



Fusehead & Electric Igniter ESD Sensitivity

Like any Electro Explosives Devices (EED), fuseheads and electric igniters are sensitive the Electrostatic Discharges (ESD) under the two following aspects:

1. N Series fuseheads are sensitive to current (no-fire current 0.20A/10s.), therefore they can be initiated with low electric energy per unit of resistance – superior to 0.55mJ/Ohm. The no-fire energy of a bare fusehead is approximately 0.85mJ. When equipped with leg wire the resistance of the leg wire should be added to the fusehead resistance slightly increasing the minimal energy. A human body produced ESD going through the circuit may initiate the fusehead. However the discharge will have to occur on one of the lead wire while the order is in contact with the ground. In order to avoid this situation, it is recommended to maintain the electrical circuit shunted during transportation, storage and handling. When the electric circuit of the EED has to be opened for integration into a system, the operator should not touch the bare extremity of one led wire while the other is connected or in contact with the ground. Common sense and basic safety rules should be observed in order to avoid any ESD, such as, but not limited to: Avoid clothing made of synthetic material, non-isolated footwear on non-isolated floor – the use of a grounded ESD bracelet/wristband is always recommended. Whenever possible, the use of less sensitive fuseheads can be made (i.e. N38B or N55B), however the all-fire current will be increased.
2. ESD can also affect the body of the fusehead provoking initiation. “B” fusehead composition (i.e. N28B, N32B, etc.) is designed to obtain fairly high electrical sensitivity and rapid functioning time, the composition initiates at a fairly low temperature. Here again common sense and basic safety rules mentioned above should be observed. A sleeve-protection installed over the fusehead such as a tube or a shroud will avoid the risk of initiation.

Our primary concern is the safety and protection of employees, users, the public, and the environment in the manufacture, transportation, storage, handling, use, and disposal of commercial explosive materials. We strongly recommend reading and understanding the Safety Publications published by the Institute of Makers of Explosives, and in particular:



IME SLP 4 – Warnings and Instructions for Consumer in Transporting, Storing, Handling, and Using Explosives Materials

IME SLP 22 – Recommendations for the Safe Transportation of Detonator in a Vehicle with Certain Other Explosive Materials

IME SLP 20 – Safety Guide for the Prevention of Radio Frequency Radiation Hazards in the Use of Commercial Electric Detonators.

WARNING: The information & recommendations described here cannot possibly cover every applications of the product or variation of conditions under which the product is used. The recommendations herein are based on the manufacturer’s experiences, research, and testing. They are believed to be accurate, but no warranties are made, expressed or implied. The specifications contained here are all nominal which represent our current production. The product described may be subject to change. Contact Energetix Solutions Inc. for verifications. The information contained in this document is property of Energetix Solutions Inc., transmission or duplication by any means is strictly forbidden without written authorization. © ESI, Inc. Fusehead Electric Igniter ESD Sensitivity_V2- 01|2012