

TEST REPORT

Swivel-Head Lamp for use in EX-Zone AccuLux HL 25 EX

A) Scope of Work

A comprehensive test and product evaluation of the Witte + Sutor swivel-head lamp was executed prior to shipment of first products in 2021. Four lamps HL25 EX HIGH POWER including charging station were delivered on Dec. 10th 2020. This product is on the market since 2015. The lamps are specified for protection class IP67 and the operation temperature range between -20 °C and +40 °C. A lithium-ion battery 5 Ah, 3.7 V is used as storage element that assures an operation time of the main LED for five hours.

In addition, the following documents were presented by Witte + Sutor GmbH:

- Operation instructions and specifications
- EX type examination report TÜV-A 10ATEX0006 according to EC directive 94/9/EG for intended use in explosive atmosphere dated 29.8.2014 by TÜV AUSTRIA SERVICES GmbH
- Test report 20-0104 dated 17.11.2020 of IKT Kunststofftechnik Stuttgart for mechanical evaluation of the casing plastic material.

B) Test results (Summary)

- The lamps are fully functional. All technical specifications and sub-functions like operation time, switch control and emergency light have been fulfilled
- The 4-segment fuel gauging is performed at high accuracy
- The charging time is 6 hours; 80% of charge is obtained after 4 hours
- The 12 or 24 Volt threshold values for charging are executed
- Charge and discharge voltage limits of the secondary battery is properly controlled
- The lamps construction turned out to be very robust. There were no failures or damage after drop test from a height of 1.5 meters

Test and evaluation of the lamps exhibited a mature technology. The micro controller based electronic circuit, the LED module, the electronic boards and the components are of high quality and reliability; protection class and explosion protection have been proven. The plastic body and the design are characterized by superior stability.

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