



# Shedmount Wildlife Guards

*Mini-Shedmount Arrester Application*



**Shedmount** wildlife guards are the most universal, most economical, and most effective defense against wildlife intrusion available. Continually enhanced to meet customer needs since their 1999 debut, CMI Shedmount and Mini-Shedmount are the industry standard for use on overhead distribution transformers.

CMI Shedmount guards fit all common distribution transformer high voltage primary bushings. The larger diameter **Mini-Shedmount** is very effective for use on polymer arresters.

- Hinged for easy installation on existing equipment without lead disconnection
- The generous number and location of cable ports make these guards ideal for use on new installations.
- Innovative CMI easy-lock latch provides secure, dependable closure that needs no taping.

## SUPERIOR DESIGN

CMI **Shedmount** guards are molded from premium grade, weather resistant, UV stabilized polypropylene copolymer. With more than 25 years in the field and extensive laboratory testing, this material has proven the superior durability and weathering characteristics of this polymer.

Heavy wall construction (.075") provides a rigid body which holds its shape for precise latch alignment.

Easy-grip ribs are strategically molded into the body near the latches for simplified installation with HV lineman's gloves – a crucial feature for safe live line installation.

Three uniquely designed latches positively lock the guards closed, but are easily opened for removal, making the guards reusable.

Three large cable ports are provided on the **Shedmount** guard, and four are provided on the **Mini-Shedmount** guard. The auxiliary cable ports provide easy application on transformers with direct-connected arresters. Flexible combs at the cable entrances and mounting throat prevent wildlife intrusion around cables and unused ports.

## APPLICATIONS

CMI **Shedmount** guards are optimized for wildlife protection on overhead distribution systems rated 25 KV class and less.

These guards are designed to mount securely between the first and second shed (nearest the high voltage terminal) on primary bushings and arresters. **Installation over more than one shed is not recommended.**

The standard **Shedlock** guard (height: 9") is ideal for use on installations that employ non-insulated leads. The taller guard protects from animals bridging the bare lead wire to the tank cover.

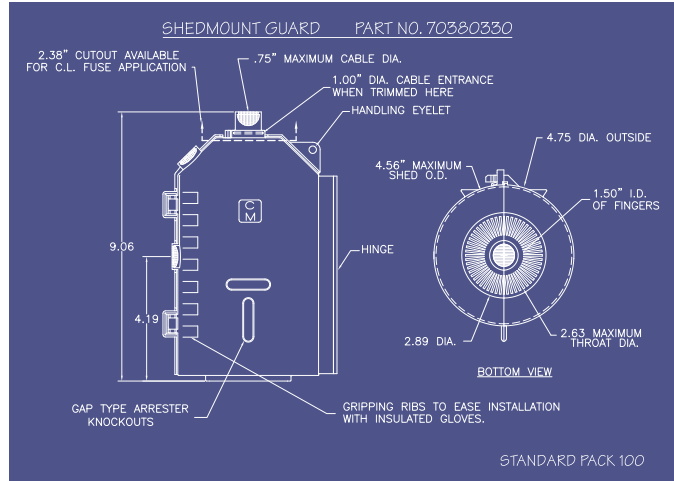
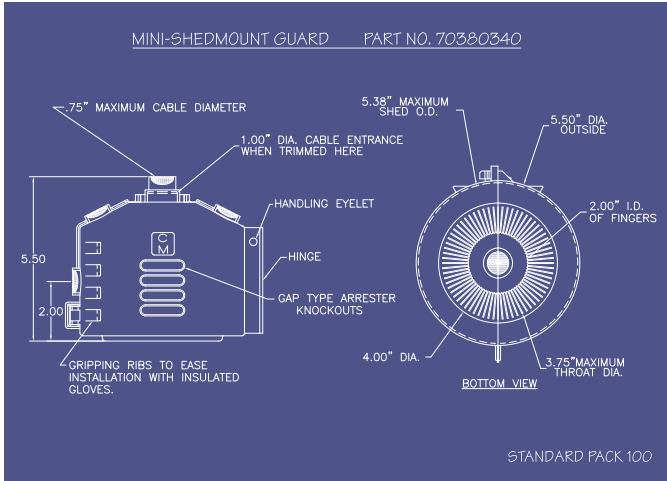
The lower profile **Mini-Shedlock** guard (height: 5.5") is ideal for use on installations with insulated lead wire. With additional cable ports, this guard is suited for use on tank mounted arrester applications. The larger diameter in combination with flexible combs at the mounting throat make this guard ideal for use on polymer shedded arresters. Cable ports on the sloped and sidewall surfaces are optimized for lead connections to tank mounted arresters.



*Shedmount Guard*

# Shedmount Wildlife Guards

## P A R T D I M E N S I O N S



## T E S T I N G

The following tests have been conducted on production guards to verify performance on electrical apparatus up to 25 KV Class (15.0KV line to ground).

### LIGHTNING IMPULSE WITHSTAND

When tested in accordance with IEEE Std. 4 – 1995, each guard withstood three positive and three negative 125kV BIL impulse waves without disruptive discharge or flashover.

### DRY WITHSTAND - EXT. SURFACE GROUNDED

The entire exterior surface of the guard to within 2" of the energized conductor was grounded with copper mesh. A voltage of 18kV (20% greater than maximum rated line to ground) was applied to the exposed conductor and held for one minute. No electrical flashovers or punctures occurred.

### DRY POWER FREQUENCY FLASHOVER

The flashover value of the base test fixture (without guard installed) was determined by averaging five consecutive flashover tests. This value was determined to be 73 kV. With the guards installed, the average flashover value was 75 kV (102% of the base value) for both the 70380330 tall guard and 70380340 short guard.

### WET WITHSTAND - EXT. SURFACE GROUNDED

Precipitation conditions were established in accordance with IEEE Std 4 -1995, 14.2 Table 3, "Conventional Procedure – USA".

The entire exterior surface of the guard within 2" of the energized conductor was grounded with copper mesh. A voltage of 18kV (20% greater than maximum rated line to ground) was applied to the exposed con-

ductor and held for one minute. No electrical flashovers or punctures occurred.

### WET POWER FREQUENCY FLASHOVER

Precipitation conditions were established in accordance with IEEE Std 4 -1995, 14.2 Table 3, "Conventional Procedure – USA".

The flashover value of the base test fixture (without guard installed) was determined by averaging five consecutive flashover tests. This value was determined to be 57 kV. With the guards installed, the average flashover value was 53 kV (94% of the base value) for the 70380330 tall guard and 55kV (96% of the base value) for the 70380340 short guard.

### RADIO INFLUENCE VOLTAGE

The RIV value of the base test fixture (without guard installed) was less than 50 microvolts. With the guard installed, the RIV value was still less than 50 microvolts.

### COLD TEMPERATURE

Guards were placed in an environmental chamber for 4 hours @ -20 Deg C. Within one minute of removal, the guards were installed and removed from the test fixture five consecutive times. No cracks or damage to the parts was observed.

### DIELECTRIC CONSTANT

Tested in accordance with ASTM D 150, the dielectric constant (100kHz) of the material is 2.10 – 2.15.

### DIELECTRIC STRENGTH

Tested in accordance with ASTM D 149, the dielectric strength of the material is 22 – 23 kV/mm.

### ULTRAVIOLET AGING

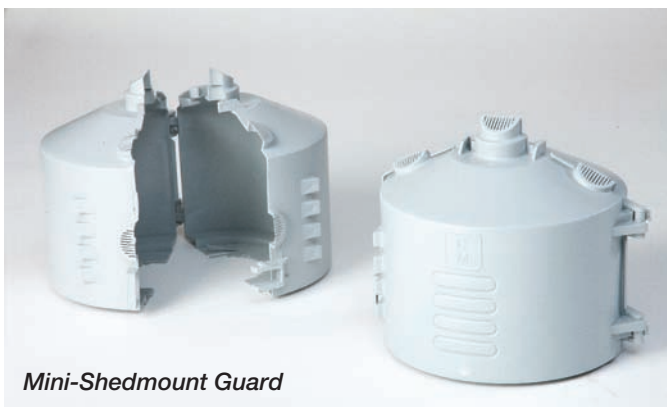
The test samples consisted of two 1" x 5" sections removed from standard production guards. Testing was conducted on a Q-Trac natural sunlight concentrator at the Q-Panel Weathering Research facility in Buckeye, Arizona. Exposure time was 6 months (06/02 thru 12/02), which approximates 8 - 10 years of typical outdoor exposure or 4 – 5 years of severe outdoor exposure. A nightly water spray cycle was included to simulate the effect of dew and rainfall.

Samples returned at the conclusion of the test were still in good condition. Functionally, the material was still completely intact and flexible with no cracking or embrittlement. The cosmetic appearance of the samples also remained good, with only very minor surface chalking as evidence of the exposure.

In addition, material samples have passed 1000 hours QUV (per ASTM G 154, appendix X2, Table X2.1, cycle 1) with no change in appearance or properties.

### RETENTION TESTING

While installed on the test fixture with the cable opening oriented for maximum wind exposure, the guards remained properly installed when exposed to a constant wind velocity of 85 mph.



Mini-Shedmount Guard

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