

Sealing Solutions

APPLICATIONS IN INDUSTRY

PROBLEM: Making PCs and Monitors Function Safely in Explosive Environments

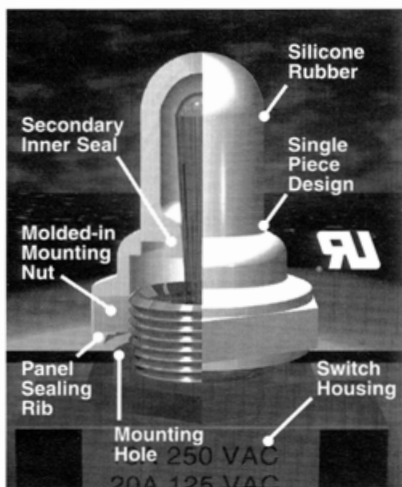
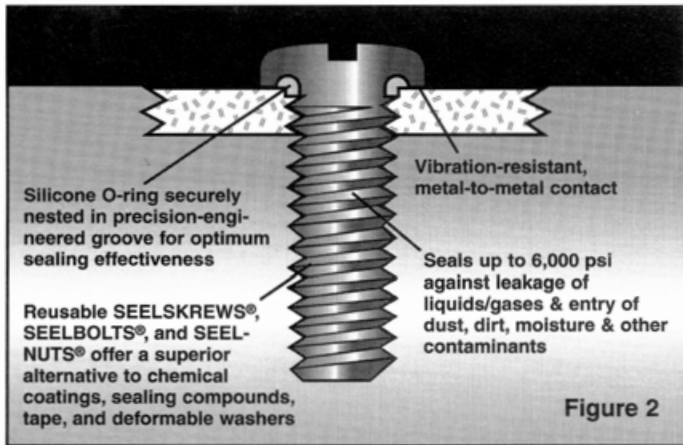


Figure 1

Subject: Switch Boots and Self-Sealing Fasteners

Situation: DAISY DATA INC. of York Haven, Pennsylvania specializes in design and manufacturing of Universal Equipment Enclosures (Figure 1) and Purging Controls for hazardous areas such as food processing, pharmaceutical manufacturing and other industrial applications. The theory behind these enclosures is to keep electronics that have the potential of producing sparks or high temperatures isolated in explosive environments. This is accomplished by placing the electronics (PC or monitor) in a stainless steel (NEMA 4X) enclosure that is sealed against entry of outside atmosphere. The enclosure is regulated by a micro-processor-controlled purge system that replaces the enclosure atmosphere with inert gas under slight pressure. This sophisticated enclosure system also includes viewing windows, internal fans and alarm contacts. To successfully build their enclosures, Daisy required that all fasteners be self-sealing, and that all purge device switches be environmentally sealed.

Solution: DAISY DATA computer enclosure uses a number of screws, with each mounting hole representing a potential leakage point. Ordinary screws could not insure sealing. DAISY chose APM re-usable self-sealing fasteners (Figure 2). Each screw incorporates a captive O-ring located in a precision groove under the head. Daisy purge controls (Figure 4) also feature switches that must also be sealed. To achieve this, DAISY specified APM's toggle and pushbutton switch environmental sealing boots (Figure 3).

To obtain further information on this subject, ask for Catalogs (Switch Boots) HEX-100 and (Fasteners) SF-100. Free samples available on request.



Figure 4

APM HEXSEAL® Sealing Specialists