

HANDLING OF THE TRI-SURE CLOSURE SYSTEM FOR CONTAINERS WITH DANGEROUS/FLAMMABLE GOODS

Guide Lines

What is the risk?

CAUTION Studies has shown that a metal drum closure can generate mechanical sparks which are incendive for explosive vapor-air mixtures. This could for instance happen when two metal objects touch with force or friction. Another known ignition source is static electricity, this will occur when two conducting objects release their electrostatic discharge as a spark that can combust flammable materials.

Possible danger causes



Spark discharges will occur from conductive objects, surfaces and personnel, which are ungrounded and have become charged to high potential e.g. plastic containers. Sources of spark energy will comprise items such as ungrounded metal fixtures and fittings. They may also include personnel if their footwear and/or the flooring are electrically insulating. Mobile and non-fixed items such as trolleys, metal drums, gauging equipment and hand tools are also potential spark sources. Possible risks can occur during transfer of a liquid (filling or emptying) from an unearthed metal recipient or from a nonconductive packaging where the liquid has high electrostatic resistance.

Safe handling in risk environments



To prevent the discharge of sparks in areas with increased risk of explosion the following precautions should be taken:

- Conductive drums and equipment to be connected with a conductor and to be grounded.
- Drums to be equipped with self-closing valves, pressure vacuum bungs and flame arrestors.
- Use non-sparking equipment and tools.

Closing tools

Tri-Sure[®] offers closing tools that are certified to be used in areas with increased risk of explosion. Our crimping tool comes with the ATEX marking:

Note: Our ATEX crimping tool must always be used, in combination with an ATEX balancer, tool velocity always to remains below 1 m/s.

All earth connections have to be connected and tested on conductivity, Installation of these tools have to be done by authorized personnel.

Application field

These tools are allowed to be used in areas with increased risks of explosion and in hazardous environments where flammable and combustible vapors liquids gas dusts are present e.g. petroleum industry, chemical industry, power generation, railroad, mining etc.

Please contact our local sales and support center for advice and the availability of other adaptors and tools that can be used in areas with increased risk of explosion.

Safety Regulations



Always follow the local relevant Regulations and Standards, for instance ATEX 137 (Europe) or NFPA 30 (US) in accordance with chapter 6.5.4, NFPA 30, the following applies:

6.5.4* Static Electricity.

6.5.4.4 Any electrically isolated section of metallic piping or equipment shall be bonded and grounded to prevent hazardous accumulation of static electricity.

6.5.4.5 All nonmetallic equipment and piping where the potential exists for an ignitable mixture to be present shall be designed and operated to prevent electrostatic ignition. In addition, chapter 18.4.4.1 "Dispensing of Class I liquids (and Class II and III) from a container by means of air shall be permitted under the following conditions": (4) The device shall be bonded and grounded or shall be demonstrated as not being capable of generating a static charge under any operating condition.