

Dorman LED handlamp achieves Network Rail product approval

The LED handlamp, developed by Unipart Rail company, Dorman, has achieved approval for unrestricted use on the UK rail network and considerable interest has already been shown by overseas customers.

The LED handlamp is a direct replacement for the current 'Bardic Style' Filament Handlamp and, as well as offering the widely recognised cost and reliability savings LED technology brings, it has been designed from the outset to be as user-friendly as possible. The final design was achieved through close consultation with workplace user groups who were consulted about what they would like to see incorporated in the new lamp.

The key improvements in the design include:

- Reduced weight.
- Ergonomic style.
- Increased safety functionality.
- Battery status indication.
- Significant increase in battery life.

Lightweight design

Weighing almost 50% less than the current Handlamp, this new Dorman replacement has been manufactured using impact resistant polycarbonate for the body and lens.

Comfortable to use

The ergonomic styling of the lamp delivers a less bulky handle and the switch is designed for operation using a single finger even when the operator is wearing bulky gloves using the left or right hand. An additional innovation is an 'off' position on the switch between each colour, making it impossible to show two colours simultaneously, delivering increased safety functionality for the user. A top-mounted indicator informs the user of which colour aspect is illuminated and a small blue battery status LED above the switch is used to provide an indication that the battery has sufficient capacity for use during an eight-hour shift.

Improved design

Positioning the weight of the battery at the bottom of the lamp gives a very low centre of

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gravity to the lamp and this makes it far more stable when it is laid onto ballast or sleepers as an emergency signal. The battery is released with a single push button, which is fitted under the handle to prevent inadvertent operation, the replacement process of the battery is a simple push-to-fit action.

The lamp's LED technology demands far less power from the battery and performance tests conducted have shown a significant increase in the life of the battery before light starts to degrade (from one hour in the filament based handlamp, to 20 hours for the new LED handlamp). LED technology also removes the phenomena experienced by a white incandescent light going progressively more yellow as the battery life decreases creating the possibility of misread aspects.

Robust construction

Everybody knows that bulbs can, and very often do, fail at the most inconvenient times and will not tolerate excessive shock loading, whereas LEDs are extremely robust and the polycarbonate body material is strong enough to withstand severe impact with limited

damage, leading to a long in-service life.

The use of signal colours in the LED handlamp (as specified in the Group Standard) ensured its acceptance for use as an emergency marker light on the front and rear of trains and it is fitted with a lamp iron mounting on the back of the lamp. The current handlamp attachment point was susceptible to damage because of its exposed position, however in the new LED handlamp the fitting is an integral part of the polycarbonate moulding and will withstand far higher wear and tear forces including heavy side impacts with no appreciable effect.

Trial processes were carried out for two years and have been very well received; users have been extremely impressed by the new features, its versatility and robustness. One customer commented: 'It is great for all the signalling uses and also has a really bright torch, ideal for the winter months.'

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Design innovation from Dorman achieves product approval

The Dorman semaphore signal battery box has achieved Network Rail product approval. The battery box is designed to complement Dorman's existing LED semaphore interior lamp units. This simple but effective solution requires less frequent maintenance, reducing cost and improving

safety when used to power semaphore signals.

The advantage its simple concept demonstrates is very significant, the battery box can be mounted at ground level, removing the need to work at height to replace the paraffin lamp. The battery box is capable of powering two semaphore lamps for significant periods,

with the battery changeover easily incorporated into the regular maintenance intervals.

Dorman continues to be at the forefront of technology in the field of LED railway signalling and strives to introduce groundbreaking, yet simple and cost-effective solutions to improve safety and reliability.

Visit Unipart Rail and Dorman at Railtex 2009, Earls Court Two, London, on stand 430.

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