

AS/NZS 2802 TYPE 409

GENEL KULLANIM İÇİN MADEN KABLOSU (KAPALI KÖMÜR MADENLERİ HARİÇ)
MINING CABLE FOR GENERAL USE (EXCEPT FOR UNDERGROUND COAL MINES)

1.1-22 kV

KONSTRÜKSİYON AÇIKLAMASI / CONSTRUCTION DESCRIPTION

Kompozit ekranlı 3 faz damarı, merkezi bir kumanda damarı içeren yarıiletken taşıyıcı fitil etrafında bükülür.
3 phase cores with composite screens laid up around a semiconductive cradle containing a central pilot core.

KABLO YAPISI

- 1- İLETKEN** : Elektrolitik, kalaylı çoklu bükülmüş esnek bakır tel. (Rope lay) AS/NZS 1125-2.10
- 2- AYIRICI** : 3.3/3.3kV ve üstü tiplerde faz iletkenlerinde yarıiletken tabaka kaplı
- 3- İZOLASYON** : R-EP-90 (Sınıf 2, AS/NZS 3808'e göre)
- 4- AYIRICI** : Yarıiletken tabaka (3.3/3.3 kV ve üstü)
- 5- EKRAN** : Faz damarların üzeri kalaylı bakır tel ve ip ekran ile örgülü.
- 6- BÜKÜM** : Damarlar birbirine değmeyecek şekilde içinde kumanda damarı bulunan yarıiletken etrafına sarılarak bükülür.
- 7- DIŞ KILIF** : Ağır hizmete yönelik elastomer dış kılıf (AS/NZS 3808'e göre).

CABLE STRUCTURE

- 1- CONDUCTOR** : Electrolytic, multiple-stranded circular flexible tinned copper wire (rope lay) AS/NZS 1125-2.10
- 2- SEPARATOR** : Semiconducting layer over power cores in 3.3/3.3kV and above types
- 3- INSULATION** : R-EP-90 (Class 2, acc. to AS/NZS 3808)
- 4- SEPARATOR** : Semiconducting layer (3.3/3.3kV and above)
- 5- SCREEN** : Tinned copper / Nylon braided screen over phase cores.
- 6- LAYUP** : Cores are laid up over a semiconducting cradle with one pilot core in the center and without contacting each other.
- 7- OUTER SHEATH** : Heavy-duty elastomer outer sheath (acc. to AS/NZS 3808)



KABLO ÖZELLİKLERİ / CABLE PROPERTIES

İLGİLİ STANDARTLAR / RELATED STANDARDS
ANMA GERİLİMİ / RATED VOLTAGE
TEST GERİLİMİ / TEST VOLTAGE

: AS/NZS 2802
: 1.1/1.1 kV, 3.3/3.3 kV, 6.6/6.6 kV, 11/11 kV, 22/22 kV
: 4,2 kV, 12 kV, 22 kV, 30 kV 45 kV

KULLANIM ALANI

Madenlerde genel kullanım içindir (kapalı kömür madenleri hariç). Kuyruk kablosu olarak kullanıma uygundur. İnce kesitleri el tipi kırıcı delici cihazları beslemede kullanılır. Büyük kesitler daha büyük makinaları beslemede kullanılır.

ORTAM

Açık ve kapalı maden ocaklarında kullanılır.

APPLICATION

General use cable for mines (except for underground coal mines). Suitable to use as a trailing cable. Smaller cables used for drills and handheld equipment. Large cables used to supply bigger machines.

ENVIRONMENT

Used in underground and open mines

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Güç damarları Power Cores					Ekran Core screen		Kumanda damarı Pilot core		Kılıf Sheath		Ağırlıklar Mass	
Nominal Kesit Cross-section mm ²	Büküm Strand no/mm	İletken Çapı Conductor Diameter Nom. mm	İzolasyon kalınlığı Insulation thickness mm	İzolasyon çapı Insulation diameter Nom. mm	Örgü telleri Braid wires no/mm	Nominal Kesit Cross-section mm ²	Büküm Strand no/mm	İzolasyon kalınlığı Insulation thickness Min.mm	Kalınlık Thickness mm	Kablo çapı Overall diameter Nom. Mm	Yaklaşık kablo ağırlığı Approx. cable weight kg/km	Bakır ağırlığı Copper weight kg/km
Type 409.1 1.1/1.1 kV Class 2 insulation												
6	84/0.30	3.4	1.5	6.5	7/0.25	7.2	24/0.20	0.8	3.8	30	130	388
10	77/0.40	4.6	1.5	7.7	7/0.25	8.6	24/0.20	0.8	3.8	32.6	160	543
16	126/0.40	5.7	1.6	9	7/0.25	9.6	24/0.20	0.8	4	35.8	200	745
25	209/0.40	7.2	1.6	10.5	7/0.25	11.3	24/0.20	0.8	4.3	39.7	260	1,053
35	285/0.40	8.5	1.6	11.8	7/0.25	12.4	24/0.20	0.8	4.6	43.1	310	1,373
50	380/0.40	10	1.7	13.5	7/0.25	14.1	40/0.20	0.8	5	47.7	385	1,859
70	203/0.67	12	1.8	16	7/0.25	16.5	40/0.20	0.8	5.4	53.9	510	2,504
95	259/0.67	13.2	2	17.6	7/0.30	21.8	40/0.20	0.8	6	59.3	630	3,376
120	336/0.67	15.3	2.1	20	7/0.30	24.7	40/0.20	0.8	6.4	65.1	770	4,180
150	427/0.67	17.1	2.3	22.2	7/0.40	36.1	40/0.20	0.8	6.9	72.1	975	5,372
185	518/0.67	19.2	2.5	24.7	7/0.40	40.5	40/0.20	0.8	7.4	78.6	1,160	6,507
240	672/0.67	21.8	2.8	27.9	7/0.50	57.7	40/0.20	0.8	8.2	88.6	1,490	8,586
300	854/0.67	24.4	3	30.9	7/0.50	63.2	40/0.20	0.8	8.8	96.3	1,800	10,473
Type 409.3 3.3/3.3 kV Class 2 insulation												
16	126/0.40	5.7	3	12.5	7/0.25	13.1	24/0.20	0.8	5.3	46.2	300	846
25	209/0.40	7.2	3	14	7/0.25	14.8	24/0.20	0.8	5.6	50.1	370	1,154
35	285/0.40	8.5	3	15.3	7/0.25	15.8	24/0.20	0.8	5.9	53.5	430	1,471
50	380/0.40	10	3	16.8	7/0.25	17.2	40/0.20	0.8	6.3	57.6	510	1,948
70	203/0.67	12	3	18.8	7/0.25	18.6	40/0.20	0.8	6.6	62.5	625	2,564
95	259/0.67	13.2	3	20	7/0.25	20.3	40/0.20	0.8	7.1	66.2	725	3,333
120	336/0.67	15.3	3	22.1	7/0.30	27.2	40/0.20	0.8	7.4	72	880	4,252
150	427/0.67	17.1	3	23.9	7/0.40	39.6	40/0.20	0.8	7.8	78	1,080	5,473
185	518/0.67	19.2	3	26	7/0.40	42.2	40/0.20	0.8	8.2	83.4	1,250	6,556
240	672/0.67	21.8	3	28.6	7/0.40	46.6	40/0.20	0.8	8.8	90.3	1,500	8,267
300	854/0.67	24.4	3	31.2	7/0.50	63.2	40/0.20	0.8	9.4	98.4	1,840	10,473
Type 409.6 6.6/6.6 kV Class 2 insulation												
16	126/0.40	5.7	5	16.5	7/0.25	17.2	24/0.20	0.8	6.4	57.3	440	964
25	209/0.40	7.2	5	18	7/0.25	18.6	24/0.20	0.8	6.7	61.2	515	1,263
35	285/0.40	8.5	5	19.3	7/0.25	18.6	24/0.20	0.8	7	64.6	585	1,551
50	380/0.40	10	5	20.8	7/0.25	21.3	40/0.20	0.8	7.3	68.5	670	2,066
70	203/0.67	12	5	22.8	7/0.25	23.4	40/0.20	0.8	7.7	73.7	805	2,702
95	259/0.67	13.2	5	24	7/0.30	29.2	40/0.20	0.8	8.1	77.8	935	3,589
120	336/0.67	15.3	5	26.1	7/0.30	31.7	40/0.20	0.8	8.5	83.1	1,090	4,381
150	427/0.67	17.1	5	27.9	7/0.40	45.7	40/0.20	0.8	8.9	89.1	1,310	5,649
185	518/0.67	19.2	5	30	7/0.40	48.4	40/0.20	0.8	9.3	94.5	1,480	6,734
240	672/0.67	21.8	5	32.6	7/0.40	52.8	40/0.20	0.8	9.9	101.4	1,750	8,445
300	854/0.67	24.4	5	35.2	7/0.50	71.5	40/0.20	0.8	10.4	109.3	2,120	10,712
Type 409.11 11/11 kV Class 2 insulation												
25	209/0.40	7.2	7.6	23.4	7/0.25	23.7	24/0.20	0.8	8.1	75.6	750	1,410
35	285/0.40	8.5	7.6	24.7	7/0.30	30.2	24/0.20	0.8	8.4	79.7	860	1,885
50	380/0.40	10	7.6	26.2	7/0.30	31.7	40/0.20	0.8	8.7	83.6	960	2,365
70	203/0.67	12	7.6	28.2	7/0.30	34.1	40/0.20	0.8	9.1	88.8	1,110	3,011
95	259/0.67	13.2	7.6	29.4	7/0.40	47.5	40/0.20	0.8	9.6	93.7	1,290	4,116
120	336/0.67	15.3	7.6	31.5	7/0.40	51	40/0.20	0.8	9.9	98.8	1,460	4,937
150	427/0.67	17.1	7.6	33.3	7/0.40	53.7	40/0.20	0.8	10.3	103.5	1,640	5,879
185	518/0.67	19.2	7.6	35.4	7/0.40	57.2	40/0.20	0.8	10.7	108.8	1,830	6,988
Type 409.22 22/22 kV Class 2 insulation												
35	285/0.40	8.5	10.5	32.6	7/0.40	55.4	24/0.20	0.8	10	105	1,410	2,611
50	380/0.40	10	10.5	34.1	7/0.40	58.1	40/0.20	0.8	10.3	108.9	1,530	3,126
70	203/0.67	12	10.5	36.1	7/0.40	60.7	40/0.20	0.8	10.7	114	1,710	3,777