

Shedmount Wildlife Guards

Central Moloney, Inc.
Components Operation
An ISO 9001:2000 Certified Company

Product Data Sheet

File No.	PDS1033	Issued:	April 15, 2007
Availability:	Immediate	Supersedes:	8-20-2003

**Simply the best guard
on the market!**

Introduction

Central Moloney Components, a leader in molded components for the electrical distribution industry, offers the most universal, most economical, and most effective line of wildlife guards available today, the 'Shedmount' line of guards. First introduced in 1999, and enhanced several times to meet customer needs, the CMI Shedmount and Mini-Shedmount have become the industry standard for use on overhead distribution transformers.

The CMI Shedmount guards are sized to fit all common distribution transformer high voltage primary bushings. The Mini-Shedmount, with its larger diameter also is very effective for use on polymer arresters. The guards are hinged for easy application on existing installations without lead disconnection. The generous number and location of cable ports also make these guards ideal for use on new installations. The innovative latch design, developed by CMI, provides an easy to close guard with dependable locking. ***There is no need to tape these guards closed.***

Design

CMI Shedmount guards are molded from premium grade, weather resistant, UV stabilized polypropylene copolymer. Extensive design testing and 20 years of field experience with 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.

Three uniquely designed latches positively fasten the guards closed, but are capable of being opened for guard removal. This allows the guards to be



Fig 1 Mini-Shedmount Guard



Fig 2 Shedmount Guard

reused if the transformers are removed for replacement or repair.

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 fingers at the cable entrances and mounting throat prevent wildlife ingress around cables and unused ports.

For ease of installation with HV lineman's gloves, ribs are conveniently located on the body near the latches. This feature significantly eases live line installation by enhancing the grip on the guard near the latches.

Application

The CMI Shedmount guards are suitable for use as 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 (9 inches in height) is ideal for use on installations



Fig 3 Arrester Application

that employ un-insulated leads. The taller guard protects from animals bridging the bare lead wire to the tank cover.

The Mini-Shedlock guard (5.5 inches in height) is a lower profile guard, ideal for use on installations utilizing insulated lead wire. The additional cable ports on this guard also make this guard very suitable for use on tank mounted arrester applications. The larger diameter in combination with extremely flexible fingers at the mounting throat makes this guard ideal for use on polymer shedded arresters. The cable ports on the sloped and sidewall surfaces are ideally located for lead connections to tank mounted arresters.

Shedmount Wildlife Guards

Part Dimensions

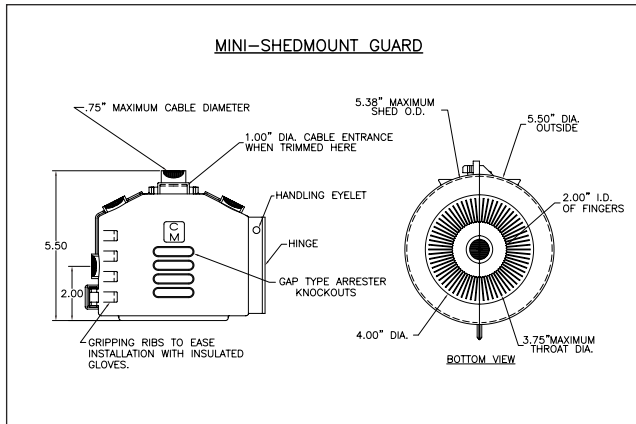


Fig 4 Mini-Shedmount Guard Part No. 70380340 Std. Box Count 100

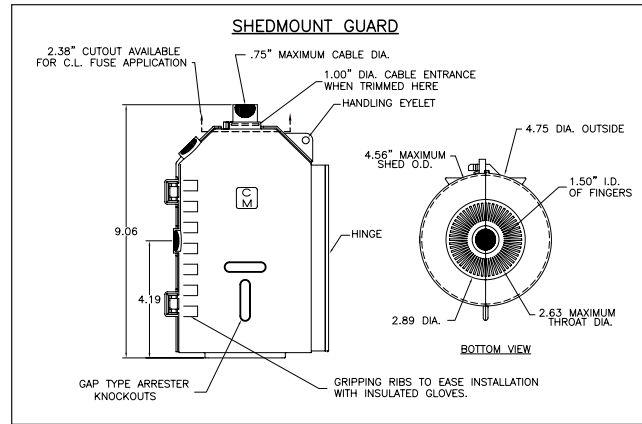


Fig 5 Shedmount Guard Part No. 70380330 Std. Box Count 100

Testing

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 – Exterior 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 – Exterior 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 conductor 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.

Central Moloney, Inc.
Components Operation
 An ISO 9001:2000 Certified Company

5500 Jefferson Parkway Pine Bluff, Arkansas 71602 Tel. 870-247-5320 Fax 870-247-5369
 E-mail: info@cmicomp.com Website: centralmoloneyinc.com