

## PIPE BUS GUARDS (BB 20045-R; BB25045-R; BB-40045-R; BB45045-R)

Bus coverage may be required when tight clearances create a greater risk for bird and animal contact. Whether phase to phase or phase to ground contact risk exists, protection is frequently needed. Reliaguard Pipe Bus Guards protect endangered species, birds, squirrels, raccoons, snakes, feral cats and other wildlife from contact with energized risk points.

### Better by Design

- Based on the 100 years of collective knowledge of the Reliaguard linemen who specialize in wildlife mitigation, designs consider all risk points. A team of CAD designers support our linemen to incorporate features unique to only Reliaguard Pipe Bus Guards.
- Pipe Bus Guards are designed to couple together allowing for any length of application.

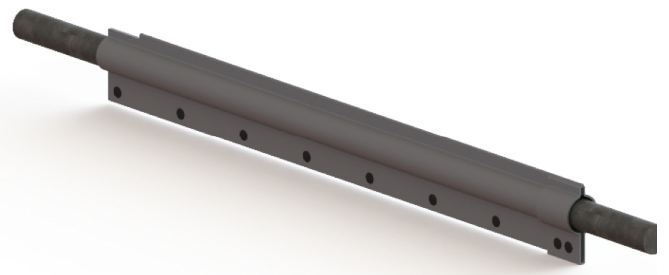
### Superior Material

- All Reliaguard products are made from Reliatanium, a proprietary material designed by Reliaguard's chemical engineering founders.
- Reliatanium achieves a V-0 flammability classification, the highest rating for the UL 94 test standard and has a 15+ year lifespan.
- Reliatanium material properties incorporate UV stability and flame retardancy
- Rigid and robust material in properties and design
- Tested to meet specific guidelines of IEEE 1656-2010

### Ease of Installation

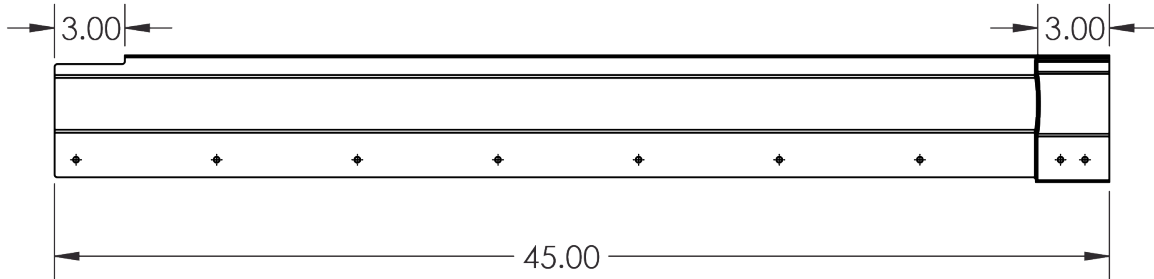
Substation technicians like our products for the following features:

- Pipe Bus Guards are available in multiple lengths and dimensions
- Guards are clamshell design for easy opening by hand
- Easy coupling of mated connections
- Push through pins are provided to easily install the Pipe Bus Guards by hand
- Retention of the guard once applied is a critical design feature to be considered.



## Technical Features

Designed to prevent wildlife caused outages, these guards are tested for application on equipment up to 38kV.



Product Name	Part Number	Diameter*	Length*	Pack Size (MOQ)
Pipe Bus Guard – 2"	BB-20045-R	2.00 (50.8)	45.00 (1143)	6
Pipe Bus Guard – 2.5"	BB-25045-R	2.50 (63.5)	45.00 (1143)	6
Pipe Bus Guard – 4"	BB-40045-R	4.00 (101.6)	45.00 (1143)	6
Pipe Bus Guard – 4.5"	BB-45045-R	4.50 (114.3)	45.00 (1143)	6

\*Dimensions in inches (millimeters)

## RELIATANIUM MATERIAL PERFORMANCE TESTING All tests conducted at 38KV.

Performance Test #	Test Standards	Details	Test Result
Flammability	UL - 94	Vertical Flame Test Test plaques self-extinguishing with no drips	V-0
Ultraviolet Aging	IEEE std 1656™ - 2010 Section 5.6	After completing 1000 hours, no perceived changes to the condition of test samples.	Completed
Tracking and Erosion Resistance	IEC 60587	6 hrs (Full duration of test)	Achieved @ 2KV
Wet Power Frequency Flashover	IEEE Std 1656™-2010 Section 5.3	Average flashover value of all samples greater than 90% of the value obtained on the test fixture alone	Passed
Wet Withstand	IEEE Std 1656™-2010 Section 5.2.1	Option 1 - moving Electrode All Samples did not puncture or flash over	Passed
Tensile Strength at Break	ASTM D638		2,000 psi
Shore Durometer	ASTM D2240		65 Shore D
Heat Deflection	ASTM D648		225°F 66 psi