

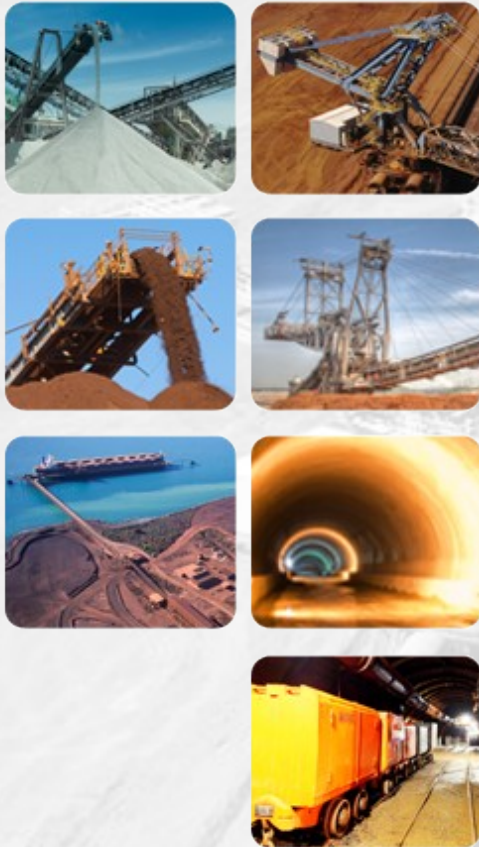
March 2013



Tratos Mining & Tunneling cables

Cables for a moving world

www.tratos.eu



Mining Cables

Tratos is a specialist supplier of mining and tunnelling equipment that is used at applications worldwide. The group is one of the most trusted suppliers of cables with long-standing relationships with major global mining groups.

Our dedicated product engineers understand the special requirements needed for cable used in the harshest of industrial and mining environments. They have worked diligently to ensure that our industrial and mining cable has been manufactured and tested to meet or exceed industry standards such as AS/NZS, VDE, BS, UL, CSA, MSHA, and OSHA. Our products also meet approval of RoHS compliant. So, whether you need cable for open pit mining or to transport power deep into a mineshaft, just look to Tratos to meet your most discriminating needs.

Mining cable is also weather resistant, but is specifically customized for the mining market; it is designed to resist sunlight, water, extreme temperature, chemical, oil and abrasion, while also performing reliably in tough drilling environments. The voltage range for mining cable is between 600V and 35KV.



Mining machines in both the coal industry and the metalliferous and extractives industry work in a harsh unforgiving environment, both on the surface and underground. Many of these machines are mobile and their motive energy source is often electricity. Because of the harsh environment and special requirements for electrical distribution at mines, cables used on mining machines and to supply mining machines are specially constructed. Five important Standards for mining cables are:

1. Chinese Standard

Based on WUG/GE-83/98

2. Australian Standard

Based on AS/NZS 2802:2000

3. Canadian Standard based on:

- MSHA-P-189-4
- ICEA Standards S-75-381/NEMA WC-58
- ASTM B-172 and B-33

4. South African Standard

SANS 507-1:2007 - Edition 1

NRS 034-1:2007- Edition 4

5. European Standard (Germany)

VDE 250 - TEIL 814 and TEIL 813

TRATOS – MTO® cables are performing consistently in all following applications of Mining and Bulk Handling:

Open Cast Mining Equipment

- Bucket Wheel Excavator
- Bucket Chain Excavator
- Surface Miners
- Mobile Transfer Conveyors/Belt Wagons
- Belt Conveyor Systems
- Spreaders/Cross Pit Spreaders (XPS)
- Conveyor Bridges
- Slope Conveyor Bridges
- Mobile and Semi-Mobile Crushing Systems
- Transport Crawlers
- Heap – Leach Systems

Yard Equipment

- Stackers
- Reclaimers
- Scraper Reclaimers
- Stacker/Reclaimers
- Tube Conveyors
- Train Loading/Unloading systems

Port Equipment

- Continuous Ship Unloaders
- Grab Type Ship Unloaders
- Ship Loaders

Key Customers



LIEBHERR

KOCKS

KONECRANES®
Lifting Businesses™



Products Approval



Our Cables are approved by the following bodies:



Verband Der Elektrotechnik



IMQ ESQ

Istituto Marchio di Qualità



Underwriters
Laboratories
Inc.®



GOST
Russian Certificate
of Conformity



Lloyd's Register Group



Registro Italiano Navale

Case Studies





TAKRAF - Kosovo

Company: Takraf

Type: Tratos MTO® ES3, Console-cable reel for the application on excavators in open-cast mining

Speed: 9m/min

The cable reel has a 30 kV-cable with a length of 2100 m of flexible and reelable rubber hose cable with a diameter of 70 mm. The reel has an inner diameter of 3 m and a length of 8.5 m.

Technical Specification

Type: 18/30 kV TRATOS MTO

Cable diameter: 69 ± 2 mm

Cable weight: 6.84 kg/m

Operation voltage: 30 kV

Travel speed: 9 m/min.

Acceleration time: 5 s

Deceleration time: 5 s

Travel distance: 4200 m

Mining & Tunneling Cables

An aerial photograph of a large mining machine, likely a continuous miner, operating in a deep underground tunnel. The machine is complex, with multiple conveyor belts and a large cutting head at the front. The tunnel walls are visible, showing the tracks and the structure of the machine.

TRATOS-MTO®

Mining Cables



TRATOS-MTO® ES3 **TRATOS-MTO® GREEN ATEX**

MEDIUM VOLTAGE POWER CABLES - (N) TSCGEWÖU based on VDE 0250 p. 813, HD 620 S1 p.9 and AS/NZS 2802

Medium voltage power cables suitable for mining and tunnelling mono spiral reels up to 80 m/min and multi-spiral reels up to 80 m/min.

Mining Cables



TRATOS-MTO® FLAT **TRATOS-MTO® FLAT GREEN ATEX**

MEDIUM VOLTAGE FLAT CABLE FOR MINING AND TUNNELLING APPLICATION

Flat medium voltage power cables suitable for mono spiral reels up to 80 m/min.

Mining Cables



TRATOS-MTO® LV - (N)SHTÖU-JZ
TRATOS-MTO® LV - (N)SHTÖU-JZK
TRATOS-MTO® LV - GREEN ATEX (N)SHTÖU-JZ

CONTROL CABLES 0,6/1 kV based on standards VDE 0250 p.814,AS/NZS 2802

Control and low voltage power cables suitable for mining and tunnelling monospiral reels up to 80 m/min and multi-spiral reels up to 80m/min.



TRATOS-MTO® FIBRE **TRATOS-MTO® FIBRE GREEN**

FIBRE CABLES

Control cables, designed for use in mining and tunnelling
monospiral up to 80m/min.

Tratos Group



Cables for a moving world

