

70T SUMO CABLE BIGGER. STRONGER. SAFER.

Rated at 70T, the brand new SUMO Cable is your ideal choice of hollow cable for underground coal mining applications. Extensive testing has been conducted to validate the capacities of various components of the system.



70T Sumo Cable



Features:

- Resin anchored, pre-tensioned and post grouted
- Standard 31mm diameter to suit common cable bolting installation accessories i.e. dollies, tensioners and grout lances
- Enhanced pumpability due to larger grout tube and new grout port spreader design
- Increased flexibility to reduce risks in the manual handling process
- Lengths available up to 12 m. Typically supplied in 4.2m, 6.2m, 8.2m, and 10.2m







Node



Technical Data — 70T Sumo Cable			
Strand Diameter (mm)	31		
Mass Per Metre (kg/m)	3.5		
Typical Elongation at Failure (%)	5 - 7%		
Typical Strand Yield Strength (kN)	640		
Typical Breaking Strength (kN)	Strand	750 (72 t)	
	Strand at B&W	640 (65 t)	
Grouted Section (mm)	Birdcage Diameter (mm)	36	
	Birdcage Spacing (mm)	500	
Resin Anchored Section (mm)	Length (mm)	1250	
	Birdcage Diameter (mm)	36	
-	Birdcage Spacing (mm)	300	
Drill Bit Size (mm)	42 - 45		

Barrel and Wedges



Features:

- Barrel and wedges packaged 5 per bucket
- BW31MMD70 can be pre-pressed onto cable to control tail length
- B&W collar breaking strength 62T min
- B&W designed to control failure by sequentially breaking wires at ultimate capacity



Typical B&W Tensile Test Result for 70T Sumo





Plates

Features:

- High grade 12mm thick volcano plates with grout indicator slots
- Plates available for trussing
- Plate articulation angle: ±20°



Typical Plate Compression Test Results



Technical Data – 70T Sumo Cable - Plate Compression Test

			Push Through Load		
Plate Part No.	Volcano Hole Size	B&W Part No.	BS 7861 hole test (good ground condition)	Span test (weak ground condition)	
JV30301256GS	56 mm	BW31MMD70	70 t	45 t	
JV30301269GS	69 mm	BW31MMD90	50 t	40 t	



Accessories

J-LOK Resin Capsule:

- Point anchored with J-LOK "Post-Grout" resin capsules, specifically designed for mixing in larger drill holes
- Typically 1000mm long capsule for 42mm drillholes and 1200mm long capsule for 45mm drillholes



Jennchem TD80 Grout:

• 80 MPa top-down cementitious based





Technical Data – Uniaxial Compressive Strength (MPa)

Mixing Ratio	1 day	7 days	28 days
6 L/bag	43 MPa	77 MPa	89 MPa
7 L/bag	33 MPa	63 MPa	80 MPa



Grout encapsulation test over 8m cables.



Manual Handling Flexibility

Ultra flexible 70T SUMO cables help reduce work injuries related to manual handling of cable bolts.

We simulated the level of bending required to insert a cable into a drillhole off a continuous miner and measured the force required to hold the cable in position. As a result of the corrugated center tube profile and the smaller outer wire diameter, the 70T SUMO cables take the least amount of effort to bend, leading to improved productivity and safety.



Technical Data

Cable Type	No. of Wires	Centre tube	Load cell reading (kg)	% greater than 70T SUMO
63T SUMO	9	Corrugated	22.3	14%
70T SUMO	12	Corrugated	19.6	0%
JW10	10	Smooth 1.2mm thick	30.3	55%



63T SUMO with corrugated centre tube



70T SUMO with corrugated centre tube



JW10 with smooth centre tube

Grout Pumpability



Multiple full length grout encapsulation tests were performed following BS7861 to benchmark and compare the impacts of cable profile on the pumping pressure. The cured samples were sectioned to examine the encapsulation level. It was found that the 70T SUMO cables were successfully encapsulated with lower pumping pressure.





JENNMAR



NEW DESIGN



The opening between wires was increased from 1-2 mm to 5-6 mm by changing the geometry of the spreader. This will allow lumps from grout pump sieve to pass through, hence achieving better encapsulation.

Spreader design changed from left to right.



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