

# KL5M/KL8M/KL12M

## Miner's Cap Lamp With Cable



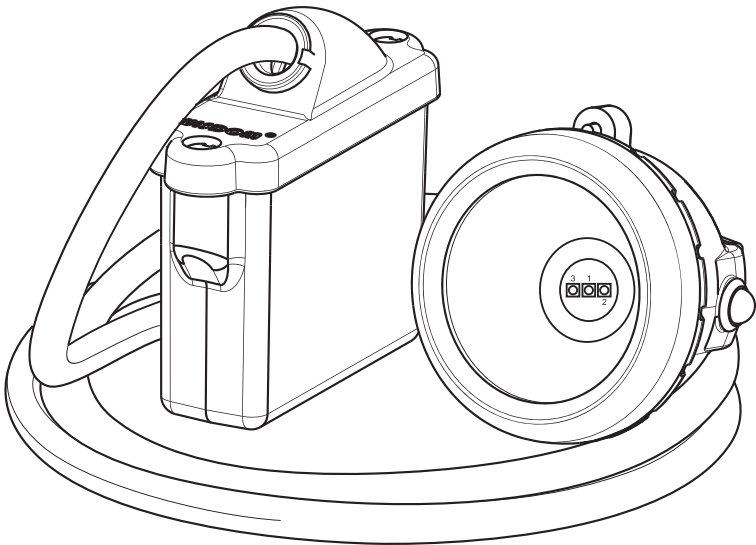
English

Brighter • Lamp with cable



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English



# 1 Features

New Wisdom corded miner cap lamps are LED Li-ion cap lamps with innovative design, which applies the technologies of the latest 230 lumens CREE LED lighting and 6.6Ah Li-ion battery for KL5M, applies the technologies of the latest 230 lumens CREE LED lighting and 8.8Ah Li-ion battery for KL8M, applies the technologies of the latest 300 lumens CREE LED lighting and 12.4Ah Li-ion battery for KL12M, to make them safer, brighter and lighter. It is designed to withstand the harshest underground conditions, like coal mines, metal mines, etc. The significant features are as follows:

## 1.1 Stable and super bright

230 Lumens CREE LED light source and outstanding driving circuit are applied to KL5M main light source to keep its brightness (11,000Lux~16,000lux in 1m), 230 Lumens CREE LED light source and outstanding driving circuit are applied to KL8M main light source to keep its brightness (16,000Lux~23,000lux in 1m, **super bright version**), 300 Lumens CREE LED light source and outstanding driving circuit are applied to KL12M main light source to keep its brightness (19,000Lux~25,000lux in 1m), the brightness of all the lamps are stable and super. During the working time, more than 13h, the brightness remains the same from the beginning to the end. The delicately designed reflector and ultra-clear glass help reduce the light absorption, which greatly improves the brightness.

## 1.2 Safe, reliable and maintenance-free

The Li-ion battery is maintenance-free. Moreover, the battery pack PCB can protect the battery from over charge, over discharge, over current, and short circuit so that the battery won't explode or burn. Therefore, the safety and reliability of KL5M, KL8M and KL12M are highly well guaranteed.

## 1.3 Small, light and portable

The corded lamps head lamp globe is very small as the LED light source is much smaller in size and produces less heat which requires a smaller radiator. In spite of small size, our radiator is of high efficiency for its good design. Moreover, the Li-ion battery is only 1/3 the weight of the traditional led acid battery, which makes these corded lamps smaller, lighter, more portable.

## 1.4 Explosion- proof and super impact-resistance

The housing is made of bulletproof PC of German Bayer brand. The optimized mold design

not only strengthens the hardness of the housing but also lessens the internal stress, which makes the corded lamps stronger in impacting resistance and more durable in life span.

### **1.5 Super waterproof**

The corded cap lamps are super waterproof with the well-designed waterproof head lamp globe, battery box, button switch and stainless steel metal parts. Therefore, it is able to work stably under harsh working conditions.

### **1.6 Environmentally-friendly**

The corded cap lamps are designed in accordance with RoHS, which is strictly followed during the whole process, from material selection to production craft design.

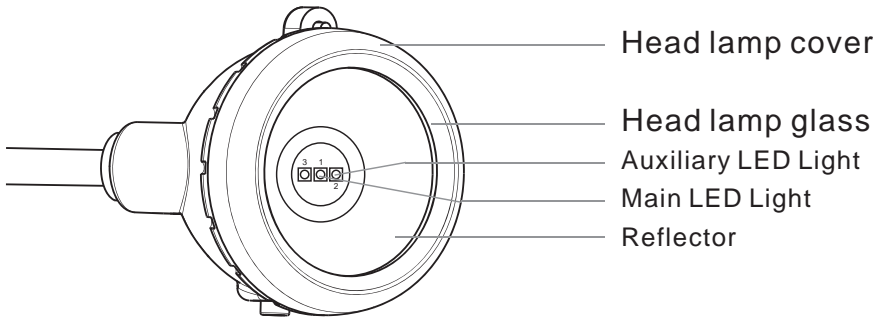
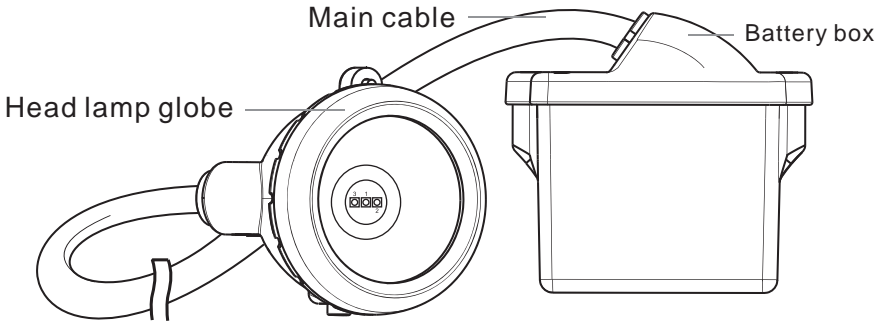
### **1.7 Longer life span**

The corded cap lamps can work more than 13 hours after fully charged. Its main light source has a life span of more than 30000h after applied to the lamp. Li-ion battery can be charged more than 1200 cycles if the lamp works in reasonable conditions. Therefore, there is no need to replace the light source and battery during its whole life span.

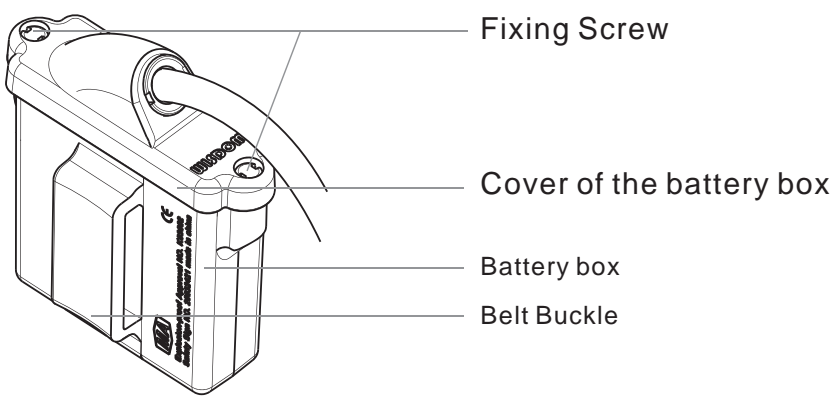
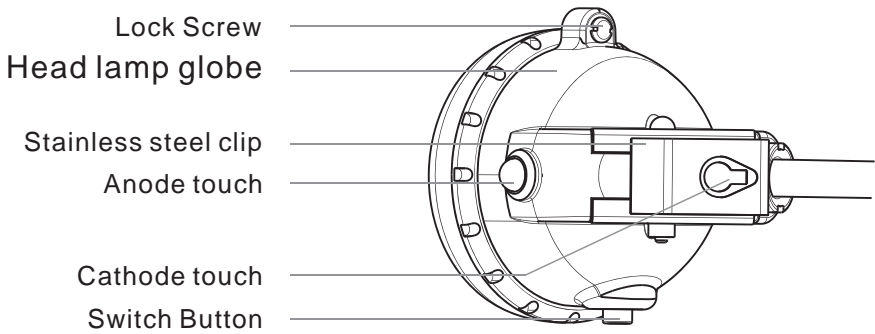
## 2 KL5M Cap Lamp Technical Specifications

Features	KL5M		KL8M			KL12M
Rated capacity	≧ 6.6Ah		≧ 8.8Ah			≧ 12.4Ah
Rated voltage	3.7V		3.7V			3.7V
Continuous working time	≧ 16h(ong working	≧ 13h(standard version)	≧ 24h(long working	≧ 16h(standard version)	≧ 13h(super bright)	≧ 13h(standard version)
Main light LED Working voltage	2.7~3.1V		2.7~3.5V			2.9~3.5V
Main light LED Working current	430mA	580mA	430mA	580mA	800mA	1000mA
Main light Power	1.3W	1.8W	1.2W	1.8W	2.3W	3W
Main light Luminous flux	200Lm	230 Lm	150Lm	230Lm	290Lm	300Lm
Lamp lighting degree Initial Lighting degree	8000~12000 Lux (distance in 1 m)	12000~16000Lux (distance in 1 m)	8000~12000 Lux (distance in 1 m)	12000~16000Lux (distance in 1 m)	16000~23000Lux(distance in 1 m)	20000~25000Lux (distance in 1 m)
Main light life span	≧ 30000h					
Auxiliary light Power	0.4W					
Auxiliary light life span	≧ 20000h					
Short circuit protect time	< 320μS					
Life span of the battery (recharges)	1200 cycles (in reasonable working conditions)					
traditional charging	8~10h		10~13h			N/A
fast intelligent ch	about 3h		about 5h			about 6h
Main cable	1.4M/1.65M					
Dimensions	75x26x 65mm (size of the battery box)		75 x 26 x 82mm(size of the battery box)			75x26x 82mm (size of the battery box)
Weight	0.5kg		0.6kg			0.6kg

### 3 KL5M Cap Lamp Parts





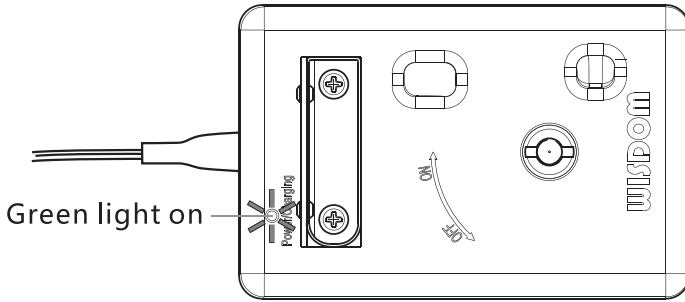


English

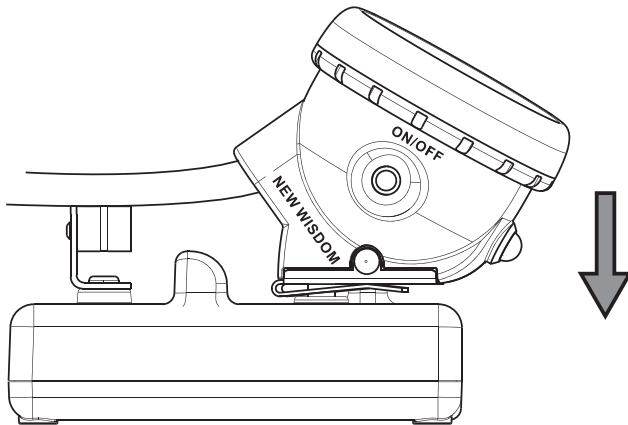
# 4 User Guide

## 4.1 Charging

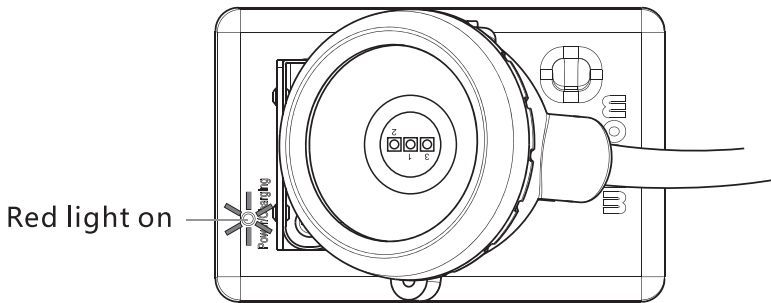
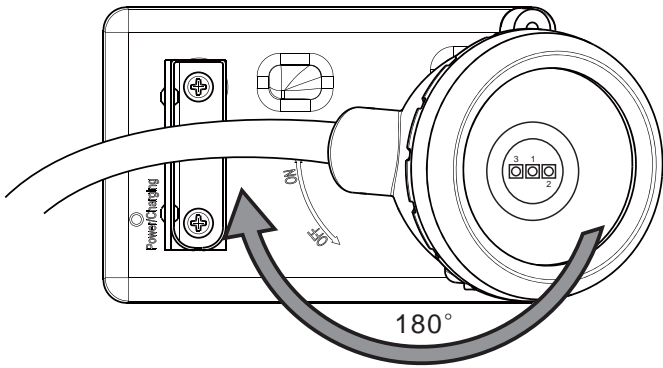
Connect the single charger to the power supply or switch on the charger rack, the indicator light of the charger turns green.



Connect KL5M cap lamp with the charger. Fix the brass pin (cathode) of the charger into the hole of the cap lamp clip.



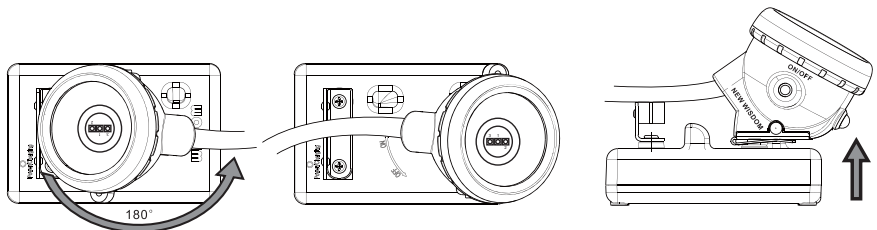
Rotate the head lamp 180 degrees clockwise, make sure the anode touch of the head lamp is closely connected to the connected metal base (anode). Then the indicator light turns red, which means the lamp is being charged.



When the indicator light of the charger keeps flashing from green to red, it means the battery has been charged at least 90%. The KL5M can work more than 13h continuously if charging is stopped at this moment.

If the indicator light of the charger flashes green only, then the battery has been fully charged.

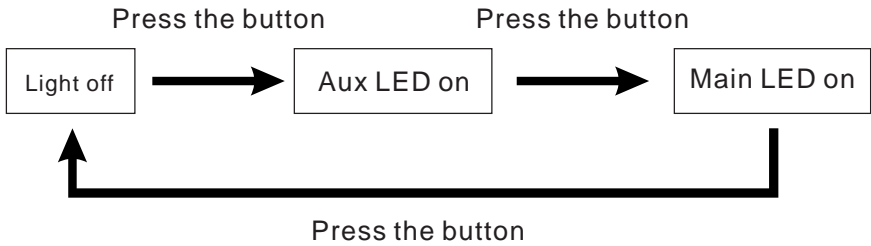
Rotate the head lamp 180 degrees anti-clockwise; take it away from the charger.



The matched chargers for KL5M are NWB-25 and fast intelligent charger racks of NWCR-12, NWCR-24, NWCR-36, NWCR-60 and NWCR-102, charging time of which is about 3 hours; NWB-15/ NWB-20 and traditional charger racks of NWCR-12, NWCR-24, NWCR-36, NWCR-60 and NWCR-102, charging time of which is about 8-10 hours.

## 4.2 Switch

The electric switch of KL5M is waterproof. It works as follows:



## 4.3 Low battery warning

About 1 hour before the battery power is out, the main LED light of KL5M flashes softly (light is off every 5 seconds) to remind the user that the power is nearly used up and needs to be recharged.

## 5 Trouble and Troubleshooting

Trouble description	Trouble analysis	troubleshooting
Light is not on when pressing the button	Battery power is used up	Charge the lamp
Working time is less than 13 hours	Battery is not fully charged	Making sure the lamp well connected to the charger when charging
Leakage	The lamp is disassembled by users	Replace the lamp

## 6 Notes

- (1) KL5M is half charged before delivery, please fully charge it before using.
- (2) Please use our own matched chargers to charge KL5M. Please don't use other chargers which are not specially designed for the Li-ion battery, or KL5M cap lamp may be damaged. To make sure the safety and reliability, please charge our lamps with our chargers that are specially designed for our lamps.
- (3) Please clean the head lamp glass timely for the best performance.
- (4) If the lamps need storing for a long period, please repeat the following maintenance steps every two months: full charged→completely discharged→charged for 1 hour.

# 7 Safety Warnings

- (1) Please don't shoot at eyes directly while the lamp is working since the strong light will hurt eyes.
- (2) Please don't disassemble the cap lamp, or it may cause potential troubles related to safety, reliability, water resistance to work underground.
- (3) Please don't crash and strike the lamp.
- (4) Please don't charge the lamp underground.
- (5) Please keep the lamp away from fire sources.
- (6) Please don't maintain the lamp underground. All maintenance must be done on the ground!
- (7) Please don't repair self-disassembly, otherwise the manufacturer will not be responsible for the warranty.
- (8) Please recycle the discarded cap lamp together rather than throwing them away without disposing.

# 8 Package

1pcs/box/170x 100x 83mm

20pcs/carton/38x22.5x44cm

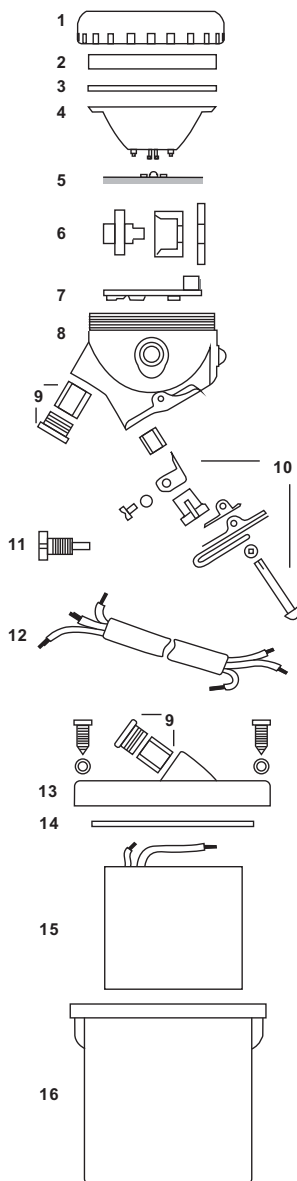
N.W.: 11kgs G.W.: 13kgs



# 9 KL5M part drawing

## NEW WISDOM KL5M/KL8M/KL12M PART DRAWING for KL5M/KL8M/KL12M since 2013.03

- 1.head lamp cover
- 2.head lamp glass
- 3. seal ring of the head lamp cover
- 4.reflector
- 5.LED Aluminum heat sink
- 6.button united parts
- 7.main circuit board
- 8. head lamp globe
- 9. nut, seal ring to fix the cable
- 10.cap lamp clip united parts
- 11.lock screw of the head lamp cover
- 12.main cable
- 13. cover of the battery box
- 14. seal ring of the battery box
- 15. 6.6Ah(KL5M)/8.8Ah(KL8M)/  
12.4Ah(KL12M) Li-ion battery with PCB
- 16. battery box



# WISDOM

Telephone: 0086-755-83911841

[www.wisdom.hk](http://www.wisdom.hk)

Mailbox: [info@wisdom.hk](mailto:info@wisdom.hk)

Address: 4-306, xianglixincuen, Hongli West Road, shenzhen, China

Zip code: 518172

# Product patents and certificates

  
Bontek Compliance Laboratory

## CE Certification of Conformity

Certification number: BCT0603468      Report number: BCT0602695  
Bontek Compliance Laboratory Ltd hereby declares that testing has been completed and reports have been generated for:

Applicant: **NEW WISDOM INVESTMENT LIMITED**  
4-306, Xianglinxin, Hongli West Road, Shenzhen, China

Manufacturer: **NEW WISDOM INVESTMENT LIMITED**  
Building A1-4, Shenzhen Industry Park, Longgang district, Shenzhen, China

Product: **Miner's cap lamp**  
Model: **KL5M**  
Power rating: **Input: 3.3VDC 0.35A**

And, in accordance with the following Applicable Directives:

**94/EC ATEX Manufacturers Directive (as amended)**  
**Electrical and non-electrical equipment**

This product has been assessed against the following Applicable Standards:

**ATEX      EN 50020: 2002** Electrical apparatus for potentially explosive atmospheres intrinsic safety "I"

Therefore, Bontek Compliance Laboratory Ltd hereby acknowledges that the applicant may issue a DECLARATION OF CONFORMITY and apply the CE marking in accordance with European Union Rules.

Attestation by: 



Andrew Ho      Date of issue: November 1, 2006

No. 802-804, Jianshe Rd., Zhuhai P.R. China 519040, Guangdong P.R. China  
Tel: 86-755-82671088    Fax: 86-755-82671088    http://www.bontek.com.cn

  
Bontek Compliance Laboratory

## CE Certification of Conformity

Certification number: BCT0603468      Report number: BCT0602695  
Bontek Compliance Laboratory Ltd hereby declares that testing has been completed and reports have been generated for:

Applicant: **NEW WISDOM INVESTMENT LIMITED**  
4-306, Xianglinxin, Hongli West Road, Shenzhen, China

Manufacturer: **NEW WISDOM INVESTMENT LIMITED**  
Building A1-4, Shenzhen Industry Park, Longgang district, Shenzhen, China

Product: **Miner's cap lamp**  
Model: **KL5M**  
Power rating: **Input: 3.3VDC 0.35A**

And, in accordance with the following Applicable Directives:

**94/EC ATEX Manufacturers Directive (as amended)**  
**Electrical and non-electrical equipment**

This product has been assessed against the following Applicable Standards:

**ATEX      EN 60079-0: 2004** Electrical apparatus for explosive gas atmospheres general requirement


Therefore, Bontek Compliance Laboratory Ltd hereby acknowledges that the applicant may issue a DECLARATION OF CONFORMITY and apply the CE marking in accordance with European Union Rules.

Attestation by: 



Andrew Ho      Date of issue: November 1, 2006

No. 802-804, Jianshe Rd., Zhuhai P.R. China 519040, Guangdong P.R. China  
Tel: 86-755-82671088    Fax: 86-755-82671088    http://www.bontek.com.cn

  
Bontek Compliance Laboratory

## CE Certification of Conformity

Certification number: BCT0603715      Report number: BCT0603715  
Bontek Compliance Laboratory Ltd hereby declares that testing has been completed and reports have been generated for:

Applicant: **NEW WISDOM INVESTMENT LIMITED**  
4-306, Xianglinxin, Hongli West Road, Shenzhen, China

Manufacturer: **NEW WISDOM INVESTMENT LIMITED**  
Building A1-4, Shenzhen Industry Park, Longgang district, Shenzhen, China

Product: **Miner's cap lamp**  
Model: **KL5M**  
Power rating: **Input: 3.3VDC 0.35A**


And, in accordance with the following Applicable Directives:


**94/EC ATEX Manufacturers Directive (as amended)**  
**Electrical and non-electrical equipment**

This product has been assessed against the following Applicable Standards:

**ATEX      EN 50033: 1991** Specification for construction and testing of miners cap lamps in relation to the risk of explosion, for miners susceptible to flashback

Therefore, Bontek Compliance Laboratory Ltd hereby acknowledges that the applicant may issue a DECLARATION OF CONFORMITY and apply the CE marking in accordance with European Union Rules.

Attestation by: 



Andrew Ho      Date of issue: November 1, 2006

No. 802-804, Jianshe Rd., Zhuhai P.R. China 519040, Guangdong P.R. China  
Tel: 86-755-82671088    Fax: 86-755-82671088    http://www.bontek.com.cn

  
Bontek Compliance Laboratory

## CE Certification of Conformity

Certification number: BCT0603705      Report number: BCT0603705  
Bontek Compliance Laboratory Ltd hereby declares that testing has been completed and reports have been generated for:

Applicant: **NEW WISDOM INVESTMENT LIMITED**  
4-306, Xianglinxin, Hongli West Road, Shenzhen, China

Manufacturer: **NEW WISDOM INVESTMENT LIMITED**  
Building A1-4, Shenzhen Industry Park, Longgang district, Shenzhen, China

Product: **Miner's cap lamp**  
Model: **KL5M**  
Power rating: **Input: 3.3VDC 0.35A**

And, in accordance with the following Applicable Directives:

**94/EC ATEX Manufacturers Directive (as amended)**  
**Electrical and non-electrical equipment**

This product has been assessed against the following Applicable Standards:

**ATEX      EN 62013-1: 2002** Cap lights for use in mines susceptible to flashback general requirements - construction and testing in relation to the risk of explosion

Therefore, Bontek Compliance Laboratory Ltd hereby acknowledges that the applicant may issue a DECLARATION OF CONFORMITY and apply the CE marking in accordance with European Union Rules.

Attestation by: 



Andrew Ho      Date of issue: November 1, 2006

No. 802-804, Jianshe Rd., Zhuhai P.R. China 519040, Guangdong P.R. China  
Tel: 86-755-82671088    Fax: 86-755-82671088    http://www.bontek.com.cn





U.S. Department of Labor

Mine Safety and Health Administration  
Approval and Certification Center  
Trenton, West Virginia 26059



June 16, 2008

Approval No. 19-A090001-0  
A&CC PAR No. 9318Z

United Mining Equipment, Inc.  
Attention: Mr. Dustin Winkler  
579 Pittsburgh Road  
Butler, Pennsylvania 16002-7659

Dear Mr. Winkler:

The review of your application requesting a new approval for your Model KL5M LED Miner's Cap Lamp Assembly, Company Application Code No. 000002, is complete.

The design of this Model KL5M Cap Lamp Assembly meets the requirements of Title 30 Code of Federal Regulations, Part 19 and is approved as permissible for use in gassy underground mines. We assign Approval No. 19-A090001-0 to this design.

The following requirements apply to Approval No. 19-A090001-0:

1. You must build each Model KL5M Cap Lamp Assembly bearing this approval number according to the drawings and specifications on file at the MSHA Approval and Certification Center. A list of these drawings and specifications is enclosed.
2. Our approval label information must be legibly reproduced with permanent lettering on a wear resistant material and must be prominently displayed on an exterior surface of this Model KL5M Cap Lamp Assembly (see the enclosed official approval label information required for this cap lamp). All of the approval label information must appear on the approval label.
3. You are not permitted to make changes to the design of this Model KL5M Cap Lamp Assembly without our approval.
4. We may require you to make changes to the design, or to modify the Model KL5M Cap Lamp Assembly in the field, in the interest of safety.
5. We have the right to revoke this approval, for cause, at any time.

2

6. The following requirements apply to the use of this Model KL5M Cap Lamp Assembly:

- a. The batteries are not to be replaced by the user.
- b. The cap lamp is only to be charged in fresh air.

You will receive an invoice for the cost to process your application.

If you have any comments or questions relative to this letter, please contact Terry Garrison at 304-547-2016.

Sincerely,

Brian P. Baint  
Chief, Approval and Certification Center

Enclosures

<p>United States Department of Labor <b>MSHA</b> Mine Safety and Health Administration</p> <p><b>UNITED MINING EQUIPMENT NEW WISDOM MODEL KL5M PERMISSIBLE CAP LAMP ASSEMBLY</b></p> <p><b>APPROVAL NO. 19-A090001-0</b></p>
<p><b>TESTED FOR INTRINSIC SAFETY IN METHANE-AIR MIXTURES ONLY</b></p> <p><b>WARNINGS:</b> 1. BATTERIES ARE NOT TO BE RECHARGED BY THE USER. 2. THE CAP LAMP IS ONLY TO BE CHARGED IN FRESH AIR.</p>

## TEST REPORT

Client name: NEW WISDOM INVESTMENT LIMITED

Client address: 4-306, XIANGXIN/INCLIN, HONGU WEST ROAD, SHENZHEN, CHINA

Sample name: LED Safety cap lamp

Sample model: KLSM

Sample quantity: 1PCS

Testing period: From May 18, 2012 to May 23, 2012

Test item:  
As specified by client to do IP68 test on the submitted samples

Test method:  
EN50529-1991+A1:2009

Test conclusion:  
Pass

Tested by: Inspected by: Approved by:

Shenzhen Bortek Compliance Testing Laboratory Co. Ltd.  
Issued Date: May 24, 2012

### Notes:

The test report is responsible to the sample accepted by the laboratory only. The test report is invalid without the stamp of "signature seal of test unit", the modified report is invalid. The part of Copy report is invalid. The test report without the signatures of operator, supervisor and manager is invalid, when there is disagreement to the test report. The test unit should be informed within 15 days since the report is received by the client. Overdue information will not be accepted.

### Appendix:



Photo 1 Test sample view



Photo 2 Dust-light testing view

Description of sample:  
Test before, Sample no damage, no abnormal phenomenon.

### Test equipment or instrument:

Testing Item(s)	Instrument(s) (Appliance(s))
Dust-light test	Dust-proof Box
Water-light test	Portion

### Test result:

Testing Item(s)	Dust-light test
Testing Method/Appliance	Sub atmospheric pressure applied Dust-proof Box
Testing Condition	Test applied in testing Content: 250m <sup>3</sup> in testing box Applied times: 1E; Testing Duration: 8H
Requirements of IP 6X	No ingress of dust
Testing Result	No ingress of dust
Test conclusion	Pass

Testing Item(s)	Water-light test
Testing Method/Appliance	Portion applied
Testing Condition	Immersion the enclosure in water, including the electrical connections with pins, waterproof lights, PC plug antenna processing block. Water level on enclosure: 0.15m above top, 1m above bottom Testing Duration: 30min Test pressure: 0.2bar
Requirements of IP X8	Prevent powerful jet of water: the ingress of water should not be harmful
Testing Result	No ingress of water
Test conclusion	Pass

### Notes:

- Talc powder has been filtered by metal square hole sieve, pore size is 75 μm
- Test environment temperature and Relative Humidity: 25°C, 58%RH



Photo 3 Water-light testing view



Photo 4 Test after sample view

\*\*\*End of Report\*\*\*

## TEST REPORT

Client name: NEW WISEDOM INVESTMENT LIMITED.

Client address: 4-306, XIANGJUNLUN, HONGU WEST ROAD, SHENZHEN, CHINA.

Sample name: LED Safety cap lamp

Sample model: KLSM

Sample quantity: 1PCS

Testing period: From May 18, 2012 to May 23, 2012

**Test item:**

As specified by client, to do IP65 test on the submitted samples.

**Test method:**

EN60529:1991+A1:2009

**Test conclusion:**

Pass

Tested by: (Signature) Inspected by: (Signature) Approved by: (Signature)

Shenzhen Bonick Compliance Testing Laboratory Co., Ltd.  
Issued Date: May 24, 2012.

**Notes:**

The test report is responsible to the sample accepted by the laboratory only. The test report is invalid without the stamp of "signature test of test unit". The modified report is invalid. The test of Copy report is invalid. The test report without the signature of operator, supervisor and manager is invalid; when there is disagreement to the test report, the test unit should be informed within 15 days since the report is received by the client. Overdue information will not be accepted.

**Description of sample:**

Test article: Sample no damage, no abnormal phenomenon.

**Test equipment or instruments:**

Testing Item(s)	Instruments(s) (Appliance(s))
Dust-light test	Dust-proof Box
Water-light test	Pontoon

**Test result:**

Testing Item(s)	Dust-light test
Testing Method/Appliance	Sub atmospheric pressure applied Dust-proof Box
Testing Condition	Tape "a" applied in testing. Current: 240mA in testing box. Applied times: 15; Testing Duration: 1h.
Requirements of IP EX	No ingress of dust
Testing Result	No ingress of dust
Test conclusion	Pass

Testing Item(s)	Water-light test
Testing Method/Appliance	Pontoon applied
Testing Condition	Immersion: the enclosure in water, including the electrical connections with three waterproof lights, PG plug antenna processing Block. Water level on enclosure: 0.15m above top; 1m above bottom. Testing Duration: 30min; Test pressure: 0.2bar
Requirements of IP X8	Prevent powerful jet of water; the ingress of water should not be harmful
Testing Result	No ingress of water
Test conclusion	Pass

**Notes:**

\*RAC powder has been filtered by metal square hole above, pore size is 75 um.  
\*Test environment temperature and Relative Humidity: 25.0, 68%RH

**Appendix:**



Photo 1 Test sample view



Photo 2 Dust-light testing view



Photo 3 Water-light testing view



Photo 4 Test after sample view

\*\*\*End of Report\*\*\*