

Ultra-Vanshield® applications

APPLICATIONS

- RFI/EMI Shielding
- Grounding
- Electrostatic Discharge (ESD)
- Electromagnetic Pulse (EMP)

TYPICAL EQUIPMENT

- Computers
- Data Processing
- Telecommunications
- Instrumentation
- Medical Diagnostics
- Industrial Controls
- Office Products
- Automotive



ELECTRONIC ENCLOSURE USES

- Seams
- Doors
- Back Panel I/O's
- Removable Panels
- Bezels
- Control Openings
- Vents

PRODUCT FORMS

- Gaskets
- Seals
- O-Rings
- Grounding Pads
- Die-cuts
- I/O Interface Gaskets

Long-term effectiveness

The elastomeric material greatly resists change due to heat exposure. In fact, it is formulated to function optimally at temperatures from -100°F up to +480°F (-75°C to +250°C), making it ideal for applications in the automotive industry and in other high temperature situations. ULTRA-VANSHIELD® components are formulated for flammability resistance which meets ASTM Specification D4205-93, subsection 15.6, horizontal burn (HB). Additionally, ULTRA-VANSHIELD® materials can be formulated to meet ASTM D4205-93, subsection 15.6 for vertical flame resistance specification (V-0).

Endurance tests of ULTRA-VANSHIELD® dual elastomer gaskets through 25,000 cycles of repeated compressions indicate no change in volume resistivity and no measurable compression set (Table 2). Accelerated aging tests provide similar results with almost no change in volume resistivity (Table 2).

ULTRA-VANSHIELD® standard silicone-based materials easily lend themselves to optional formulations which are application-specific; such as, higher flame retardancy and low compression/deflection characteristics.

Dual elastomer extrusions can be made in a wide range of cross-section profiles. Flexibility in geometry is an important concept for a designer to consider. A variety of profiles are now available and almost any shape can be tooled.

Simple means of mounting ULTRA-VANSHIELD® gaskets include metal C-clips, rivets or pressure sensitive adhesive tape. The conventional tape used is a non-conductive pressure sensitive adhesive which adheres well to rubber, metal or plastic. Conductive adhesive tapes are also available.

Another alternative is a press-fit mounting into a groove. One such gasket is used in the telecommunications industry as shielding for cellular telephones. The overall diameter is in the range of 1 to 2 mm while still retaining all conductive and mechanical properties of larger gaskets.

TEST DESCRIPTION	MEASUREMENT	RESULT
Elevated Temperature Volume resistivity performance at 80% relative humidity	Immediate	0.001 ohm-cm
	70 hrs @ 437°F	0.0025 ohm-cm
	70 hrs @ 212°F	0.001 ohm-cm
	70 hrs @ 100°F	0.002 ohm-cm
Endurance Resistance To Relaxation Repetitive compressions, 10/minute, 25,000 cycles, 0% to 25% compression, Instron Physical Tester	Volume Resistivity	No change
	Surface Resistivity	No change
	Relaxed Height	No compression set

Table 2. Long-term performance characteristics

See page 14 for installation attachment methods and optional configurations.