

Installation and Maintenance Instruction K-MASS® Coated Products

K-Mass Coated Products are any product coated with the Passive Fire Protection Product K-Mass®. K-Mass® is an intumescent epoxy based formulation cast in user product form or molded on to a device requiring fireproofing. It is used to protect actuators, electrical fittings, conduit, valves, fireproof and fire resistant splices, glands or joints, cable tray and many other devices.

1 K-Mass® Characteristics

K-Mass® is an epoxy-based coating that provides excellent fire protection, chemical resistance, and corrosion protection with a minimum amount of maintenance when installed correctly and inspected periodically. **K-Mass® intumescent material responds to temperatures above 85.6°C. The typical response is a slight swelling (intumescent) of the material increasing the coating thickness. Therefore; installation in areas below 85.6°C is recommended.** In areas where ambient temperatures, as a result of process heat may exceed this temperature, heat shields (thermal barriers) are recommended. K-Mass® is an insulator when in the presence of fire and a thermal conductor when not in the presence of fire. This characteristic allows heat build up in the coated item to be conducted away. Virgin (unpainted or protected) K-Mass® is affected by moisture and UV light and at time of shipment from Thermal Designs, Inc. is protected by a moisture proof and UV inhibiting HBLCP paint system.



It is possible to repaint the finished product. If wet paint is used it is not allowed to dry it in an oven.



2 Pre & Post Installation Inspection

Prior to installation the K-Mass® coating should be inspected for cracks, chips, or paint removal that may have occurred during shipping. Cracks will require sealing; and chips (removed material) greater than 3mm will require patching with K-Mass®. Paint will require touch up. K-Mass® Patch Kits are available in the pint and quart sizes. Patch Kits can be ordered by Part Number KMTDPKS (pint) or KMTDPKL (quart). The Kits consist of a Part A & a Part B that should not be mixed prior to use.

3 Handling Coated Items

K-Mass® coating is a fire protection coating, which requires some care in handling. Care should be taken to avoid dropping, prying, impacting, or gouging the coating reducing the material coating thickness.

4 Installation- K-Mass® Coated Item

Installation instruction of a K-Mass® coated item is the same as the instruction for the item with the following additions. Reasonable care in handling the item is required to prevent damage to the fire protective coating during installation. Lifting should be accomplished through use of soft (nylon) or other material slings. In no case shall steel wire or chain slings be used for lifting as cracking or chipping of the coating may occur. After installation and test of the coated item all exposed bolt holes will require filling with high temperature silicon caulk as an after installation moisture proof seal. If during maintenance or inspection the bolts require removal the silicon plug can be removed but must be replaced to maintain moisture proof integrity. Flange mating areas if not designed as a vapor seal, explosion proof, flame path may also be sealed with high temperature silicon. Silicon caulking of mating flanges on Explosion Proof electrical components containing arcing sparking devices is not permitted as the silicon may affect the ability to vent the device in the event of internal explosion.

4.1 K-Mass® Coated Plugs and Stem Pipes

K-Mass® coated actuators are shipped with connection ports sealed by K-Mass® coated plugs. To maintain effective fire protection all unused ports must be protected. K-Mass® coated plugs must be installed in all unused ports to maintain protection of the coated equipment. When actuators are mounted to rising stem

valves the valve stem requires protection by a K-Mass® coated stem pipe. Stem Pipes and Plugs can be removed or tightened using a strap wrench. Under no circumstances should a pipe wrench or other sharp tool be used in the assembly or removal of these items. Insure that all Plugs and Stem Pipes are tight (preventing water and vapor migration into the equipment) and silicon sealed prior to completing installation and placing equipment into operation.

5 Maintenance of K-Mass®

As a relatively inert material K-Mass® requires little maintenance attention other than inspection for chips, cracks and its Weather Resistant Protective Coating. Maintenance personnel should be instructed to visually inspect the coating after any maintenance is performed on the equipment, making note and reporting any discoloration of the paint, chips cracks or exposure of the gray undercoat primer. An annual inspection of the paint condition is recommended. If no Equipment Painting Program has been instituted in the facility, the equipment should be repainted every 3-5 years depending on the exposure conditions.

6 Repair of K-Mass® Coating

Contact Thermal Designs UK LTD +44 (0)1380 816079 , sales@tdiuk.com. Repair instructions are on video and are available via YouTube. Special instruction may be given when TD is supplied with photographs, or a Technical Service Representative can be dispatched at prevailing service rates.