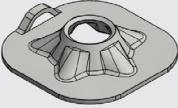
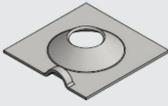
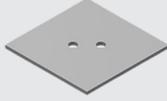
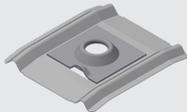
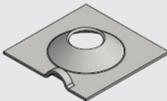


# HARDROCK GROUND SUPPORT

PRODUCT SELECTION GUIDE

ALWAYS AHEAD    

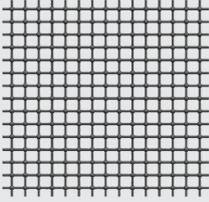
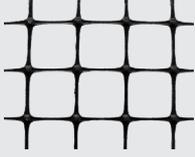
Product Family	Product Name	Product Characteristics	Product Application
Chemical Bolts  	Secura Bolt R24/ R28  	<ul style="list-style-type: none"> <li>&gt; Solid 22mm/25mm reinforcing bar that is threaded at one end with an R (Nova) thread profile and an integrated 36AF dome torque nut.</li> <li>&gt; Standard lengths 1.8-3m, additional sizes are available upon request.</li> <li>&gt; Design includes a unique paddle system to improve resin mixing providing higher bond strength in large diameter boreholes.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Permanent primary support.</li> <li>&gt; Galvanized finish available for corrosive applications.</li> <li>&gt; Primary use is strata reinforcement in underground hardrock mines.</li> </ul>
	Secura DB (Debonded)  	<ul style="list-style-type: none"> <li>&gt; Smooth solid bar with paddle on one end. The bolt end is equipped with Nova R thread and an integrated 36AF dome torque nut.</li> <li>&gt; Standard lengths 1.8-3m, additional sizes are available upon request.</li> <li>&gt; Custom Alloy steel enables the smooth section of the bar between the anchor point and face plate capable of deforming thereby absorbing large amounts of energy in dynamic grounds.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Highly effective ground support element in underground installations and tunnels, subjected to large deformations in rock mass such as rock burst and squeezing rock.</li> </ul>
Chemical Bolt Plates  	Crown Plates	<ul style="list-style-type: none"> <li>&gt; Crown plates are high load bearing capacity plates that provide optimal support in a range of strata</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Primary use is strata reinforcement in underground mines.</li> <li>&gt; Designed to transfer the load onto the rockface and secure the mesh.</li> </ul>
	Combi Crown Plates	<ul style="list-style-type: none"> <li>&gt; Combi Crown plate is where a Crown plate is welded onto a strata plate. Combi plates are typically used for meshing application with Secura bolts</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Combi Crown plates are available with or without a utility slot for supporting miscellaneous services.</li> <li>&gt; Plates can be supplied in black steel or hot dip galvanized.</li> </ul>
Cable Bolts  	Twin Strand Cable Bolts	<ul style="list-style-type: none"> <li>&gt; Cable bolt range includes continuous roll or cut to length cable bolts. Available in various lengths and bulb configurations.</li> <li>&gt; Available in 15.2 mm plain and bulbed cable bolts and Superstrand 21.8mm diameter cables.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Primary use is hard rock mining.</li> <li>&gt; Bulbs at the top to aid resin capsule mixing. Reinforced bulbs every 1000/500mm down the groutable length of the cable.</li> <li>&gt; Tensionable to 25 tonnes</li> </ul>

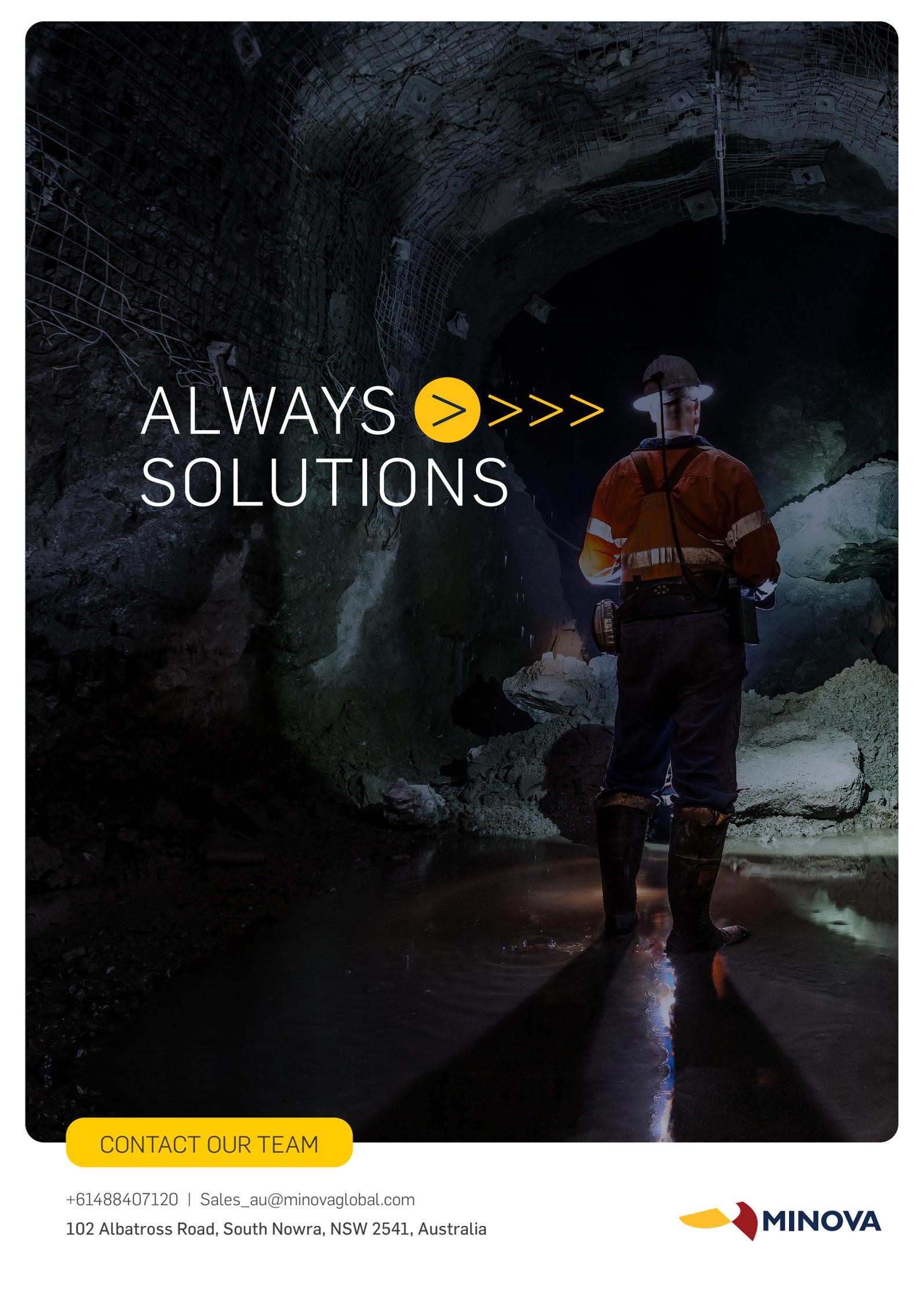
Product Family	Product Name	Product Characteristics	Product Application
Cable Bolt Plates	Dome Plates 	<ul style="list-style-type: none"> <li>&gt; High load bearing capacity plates that provide optimal support in a range of strata conditions.</li> <li>&gt; Available in various sizes to suit flat/domed Barrel &amp; Wedge type and diameter.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Dome plate applicable for single strand use, flat plate applicable for single and twin strand cables.</li> <li>&gt; Designed to transfer the load onto the rockface and secure the mesh.</li> </ul>
	Flex Plates 		
Friction Bolts 	Strata Bolt	<ul style="list-style-type: none"> <li>&gt; Bolts provide immediate frictional support at the face and can be installed with handheld or mechanised equipment.</li> <li>&gt; Pull test collars available for QA.</li> <li>&gt; For additional load bearing capacity, the bolts can be post grouted with cement grouts.</li> <li>&gt; Diameter available: 34mm, 40mm 47mm</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Primary use is strata reinforcement in underground mines.</li> <li>&gt; Designed to transfer the load onto the rockface and secure the mesh.</li> <li>&gt;</li> <li>&gt; Combi Crown plates are available with or without a utility slot for supporting miscellaneous services.</li> <li>&gt; Plates can be supplied in black steel or hot dip galvanised.</li> </ul>
	HCF Bolt (High Capacity Friction Bolt)	<ul style="list-style-type: none"> <li>&gt; HCF Bolt increased loadperformance in heavy ground conditions.</li> <li>&gt; Diameter available: 47mm</li> </ul>	
Friction Bolt Plates	Combi Plates 	<ul style="list-style-type: none"> <li>&gt; Combi plates are high load bearing capacity plates that provide optimal support in a range of strata conditions.</li> <li>&gt; Combi plates are designed where a dome plate is welded onto a strata plate.</li> <li>&gt; Assists in improving mine efficiency by reducing handling multiple plates</li> <li>&gt; Available in: 280x300x1.8mm</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Primary use is strata reinforcement in underground mines.</li> <li>&gt; Designed to help prevent loose material from falling between the roof bolt patterns and provide strength to the immediate roof.</li> <li>&gt; Available in black and galvanised versions to suit installation conditions.</li> </ul>
	Dome Plates 	<ul style="list-style-type: none"> <li>&gt; High load bearing capacity plates that provide optimal support in a range of strata conditions.</li> <li>&gt; Available in various sizes to suit application.</li> </ul>	

Product Family	Product Name	Product Characteristics	Product Application
Lokset Resin Capsules	<p>Classic</p> 	<ul style="list-style-type: none"> <li>&gt; The Lokset® resin capsule consists of a reinforced, thixotropic polyester resin mastic in one compartment and an organic peroxide catalyst separated by a physical barrier in the other.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; The Lokset® resin capsule is used primarily as an anchoring medium for Secura Bolts / Secura DB and Cable Bolts</li> <li>&gt; They provide roof and sidewall support in mines and tunnels.</li> <li>&gt; Suitable for Jumbo installation and/or pneumatic hand bolters.</li> <li>&gt; Suitable for Trajectaflex or alternative resin capsule shooter systems.</li> <li>&gt; The rotation of the bolt during installation ruptures the capsule, shreds the skin and mixes the two components causing a chemical reaction and transforming the resin mastic into a solid anchor.</li> </ul>
	<p>Advance®</p> 	<ul style="list-style-type: none"> <li>&gt; Lokset® Advance® Resin has all the advantages of the Lokset Classic, with extended shelf life of 12 months at 25°C reducing waste and disposal.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; The Lokset® Advance® resin-capsule is used as an anchoring support in strata especially where long tendon support is required.</li> </ul>
	<p>TooSpeedie®</p> 	<ul style="list-style-type: none"> <li>&gt; The Lokset® Toospeedie® is a two-speed resin capsule that is available in variations and combinations from extra-extra slow, to extra fast.</li> <li>&gt; Specific percentages of TooSpeedie® components are available on request.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; The Lokset® Toospeedie® resin capsule is used primarily as an anchoring medium for rockbolts and long tendons. They provide roof and sidewall support in mines and tunnels. Suitable for Jumbo installation and/or pneumatic hand bolters.</li> </ul>
	<p>X2</p> 	<ul style="list-style-type: none"> <li>&gt; Lokset® X2 resin capsules have been developed to enable full encapsulated mechanised resin bolting, utilising the Quick-Chem™ resin capsule insertion system.</li> <li>&gt; Prefit Quick-Chem™ versions are available to increase installation efficiency and assist waste reduction.</li> <li>&gt; The Lokset® X2 system incorporates two resin capsule that are joined and folded in half for packaging. Available in 1.5m X2 and 1.2m X2 lengths</li> </ul>	<ul style="list-style-type: none"> <li>&gt; The Lokset® X2 resin capsules are typically installed using development Jumbos in underground headings with an excavation height of 4–6 m, where hand insertion is not safe or practical.</li> <li>&gt; The Lokset® resin capsule is used primarily as an anchoring medium for rockbolts.</li> </ul>

Product Family	Product Name	Product Characteristics	Product Application
<p data-bbox="118 712 274 775">Quick Chem™ System</p> 	<p data-bbox="432 203 512 230">30mm</p> <p data-bbox="432 792 512 819">36mm</p>	<ul style="list-style-type: none"> <li data-bbox="616 203 1077 331">&gt; Quick-Chem™ is a patented system developed to assist resin capsule installation into boreholes for hard-rock bolting.</li> <li data-bbox="616 365 1077 555">&gt; The Quick-Chem™ system consists of a specially designed cap (Parachute) pre-fit/ suitable for attaching to 30 mm diameter and 36 mm diameter Lokset® resin capsules.</li> <li data-bbox="616 589 1077 779">&gt; The insertion tube consisting of a threaded R32 adaptor sleeve (that locates in the drill coupling of the Jumbo drifter in seconds) and is secured to a 3-meter length of clear, high strength, flexible plastic tubing</li> </ul>	<ul style="list-style-type: none"> <li data-bbox="1106 203 1538 297">&gt; Safe; enables resin capsule to be inserted in bolt hole from remote location under supported ground.</li> <li data-bbox="1106 331 1538 488">&gt; Quick; no requirement for lifting baskets or manual resin insertion, capsule can often be placed in insertion tube from operator's cab.</li> <li data-bbox="1106 521 1538 616">&gt; Efficient; up to 200-hole insertions can be achieved from each tube.</li> <li data-bbox="1106 649 1538 743">&gt; Easy to use; clear tubing indicates position of resin capsule.</li> <li data-bbox="1106 777 1538 840">&gt; Robust; strong and flexible insertion tube.</li> <li data-bbox="1106 873 1538 1001">&gt; Versatile; can be used with most drill rigs such as Robolters, Jumbo's, Boltec etc and in most rock bolting situations.</li> <li data-bbox="1106 1034 1538 1097">&gt; Adaptable; can be inserted through mesh and broken ground.</li> <li data-bbox="1106 1131 1538 1225">&gt; Reliable; assists the resin capsule in reaching the back of the hole undamaged.</li> </ul>
<p data-bbox="124 1406 268 1433">Hybrid Bolts</p> 	<p data-bbox="379 1411 563 1500">MY Bolt® (Minova Yielding Bolt)</p>	<ul style="list-style-type: none"> <li data-bbox="616 1406 1077 1500">&gt; MY Bolt is an easy to install mechanical combination bolt. Enables immediate support.</li> <li data-bbox="616 1534 1077 1628">&gt; Yield design engineered to effectively absorb exceptionally high dynamic loads.</li> <li data-bbox="616 1662 1077 1756">&gt; Available in 2.4M &amp; 3M versions. Additional lengths available to suit mine specifications.</li> <li data-bbox="616 1789 1077 1852">&gt; Available in HDG version to extend service life</li> </ul>	<ul style="list-style-type: none"> <li data-bbox="1106 1406 1538 1469">&gt; Easy installation with standard Jumbo attachments.</li> <li data-bbox="1106 1503 1538 1565">&gt; Immediate load bearing capacity on installation.</li> <li data-bbox="1106 1599 1538 1662">&gt; High load bearing capacity without use of grouts or resin.</li> <li data-bbox="1106 1695 1538 1852">&gt; A versatile bolt designed to accommodate various rock conditions, including fractured, highly fragile, robust, and seismic environments.</li> <li data-bbox="1106 1886 1538 2107">&gt; No resin or grout application is necessary, streamlining the installation process considerably. It can be seamlessly inserted into wet and fragmented ground without encountering any complexities or impediments.</li> </ul>

Product Family	Product Name	Product Characteristics	Product Application
<p>Self Drilling Anchors</p> 	<p>Carbothix</p> 	<ul style="list-style-type: none"> <li>&gt; Carbothix consists of two resin/hardener components, A and B.</li> <li>&gt; After the two components have been effectively mixed, the resulting viscous emulsion will not absorb any water.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; When intensively mixed together via a specialised static mixer from the metered pumping system the mixture thickens very quickly to form a tough interpenetrating network of nonporous elastic silicate or organomineral resin.</li> <li>&gt; This minimises leakage from the bolt hole, displaces drilling water helping to ensure full encapsulation.</li> </ul>
	<p>28, 32 and 38</p> 	<ul style="list-style-type: none"> <li>&gt; The self-drilling anchor system is a bolting solution that enables drilling and grouting in one operation.</li> <li>&gt; The anchor bar features a hollow bore for flushing or simultaneous drilling and grouting. Fitted with a left-hand or right-hand R-thread for easy extension and connection to conventional rock drilling equipment.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Primary use is strata reinforcement as alternatives to conventional rock bolting systems.</li> <li>&gt; When coupled together, SDA's provide an efficient alternative to long tendon support.</li> <li>&gt; Ideal for use in poor ground conditions and spiling applications.</li> </ul>
<p>Mesh</p>	<p>Steel</p> 	<ul style="list-style-type: none"> <li>&gt; Multiple configurations of mesh are available including numerous sheet sizes, apertures, wire diameters and black or galvanised wire.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Primary use in metal mining and tunneling development used in conjunction with ribbed and friction bolts.</li> <li>&gt; Mesh provides surface support coverage for loose rock.</li> </ul>
		<ul style="list-style-type: none"> <li>&gt; Ausro straps are yielding straps which allow the straps to yield under load conditions allowing better load distribution between bolts.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Ausro straps allow for larger deformation and load distribution as the longitudinal members are able to slip through the looped crossmembers, ensuring containment even with large strata movements.</li> <li>&gt; Applicable in unstable ground conditions where seismic activity is present, to improve surface support and to ensure better connection between the surface support and bolts.</li> </ul>

Product Family	Product Name	Product Characteristics	Product Application
Mesh	<p data-bbox="437 203 504 232">GFRP</p> 	<ul style="list-style-type: none"> <li data-bbox="616 203 1070 427">&gt; GFRP mesh provides surface support coverage for loose rocks between installed bolts. This mesh complies with standard grid applications while providing the added benefits of durability and cuttability.</li> <li data-bbox="616 461 1070 618">&gt; The high load capacity at each joint, comparable to welded steel mesh, is unique and makes the design of GFRP grid reinforced RC structures a viable option.</li> <li data-bbox="616 651 1070 719">&gt; GFRP Mesh is available FRAS rating upon request.</li> </ul>	<ul style="list-style-type: none"> <li data-bbox="1106 203 1485 327">&gt; Primary use is roof support and shotcrete reinforcement in underground mines and tunnels.</li> </ul>
	<p data-bbox="424 801 515 831">Tensar®</p> 	<ul style="list-style-type: none"> <li data-bbox="616 801 1070 925">&gt; Tensar Biaxial Geogrid® mesh is a stiff, lightweight and monolithic geogrid mesh made from flame retardant polypropylene.</li> <li data-bbox="616 958 1070 1081">&gt; The mesh has integral junctions that give strength in two directions and a rectangular rib cross-section with square edges.</li> <li data-bbox="616 1115 1070 1182">&gt; Available in black or white UV Inhibitor.</li> </ul>	<ul style="list-style-type: none"> <li data-bbox="1106 801 1453 902">&gt; Primary use is roof and rib control and soft bottom reinforcement.</li> <li data-bbox="1106 936 1453 1025">&gt; Flexible and can be cut according to the mine site requirements.</li> </ul>



ALWAYS      
SOLUTIONS

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