

Twisted Pair Data Signal and Control Cables for Mining Installations



APPLICATION

- Along Conveyor routes
- On board data cabling
- Stackers & reclaimers
- Freely flexing (non reeling) conditions
- PLC, data & still video transmission

DESIGN

MINING MSR cables consist of finely stranded copper conductors laid up to provide a flexible design. High grade Polyethylene insulation offers improved capacitance values. The cores are twisted in pairs with alternate length of lay to minimise cross talk, they exhibit excellent transmission characteristics even at high data transmission rates.

An overall copper braid screen between the inner and outer sheath provides protection against the external interferences of EMI, RFI and high voltage fields.

The elastomer inner and outer sheath offers high mechanical strength, is UV stabilised and moisture resistant.

MINIMUM BENDING RADII

The following minimum recommended bending radii should be observed to ensure operating reliability

- For fixed installations 4 x cable diameter
- When freely flexing 5 x cable diameter

CURRENT CARRYING CAPACITY

Current ratings are based on continuous operation at an ambient temperature of 40°C. At other temperatures these values must be converted using the following factors.

°C	15	20	25	30	35	40	45	50	55	60	65	70	75	80
Factor	1.26	1.20	1.15	1.10	1.05	1.00	0.94	0.88	0.81	0.73	0.65	0.57	0.47	0.34

TENSILE STRENGTH

The maximum allowable tensile stress is 15N/mm². This ensures no conductor damage will occur in operation.

VOLTAGE RATING

- Rated Voltage: = 250/250V
- Maximum operating voltages: = 350V (Peak)
- AC test voltage = 1.5kV

TRANSMISSION DATA



Attenuation: 1dB/km at 800 Hz
 3dB/km at 100kHz
 Capacitance: 65 nF/km (max) at 800 Hz

CORE COLOUR IDENTIFICATION

All cores are black and sequentially numbered.

NOTE: Mining MSR is also available with twisted pairs and quads with a flexible steel wire armour. PE insulated with a PVC inner and outer sheath, this design is subject to manufacture.

Selection and Ordering Data

No. of Pairs x Conductor Size	Part No.	No. of Strands x Max. Strand Diameter	Diameter of Bare conductor	Cable Overall Diameter	Cable Weight	Unenclosed Spaced	Unenclosed Touching
mm ²	mm	mm	mm	mm	kg/km	 A	 A
2 x (2 x 1.0)	5DM4 995	32 x 0.21	1.5	12.5	245	16	14
5 x (2 x 1.0)	5DM4 996	32 x 0.21	1.5	17.6	440	16	14
10 x (2 x 1.0)	5DM4 997	32 x 0.21	1.5	21.2	700	16	14
20 x (2 x 1.0)	5DM4 998	32 x 0.21	1.5	27.8	1040	16	14

Other conductor sizes and core numbers are available subject to manufacture.

