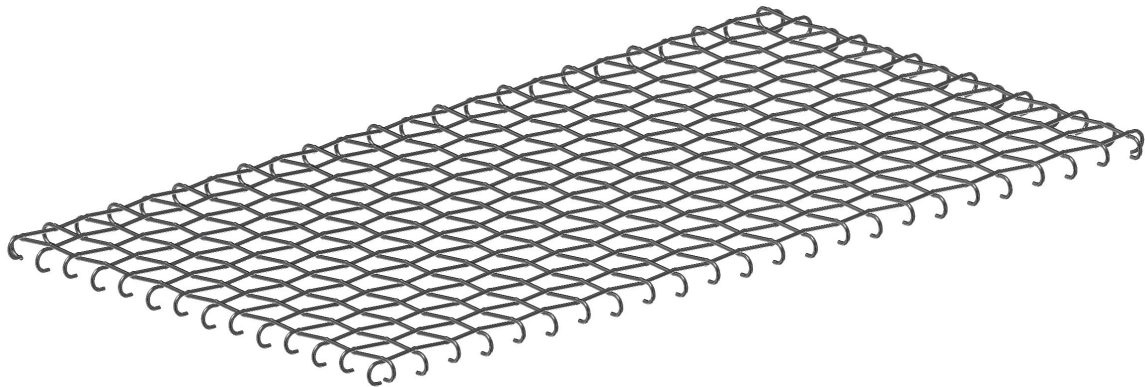


- High strength woven mesh designed to minimize displacement and provide ground support system solutions
- 10 mm bolt reinforcing wires with 5 mm chain link wire
- Designed for long term support in extreme conditions such as draw points
- 200kN capacity at less than 300 mm displacement
- Easy Installation from standard bolting machines
- Available as plain or with hot dip galvanised corrosion protection

Property	Unit	Typical Value
Aperture	mm	100
Load Capacity	kN	230
Module Size	mm	2200 x 2200
Module Mass	kg	65

Mesh

Woven Mesh

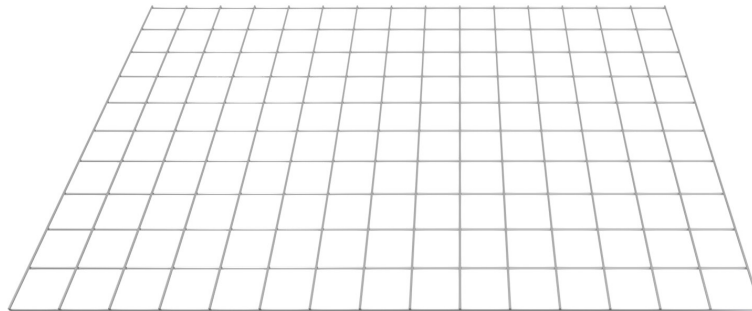


- High strength woven mesh designed to minimize displacement and provide ground support system solutions
- Designed for long term support in extreme conditions such as draw points
- 200kN capacity at less than 300 mm displacement
- Easy Installation from standard bolting machines
- Modular panels allowing multiple sheet installation together utilizing hooked design
- Available as plain or with hot dip galvanised corrosion protection

Property	Unit	Typical Value
Wire Diameter	mm	10
Aperture	mm	100
Load Capacity	kN	230
Module Size	mm	1500 x 2400
Module Mass	kg	43

Mesh

Mine Mesh



Features:

- Trimmed edges to ensure there is a limited overhang of wire to cause injury when handling
- Weld tests completed on all welders over continuous runs
- Weld strength to be greater than 75% of the wire UTS
- Typical wire spacing of 100 mm
- Wire diameters, spacing and overall dimensions can be customised to suit particular applications
- Customised paint lines along the modules to suit roof bolt patterns
- Available as strap from 4 mm to 8 mm diameters
- Custom high strength or seismic sheets available with double or additional wires if requested
- Available as plain or with galvanised corrosion protection

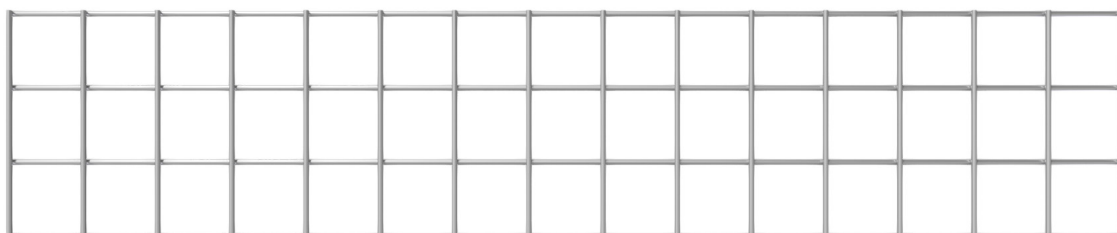
Packaging:

- Steel or plastic strapping
- Bundle sizes to suit the customer

Wire diameter (mm)	Weld Strength (kN)
4	4.7
5	7.5
5.6	9.4
Wire Grade	AS4671:2001 - Grade 500L
Galvanising	AS 2423:2001 W02Z >80g/m2

Mesh

Mesh Strap



Features:

- Typically flat sheets if larger wire diameter and dimensions suitable for wall support
- Wire diameters, spacing and overall dimensions can be customised to suit particular applications such as mesh arches.
- Customised paint lines along the modules to suit bolt patterns
- Underground support where there is significant strata movement
- Areas requiring increased surface support between bolts
- High load capacity mesh

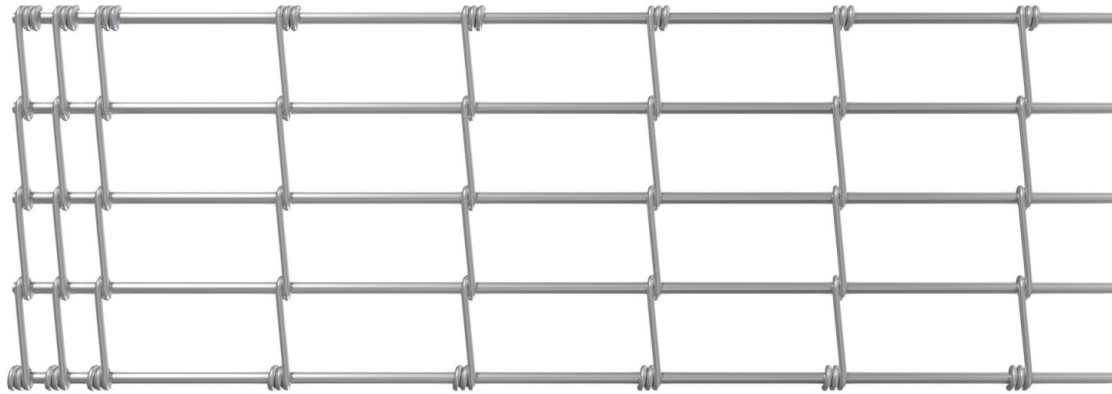
Packaging:

- Steel or plastic strapping
- Bundle sizes to suit the customer

Wire diameter (mm)	Weld Strength (kN)
4	4.7
5	7.5
5.6	9.4
7	14.4
8	18.9
10	29.5
Wire Grade	
AS4671:2001 - Grade 500L	
Galvanising	
AS 2423:2001 W02Z >80g/m2	

Mesh

Ausro Strap



Features:

- High energy absorbing design
- Allows for movement without weakening the integral mesh strength
- Pig tail cross wire design allows for load distribution over multiple bolts
- Corrosion protection options available
- Typical aperture 75 mm x 155 mm
- Significantly higher load capacity than welded mesh

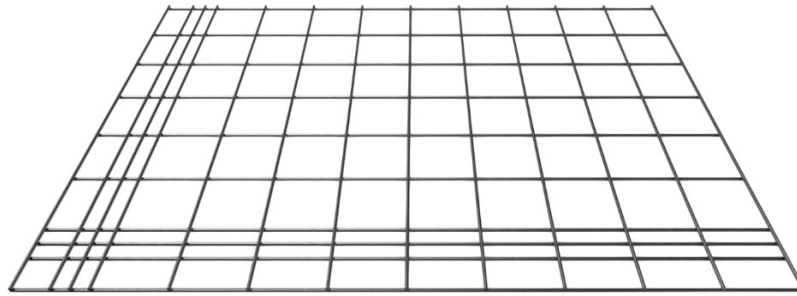
Packaging:

- Widths 300 to 600 mm
- Black or galvanized finish

Wire Direction	Wire diameter (mm)
Longitudinal	10
Cross	6.3
Wire Grade	AS4671:2001 - Grade 500L
Galvanising	AS 2423:2001 W02Z >80g/m2

Mesh

Seismic Mesh - Supershield®



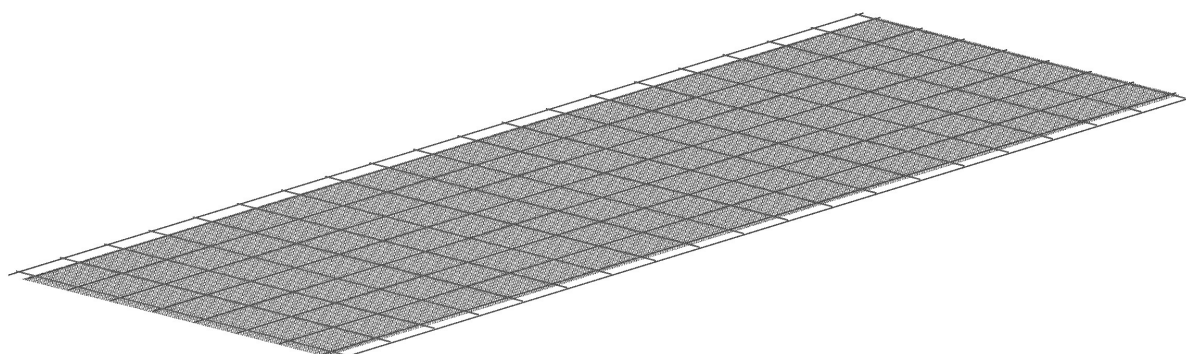
Features:

- Underground support where there is significant seismic movement
- Areas where high yield properties are required
- Areas requiring increased surface support between bolts
- Available in lengths of 3 m to 6 m
- Standard width 2.4 m
- Special width up to 3 m
- Larger diameter wire at bolt-in points
- Additional strengthening wires at required bolt spacing

Wire Diameter	Weld Strength
5.6	9.4
Wire Grade	AS4671:2001 - Grade 500L
Galvanising	AS 2423:2001 W02Z>80g/m ²

Mesh

Shotcrete Mesh



Features:

- Suitable for spraying shotcrete over
- Allows faster and more efficient underground construction of walls and barriers
- Avoids the need for using hessian screens
- Can be easily folded and maneuvered

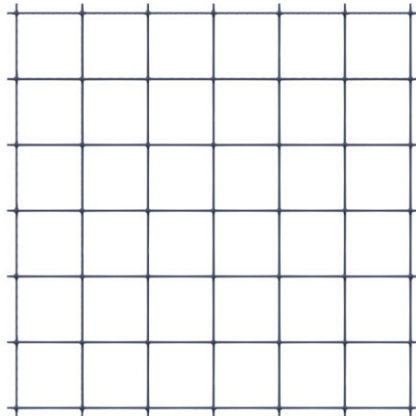
Packaging:

- Black or galvanized finish

Wire diameter (mm)	Sheet Dimensions (m)	Mass per sheet (kg)
4	1.17 x 3.00	5.6

Mesh

Fibreglass Mesh



Features:

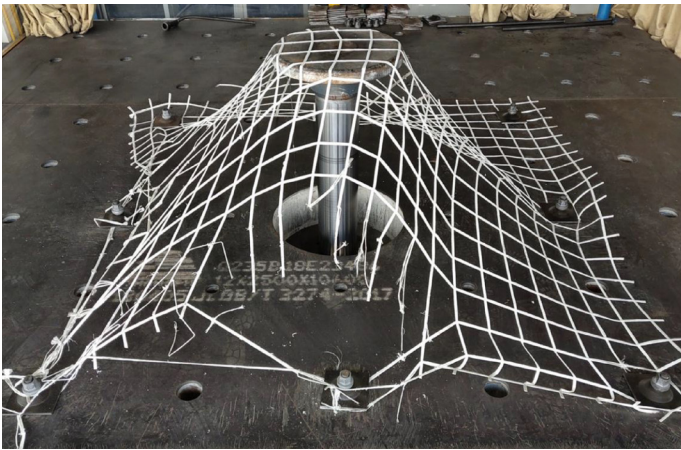
- Available in custom rigid flat sheets
- Commonly used for surface support that will later be required to be cut
- Corrosion resistant

Rod Diameter (mm)	Breaking load of rod (kN)	Load at knot (kN)	Aperture (mm)
4	12.5	2 - 3	100 x 100
6	28	3 - 5	100 x 100

Available in flat sheets to custom dimensions

Mesh

Spiderweb Mesh



Features:

- High capacity and lightweight mesh module
- Displacement minimised to below 400 mm when nearing ultimate loads using 2 m x 2 m bolt spacing
- Load capacity - Minimum 38kN
- Load capacity - Typically 50kN
- User-friendly cuttable design and packaging
- Lightweight - approximately 0.5kg/m²
- Mesh Roll - 100 m X 5.2 m, 100X100 mm apertures.
- Non Metallic - Suitable for Shaft Lining
- Can be tailor-made to suit various or desired roll lengths eg 4.5 m x 5.5 m sheets

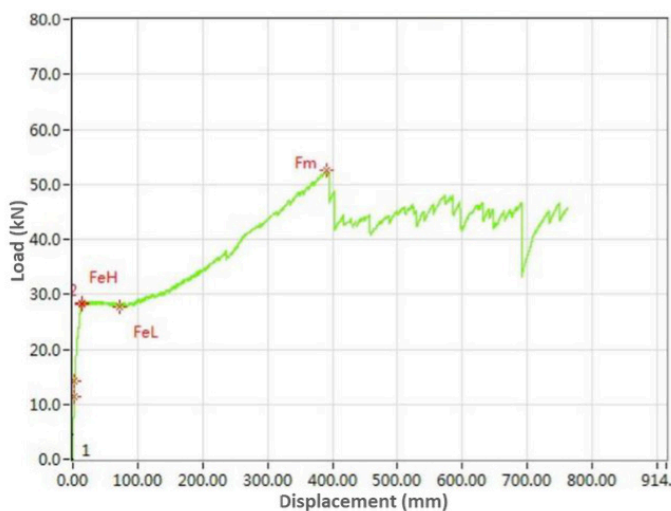
SpiderWeb Mesh is a high strength polyester geofabric designed for reduced manual handling and easy installation with existing mining equipment. The module conforms well to rock undulation and provides alternative support to welded steel mesh in extreme mining conditions.

SpiderWeb Mesh Technical Data:

Tensile Strength (kN/m)	Elongation at Yield % (mm)	Aperture (mm)	Roll Dimensions (m)
100	13	100 x 100	100 x 5.2

FRAS to MT141-2005

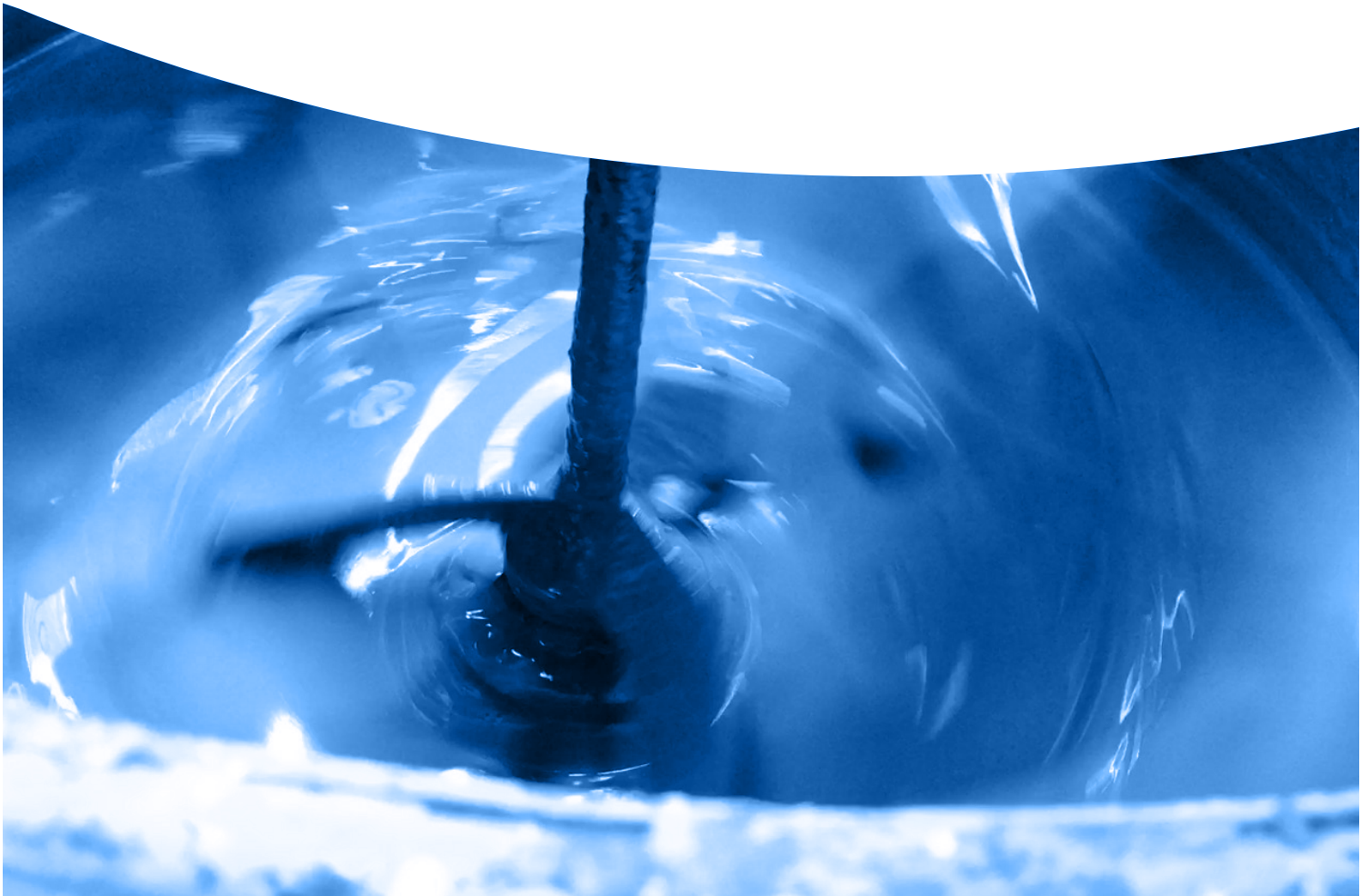
Available in flat sheets cut to custom dimensions



SpiderWeb Mesh test result achieving 53kN <400 mm displacement utilising a 2*2 m bolt spacing



GROUTS



Specialty Grouts and Cements

Top-Down 80 MPa Grout – TD80

TD-80 grout is a pumpable cementitious grout for use as a bonding agent between a reinforcing member and the borehole wall in ground support systems. The product is packaged in durable water resistant 20 kg bags for use in remote and harsh underground mining environments. The product is designed to minimise the risk of hard lumps entering pumping injection systems, which in turn minimises hazardous pressurisation and blockages.

Features:

- High strength 80 Mpa thixotropic cable bolt grout for “top-down” grouting
- Ready to use, requires only the addition of water and mixing
- Non shrink, unique shrinkage compensation formulation
- Excellent pumpability

Application:

- Top-down grouting of groutable cable bolts



Technical Data

Fresh Wet Density	2000 kg/m ³ (6L water per 20kg bag)
Yield Estimate	13-14 L per bag
Set Time	7 hours
Expansion	1-3%

Uniaxial Compressive Strength* (MPa)

Days	1 DAY	7 DAYS	28 DAYS
6L/20kg bag	35	78	107
7L/20 kg bag	25	70	96
8L/20 kg bag	16	46	78

*UCS independent test results were obtained using 50x50x50mm cubes, tested per AS 1478.2

Bottom-Up 100 MPa Grout

Bottom-Up-100 is a pumpable cementitious grout for use as a bonding agent between a reinforcing member and the borehole wall in ground support systems. The product is packaged in durable water proof 20 kg bags for use in remote and harsh underground mining environments. The product is designed to minimise the risk of hard lumps entering pumping injection systems, which in turn minimises hazardous pressurisation and blockages.

Features:

- High strength 100 MPa cable bolt grout for “bottom-up” grouting
- Ready to use, mix with water and pump
- Excellent pumpability
- Non shrink, unique expansion system compensates for shrinkage
- Typically used with Bowen cables, 15.2 mm triple/twin-strand cable bolts and trusses

Packaging:

- Durable water proof 20kg bags for use in remote and harsh underground mining environments
- 56 bags per pallet, 1.2 tonne per pallet



Uniaxial Compressive Strength* (MPa)			
	1 DAY	7 DAYS	28 DAYS**
5 litres/bag	60	100	105
6 litres/bag	55	90	100

*UCS independent test results were obtained using 50 x 50 mm cubes

**28 day strength may vary between 85 MPa and 105 MPa depending on water content and testing methods utilised

Estimated yield 12-13 litres of grout at 5-6 litres of water per bag

Water : Grout Mix	5-6 litres per bag
Estimated Yield	12-13 litres per bag

Grouts

Jennchem J-URR Grout

Jennchems Underground Roadway Repair “J-URR” is a specially formulated fast setting concrete designed for rehabilitating underground roadways and filling mud holes the mining and tunneling industries.

Features:

- Designed specifically for demanding applications where quick return to service is required, or where traditional concrete mixing equipment is unavailable or impractical
- Formulated to absorb water and gain strength rapidly with no mixing
- Simple application with minimal dust generation

Packaging:

- 1 Tonne bulk bags
- 20kg bags

Foot Traffic	Light Duty Traffic (Utes)	Heavy duty Traffic (Jumbo & Drills)	Extreme Duty Traffic (Trucks)
10 Minutes	30 Minutes	4 hours	8 hours

Estimated yield approximately 15 litres per 20kg bag

Specialty Grouts and Cements

J-Fill Grout

Jennchem J-FILL is a pumpable cementitious grout for use in ventilation devices and void filling applications for ground control in underground mining. Jennchem J-Fill has a high volume output which means that significantly less material is required to be mixed with water compared to conventional grouts.

Features:

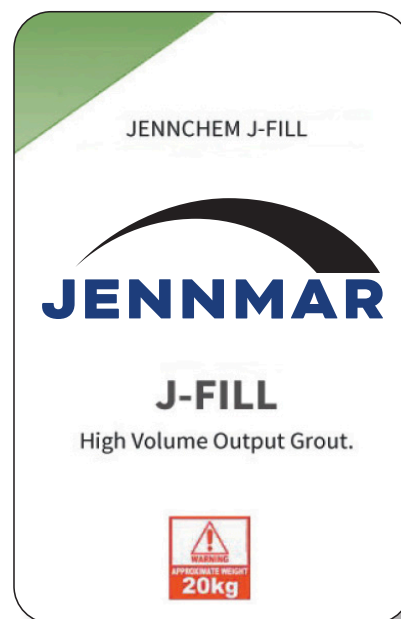
- High volume output, typically 340 – 440kg produces 1 cubic metre of grout
- Non-shrink
- Low alkali, safe to handle
- Rapid gelling for ease of placement
- Yields to ground movement
- Consult Jennchem personnel for installation instructions

Application:

- A continuous placer pump is required. Consult Jennchem personnel for installation instructions

Packaging:

- 20kg plastic bags (56 per pallet)
- 1 tonne bulk bags



Uniaxial Compressive Strength* (MPa)

Water: Powder	1 DAY	7 DAYS	28 DAYS
2:1	0.6	3.3	7.5
2.5:1	0.4	1.5	4.5

Water: Powder	Fresh Wet Density Kg/m ³	Gel Times (minutes)	Kg Powder/m ³
2:1	1200 - 1300	4 - 8	400 - 440
2.5:1	1160 - 1260	6 - 10	340 - 360

Specialty Grouts and Cements

J-CRETE (FS) Sprayable Dry Mix Shotcrete

Jennchem's J-CRETE is a sprayable dry mix shotcrete for use in the construction of ventilation devices, strata stabilisation and remediation applications for ground control in underground mining.

J-CRETE's rapid setting and high early strength characteristics allow for more efficient installation rates and earlier return to service. J-CRETE can be applied through any of the industry approved dry shotcreting equipment.

Features:

- Rapid setting
- High early strength
- Minimum rebound
- Chloride free (non-corrosive to steel)
- Non-Flammable
- Water resistant

Application:

- Rated and non-rated ventilation control devices
- Remediation work
- Strata stabilisation

Application Equipment:

- LOVA Pump
- Piccola Pump

Packaging:

- 20kg bags
- 1000kg, 1200kg bulk bags

	UCS (MPa)	Bond Strength (MPa)	Flexural Strength (MPa)
4 Hours	15	-	-
3 Days	40	21	4.5
7 Days	60	-	6.5
28 Days	75	-	8



Thin Spray Liners

TL-40 - Thin Sprayed Liner

2 part spray applied polymer modified membrane for surface sealing and weathering protection of rock and coal substrate.

Features:

- Rapid setting
- High early strength development
- Excellent bond to substrate
- Easily spray applied
- Dustless application
- Can be pumped long distances
- Non toxic
- Low VOC

Packaging:

- Part A - 20kg bags
- Part B - 20L Pales

Application:

- Specialist pump and nozzle required for bulk application. Contact Jennchem for further details
- Small applications can be completed with a clark pump and specialist nozzle from Jennchem

Applications:

- Stabilisation of rock and coal strata
- Flexible surface support
- Temporary or preliminary slope protection
- Non rated ventilation control devices
- Corrosion protection for steel standing support
- Surface support before shotcrete application
- To reduce rock weathering
- Minimise hard rock bursting
- Pillar/Rib Support
- Abutment for low pressure injection

Technical Data — TL-40 - Thin Sprayed Liner

Typical Application Thickness	2 - 12mm
Maximum Thickness	40mm
Density	1900kg/m ³
Bond Strength @ 7 days	
Concrete	>1.7Mpa
Coal	>Substrate Failure
Compressive strength	50Mpa @ 28 days
Tensile Strength @ 7 days	>3.5 Mpa
Flexural Strength	>7Mpa
Elongation at break	60%
Flammability	Self Extinguishing

Mix Design — TL-40 - Thin Sprayed Liner

Part A	4 x 20kg bag
Part B	1 x 20L polymer
Product Volume	42 Litres
Applied Thickness	5 mm
Coverage	8.4m ²

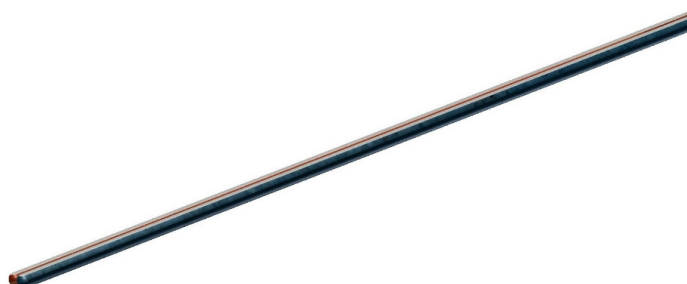


J-LOK RESIN CAPSULE & ACCESSORIES



Resin Capsules And Accessories

J-Lok Hard Rock Twin Resin Capsules



Features:

- Twin capsules with different set hold times sealed at each end by wire clips and joined together
- J-Lok capsules utilize a stiffer more robust capsule film containing the resin mastic and catalyst sections separated by a thin plastic film inside each capsule which improves durability and handling
- Available in oil or water type catalyst types
- Standard oil based catalyst as approximately 7% of capsule and standard water based catalyst as approximately 20% of capsule for improved mixing
- Larger limestone grit to improve flow of resin around bolt during installation and increase load transfer
- For general purpose anchoring of typical rebar rock bolts
- Available in diameters of 25, 26, 30 and 36 mm
- Available gel times range from 12 seconds to 90 seconds
- Parachute retainers available with each box
- Other sizes available on request

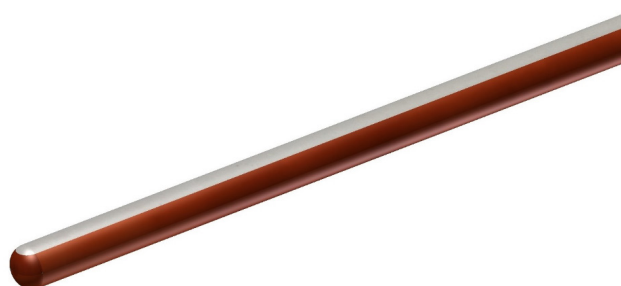
Punched shear strength (MPa)	>22
Shelf life (months) * when stored as recommended	6
Diameters available (mm)	25, 26, 30, 36
Available Gel Times (secs)	12-90

Total 30mm Twin Capsule Length (mm)	1800	2100-2400	2900-3000
Quantity / box	9	7	5
Quantity / pallet	378	294	210

Speed	Capsule Colour	Approximate spin time (s)	Approximate hold time (s)
Extra Fast / Slow	Yellow / Blue	15	12-60
Fast / Slow	Yellow / Blue	15	12-60
Medium / Slow	Red / Blue	20	19-60

Resin Capsules And Accessories

Spin & Hold Single Capsule Speed Resin



Features:

- For anchoring of all types of rock bolts and with a range of hand held and mechanized bolters
- Single J-Lok capsules utilize a stiffer more robust capsule film containing the resin mastic and catalyst sections separated by a thin plastic film inside each capsule which improves durability and handling
- Available in oil or water type catalyst types
- Standard oil based catalyst as approximately 7% of capsule and standard water based catalyst as approximately 20% of capsule for improved mixing
- Larger limestone grit to improve flow of resin around bolt during installation and increase load transfer
- For general purpose anchoring of typical rebar rock bolts
- Available in diameters of 25, 26, 30 and 36 mm
- Available gel times range from 12 seconds to 90 seconds
- Parachute retainers or cardboard insertion sleeves available
- Other sizes available on request

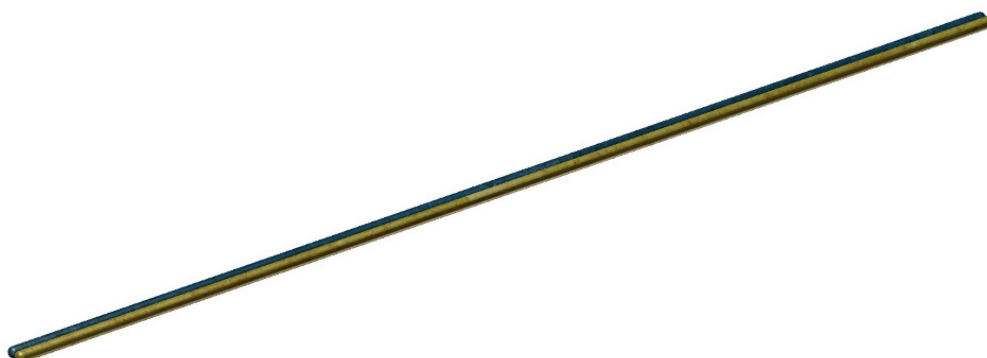
Punched shear strength (MPa)	>22
Shelf life (months) * When stored as recommended	6
Diameters available (mm)	25, 26, 30, 36

Capsule length(mm)	330-440	550-650	800-1000	1100-1500	2100-2400	2900-3000
Quantity / box	40	35	25	20	14	10
Quantity / pallet	2240	1680	1050	840	294	210

Speed	Fast	Medium	Slow
Capsule Colour	Yellow	Red	Blue
Approximate spin time (s)	10	12	20
Approximate hold time (s)	4	10	120

Resin Capsules And Accessories

Rapid Development Resin Capsules



Features:

- Increased productivity – no waiting for resin to cure before tightening the nut for most installations
- Self-auditing bolt installation – based upon remnant thread length of bolt which provides an indication if the standard of installation
- High pre-tension levels can still be achieved where required
- Extensive research and independent testing shows minimal damage to resin bond using rapid development
- Uses J-Lok dual speed specifically formulated accelerated cure resin capsule and Jenmar bolt with engineered accurate and reliable pin break out level
- Available in diameters of 25, 26 and 30 mm
- Available gel times range from 12 seconds to 90 seconds
- Resin parachute retainers available
- Other sizes available on request

Shelf life (months)	6
Gel Time Range (secs) * when stored as recommended	12-90
Approximate spin time (secs)	20
Approximate hold time (secs)	3-5

Capsule length (mm)	1800-3000
Capsule Diameter (mm)	26-30
2400/30 mm Length Quantity / box	7
2400/30 mm Length Quantity / pallet	294

Resin Capsules And Accessories

Shooter Resin Capsules



Features:

- Separate resin mastic and catalyst encased within a thin plastic film, sealed at each end by wire clips
- Stiffer more robust capsule film to improve durability, handling and reduce rupture when shooting through the hoses and into the hole
- Standard oil based catalyst as 7% of capsule
- Larger limestone grit to improve flow of resin around bolt during installation and increase load transfer
- For general purpose anchoring of typical rebar rock bolts
- Designed specifically for WILCO TECHNOLOGIES Shooter System
- Available gel times range from 12 seconds to 90 seconds

Punched shear strength (MPa)	>22
Shelf life (months) * when stored as recommended	6
Diameter (mm)	25,

Capsule length(mm)	600-650
Quantity / box	35
Quantity / pallet	1680

Speed	Fast	Medium	Slow
Capsule Colour	Yellow	Red	Blue
Approximate spin time (s)	10	12	20
Approximate hold time (s)	4	10	120

Resin Capsules And Accessories

Post Grout Cable



Features:

- Designed for rapid development cablebolting
- Allows point anchoring of cable bolts for tensioning prior to being post cementitious grouted
- Cost effective as allows rapid development and increased turnaround time
- Comes with resin retainer
- Available with oil (-7%) or water (-20%) catalyst
- Water based catalyst allows for improved mixing of resins in larger diameter drill holes

Capsule length(mm)	650	800 - 1100	1200
Quantity / box	15	10	9
Quantity / pallet	720	420	378

Speed	Medium	Slow
Hold time (s)	19	80

Punched shear strength (MPa)	>22
Shelf Life (months) *when stored as recommended	4

Refer to individual box label for spin and hold installation instructions

Available in standard or grit limestone filler configurations

Resin Capsules And Accessories

Jumbo Resin Inserter Kits



Features:

- Nylon Jumbo fittings with clear tube to aid installation of resin capsules
- Available in range of sizes

Thread	Diameters available (mm)	Lengths (mm)
R32	26, 30	2000-3600
T38	26, 30	2000-3600

CUTTABLE SUPPORT & ACCESSORIES



Cutable Support

Torque Tension Bolt 32 mm



Features:

- High capacity support where extraction includes cutting of bolts
- 46 mm Hex nut
- Break-out cap is designed to break into small pieces to clear easily from spanners/dollies
- “V” Notch end to promote shredding of the resin capsule film
- Continuous rope thread providing deformations for resin mixing and high bond strength with the rock
- J-Lok resin capsules available in 32–36 mm diameter for maximum encapsulation
- Both 200 mm and 300 mm square plastic steel inserted plates with 51mm holes available to suit this product
- Do not store these products in direct sunlight

Property	Minimum Value
Ultimate Tensile Strength of Rod (kN)	500
Ultimate Tensile strength with Nut (kN)	90
Single Shear Strength (kN)	110
Rod Torsional Strength (Nm)	200
Elongation %	2
Cross sectional area (mm ²)	730
Thread pitch (mm)	10
Mass/meter (kg/m)	1.45

Break-out Nut	Torque Setting (N.m)
White	130 - 175

Rod Colour - Black
To suit drill bit 38 - 42 mm

Cuttable Support

Hollow Bolt 32 mm



Features:

- High capacity secondary support fiberglass dowel
- Suitable for use with common mine site cable bolting consumables:
 - 36 mm diameter resin capsules
 - Cable bolt grouts
- 46 mm Hex Nut
- Purpose designed installation spanners and grout connectors available
- Custom configurations are available including;
 - Resin anchored, tensioned, post grouted dowel
 - Simple fully grouted dowel
- Hollow dowels stocked in 3 m and 4 m lengths
- Do not store these products in direct sunlight

Property	Minimum Value
Ultimate Tensile Strength of Rod (kN)	320
Ultimate Tensile strength with Nut (kN)	90
Single Shear Strength (kN)	83
Rod Torsional Strength (Nm)	150
Elongation %	2
Cross sectional area (mm ²)	730
Thread pitch (mm)	10
Mass/meter (kg/m)	1.2

Rod Colour - White
To suit drill bit 42 - 45 mm

Cuttible Support

Thrust Dowel 22 mm



Features:

- Used for support where extraction includes cutting of bolts
- Patented high strength over-moulded polymer head achieves double the strength of standard fiberglass nuts
- Coloured over-moulding polymer provides length colour code after installation
- Thrust dowels eliminate tails protruding
 - reducing the risk of damage to rib support by mobile equipment
 - reduces risk of personal injury when walking around equipment installations
- “V” Notch end to promote shredding of the resin capsule film
- Continuous rope thread providing large deformations for resin mixing and high bond strength with the rock
- 22 mm diameter dowel for high strength and maximum encapsulation by volume
- Do not store these products in direct sunlight

Property	Minimum Value
Ultimate Tensile Strength of Rod (kN)	230
Molded Head Tensile Strength (kN)	120
Single Shear Strength (kN)	50
Rod Torsional Strength (Nm)	80
Elongation %	2
Cross sectional area (mm ²)	340
Thread pitch (mm)	10
Mass/meter (kg/m)	0.61

Bolt length (mm)	Head colour code
1150	Blue
1450	Yellow
1750	Red

Rod Colour - White

To suit drill bit 42 - 45 mm

Cutable Support

Thrust Dowel 25 mm



Features:

- Used for support where extraction includes cutting of bolts
- Thrust dowels eliminate tails protruding
 - reducing the risk of damage to rib support by mobile equipment
 - reduces risk of personal injury when walking around equipment installations
- “V” Notch end to promote shredding of the resin capsule film
- Continuous rope thread providing large deformations for resin mixing and high bond strength with the rock
- 25 mm diameter dowel for high strength and maximum encapsulation by volume
- Do not store these products in direct sunlight

Property	Minimum Value
Ultimate Tensile Strength of Rod (kN)	300
Ultimate Tensile strength with Nut (kN)	50
Single Shear Strength (kN)	60
Rod Torsional Strength (Nm)	110
Elongation %	2
Cross sectional area (mm ²)	434
Thread pitch (mm)	10
Mass/meter (kg/m)	0.95

Rod colour – 1.5 m = Orange, 1.2 m = Black
To suit drill bit 28 mm

Cutable Support

Extra High Torsion (Xht) Tensionable Bolt 22 mm



Features:

- Extra high torsional strength material minimises risk of damage to fiberglass when tightening
- Used for support where extraction includes cutting of bolts
- Break-out cap is designed to break into small pieces to clear easily from spanners/dollies
- “V” Notch end to promote shredding of the resin capsule film
- Continuous rope thread providing large deformations for resin mixing and high bond strength with the rock
- 22 mm diameter dowel for high strength and maximum encapsulation by volume
- Recommended for drill hole diameters 27 - 28 mm

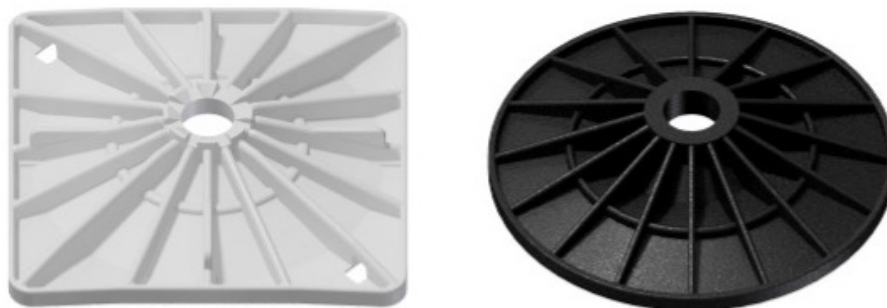
Property	Minimum Value
Ultimate Tensile Strength of Rod (kN)	210
Ultimate Tensile strength with Nut (kN)	60
Single Shear Strength (kN)	50
Rod Torsional Strength (Nm)	250
Elongation %	2
Cross sectional area (mm ²)	340
Thread pitch (mm)	10
Mass/meter (kg/m)	0.61

Break-out Nut	Torque Setting (N.m)
White	80 - 110
Blue	30 - 50

Rod colour - Grey
To suit drill bit 27 - 28 mm

Cuttible Support

Plastic Plates



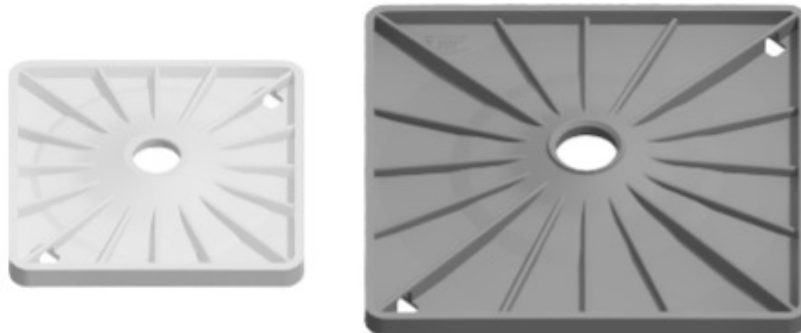
Features:

- Used as surface support where extraction involved cutting the support
- Compatible with Jenmar 22 mm dowels
- Flexibility of all plastic allow conforming to shape of uneven coal rib
- Tested to ensure no splitting under severe deformation found in uneven coal ribs
- Square plate is designed to visually turn corners upon applying hydraulic rib bolter thrust
- Do not store these in direct sunlight

Dimension (mm)	Hole diameter (mm)	Minimum Pull through load (kN)	Mass (kg)	Standard pack	Compatible Bolt dia (mm)
230 round	33	20	0.3	1000	22
230 square	33	12	0.3	1000	22

Cutable Support

Plastic Steel Combination Plates 22-25 mm Dowels



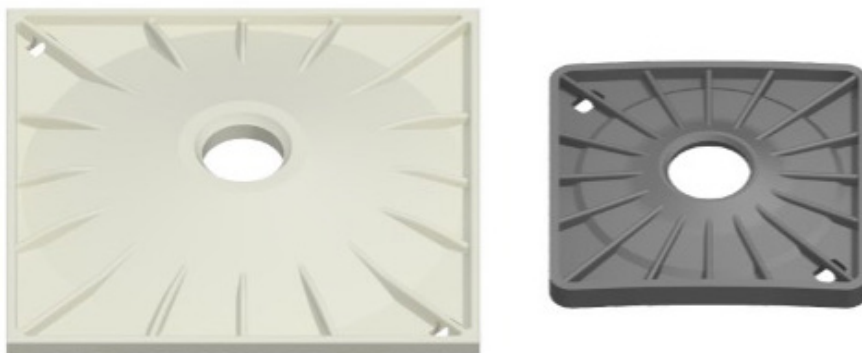
Features:

- Used as surface support where extraction involved cutting the support
- Thin 3 mm steel plate encased within the main plate provides up to 3 times the strength of a standard plastic plate
- Superior strength is compatible with new improved fiberglass dowels
- Steel inserts allow use of bolting rig magnetic holders
- Steel plate thin gauge and rounded corners minimize risk of conveyor belt damage
- Do not store these products in direct sunlight

Dimension (mm)	Hole diameter (mm)	Minimum Pull through load (kN)	Mass (kg)	Standard pack	Compatible Bolt diameter (mm)
230 round	33	50	0.6	500	22
200 x 200 square	33	50	0.7	1000	22
200 x 200 square	42	50	0.7	1000	22 and 25
300 x 300 square	33	50	1.0	1000	22
300 x 300 square	42	50	1.0	1000	22 and 25

Cutable Support

Plastic Steel Combination Plates 32 mm Dowels



Features:

- Used as surface support where extraction involved cutting the support
- Thin 3 mm steel plate encased within the main plate provides up to 3 times the strength of a standard plastic plate
- Superior strength is compatible with new improved fiberglass dowels
- Steel inserts allow use of bolting rig magnetic holders
- Steel plate thin gauge and rounded corners minimize risk of conveyor belt damage
- Do not store these products in direct sunlight

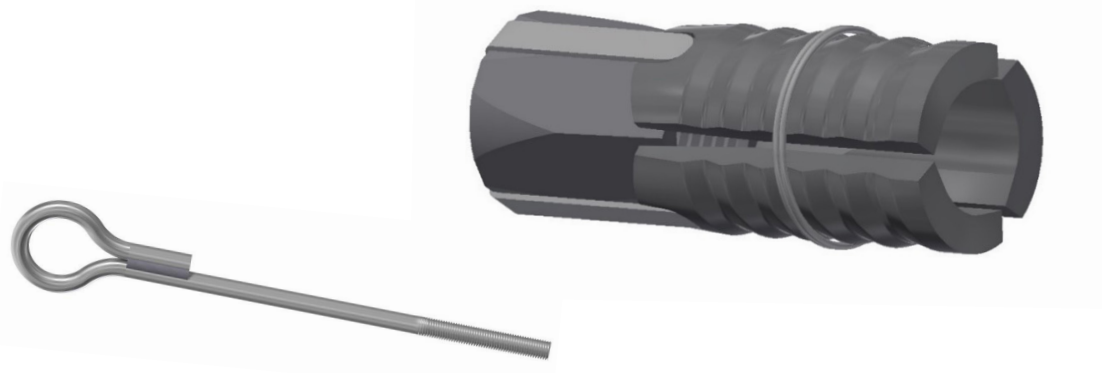
Dimension (mm)	Hole diameter (mm)	Minimum Pull through load (kN)	Mass (kg)	Standard pack	Compatible Bolt diameter (mm)
200 x 200 square	51	50	0.7	1000	32
300 x 300 square	51	50	1.0	1000	32

HARDROCK ACCESSORIES



Hardrock Accessories

Eye Bolts and L- Pins



Features:

- Expansion shells able to achieve tension to 50kN in competent ground. Load testing should always be performed to determine the suitability of the anchor

ITEM	Hole Diameter	
24 mm Eye Bolt	42-45	24mm eye bolt system using right hand thread 3 leaf expansion shell
24 mm L-Pins		
M24 Expansion Shell		
20 mm Eye Bolt	35-38	20mm eye bolt system using right hand thread 3 leaf expansion shell
M20 Expansion Shell		
16 mm Eye Bolt	30	16mm eye bolt system using right hand thread 3 leaf expansion shell
M16 Expansion Shell		
Pine Wedges	-	Pine Wedges for range of uses
Washers	Range of separate dome washers to fit Jenanmar Bolts	
Hex Nuts	Range of separate dome washers to fit Jenanmar Bolts	

Further specifications available on request

Hardrock Accessories

Clip Up Hooks



Features:

- 120 mm Pipe Line hook hangers to suit 110 mm poly with added 62 mm hook and patented safety latch for easy “Clip Up” operation. (minsup clips)
- Safe, tidy, and organized pump lines away from mobile equipment
- Designed with saddles use with moving pipes extending pipe life
- Range of chains and ring options for “D” shackle or Friction-Lok hanging
- 3 or 4 pipe options
- Load rated to 800kg WLL
- Can be used horizontally or vertically

Dimension (mm)	Thickness (mm)	Pipe Diameter (mm)	Working Load Limit* (kg)	Unit Weight (kg)	Standard pack
940 x 190	6	120	800	1.5	50

WWW.JENNMAR.COM.AU

Head Office and Plant

40-44 Anzac Avenue, Smeaton Grange NSW 2567

Ph: +61 2 4648 7500

Fax: +61 2 4648 7555

Queensland Plant

48-50 Southgate Drive, Paget QLD 4740

Ph: +61 7 4952 8700

Fax: +61 7 4952 8777

Perth Plant

84 Furniss Road, Lansdale WA 6065

Ph: +61 8 9408 9900

Fax: +61 8 9408 9999



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