

# The Most Affordable and Powerful Underground Lighting System in the World Unmatched in Quality and Ease

## Outstanding performance meets absolute simplicity

HALO Solutions since 2010 are continually pushing the boundaries of underground lighting and are proud to launch the exciting new HALO DAISY CHAIN which is the most affordable and powerful underground lighting system available worldwide.

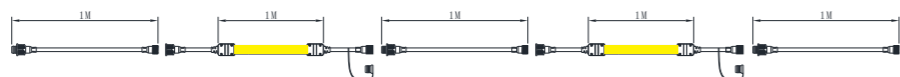
In the ever evolving economy with severe budget restraints, the HALO DAISY CHAIN was designed as a solution to ensure that affordable lighting does not mean sub-standard lighting, and the HALO DAISY CHAIN is not only more affordable than conventional lighting, it is also dramatically more effective than any other underground lighting available, it is ground-breaking in its class.

The Halo Daisy Chain provides substantial savings in both capital and operational expenditure and provides remarkable improvements in working conditions and thereby safety.

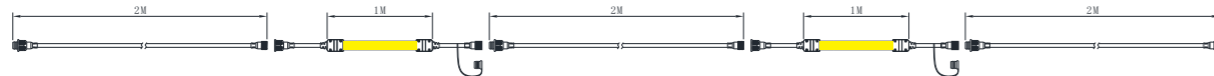
**Comparable Testing was done on the existing conventional lighting system in the Booyendal Chrome Mine in Mpumalanga, South Africa.**

The existing conventional lighting systems consisted of double tube fluorescent light fittings with a wattage of 24 Watts LED per globe fitted at intervals of 10 meters, the electrical infrastructure was provided by means of 6mm 3 core cable with steel wire armouring and low halogen PVC exterior.

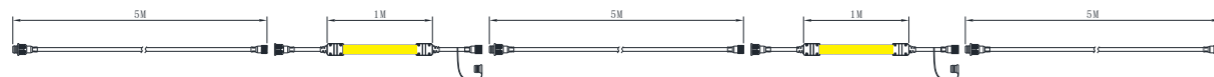
**HALO DAISY CHAIN 2+1** (1 Metre of HALO ALPHA 220V LED Strip followed by 1 Metre HALO Cable)



**HALO DAISY CHAIN 2+1** (1 Metre of HALO ALPHA 220V LED Strip followed by 2 Metre HALO Cable)



**HALO DAISY CHAIN 2+5** (1 Metre of HALO ALPHA 220V LED Strip followed by 5 Metre HALO Cable)



### Time & Labour

Installation of **conventional lighting** of 150 meters: (Conservative estimate)

Time: 5 full days

Labour: 1 x Supervisor (part time), 1 x Electrician (full time) and 5 assistants (full time).

Man hours: 285 hours.

Installation of **Halo Daisy Chain** of 150 meters: (Confirmed)

Time: 1.5 hours

Labour: 1 x Electrician (part time) and 2 assistance (full time)

Man hours: 3.5 hours

**Total Saving using Halo Daisy Chain: 98.77%**

### Installation

Labour: Unskilled in electrical lighting installation

Meters: 150 Meters

Hours: 1.5 Hours fully installed

On average is 1.5 hours to unpack, cart to site, assemble, install, connect and switching on.



Click here to view:

[https://www.youtube.com/watch?v=V3eZ\\_rhLAWI](https://www.youtube.com/watch?v=V3eZ_rhLAWI)

Improved Affordability • Enhanced Illumination • Extended Distances • Increased Lifespan • Technologically Advanced



For a full interactive Halo experience visit [CLICK HERE www.illumapp.co.za](http://www.illumapp.co.za)

## Maintenance

### Conventional system:

- Continuous on – normal operating system for mining (very damaging to lifespan and lighting systems).
- Hot and humid underground environment resulting in drastically reduced lifespan and general poor lighting levels.
- Continuous maintenance and repairs.

### Halo Daisy Chain System:

- Designed and manufactured to thrive in underground environments.
- Expected lifespan of a decade or more.
- Proven maintenance free lighting system since 2010.

## Energy Saving

### Conventional System:

- Total energy consumed by conventional lighting with assumed power factor of 0.8 over 150 meter length is calculated at 864 Watts.

### Daisy Chain System:

- Total energy consumed by the Halo Daisy Chain for the 1 + 5 configuration with the power factor 0.9 over a length of 150 meters is calculated at 560 Watts providing a saving of **56%**.

### Performance

- The Halo Daisy Chain provides a full flood of lighting throughout the tunnel.
- Eliminated any dark spots.

## Features

- 100% Waterproof
- Molecular dust repellent technology
- Intelligent temperature management
- Intelligent voltage surge management
- Ultra-Bright high performance
- Flame retardant & self-extinguishing
- ZERO maintenance
- 10+ Years lifespan continuous on
- Extreme hot & cold capability
- Long length running capability

Improved Affordability • Enhanced Illumination • Extended Distances • Increased Lifespan • Technologically Advanced

## BEFORE AND AFTER LIGHTING

## GALLERY



**HALO DAISY CHAIN 1+2**



**HALO DAISY CHAIN 1+5**



CLICK HERE

[www.halosolutions.co.za/home.html#gallery](http://www.halosolutions.co.za/home.html#gallery)

Halo Daisy Chain System  
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