



Industrial Loadbreak Bushing Insert

200 A

25 kV Class

5811-BI-25

Data Sheet

1.0 Product Description

1.1 General

The 3M™ Industrial Loadbreak 25 kV Bushing Insert threads into a universal bushing well to provide the same function as an integral loadbreak bushing. Using bushing inserts makes field installation and replacement possible and efficient. Bushing inserts and elbow connectors comprise the essential components of all loadbreak connections.

The 25 kV Bushing Insert uses a patented “ALL COPPER CURRENT PATH.” The uncomplicated nature of the current path design delivers superior, reliable performance.

An internal hex broach allows for positive torque controlled installation. Using a torque tool, the bushing insert can be properly tightened into the bushing well without the fear of accidentally breaking the bushing well stud.

An exclusive latch indicator ring, located on the circumference of the bushing's collar, eliminates the guesswork of loadbreak elbow installation on the bushing insert. The bright yellow ring provides immediate feedback to determine if the elbow is properly installed on the insert. If the yellow ring is completely covered by the loadbreak elbow, it is fully “latched.” If the ring is visible, the elbow can be installed correctly before any problems can occur.

The bushing insert meets all the requirements of ANSI/IEEE Standard 386 and is completely interchangeable with mating products that also meet ANSI/IEEE Standard 386. When mated with a comparably rated component, the bushing insert provides a fully shielded and submersible connection for loadbreak operation.

1.2 Installation

No special tools are necessary.

The insert can be installed by hand or with the assistance of a torque tool. Using the hex-broached base (see Figure 2) and a torque tool, consistent installation can be easily achieved. Refer to the installation instructions for details.



Figure 1. 25 kV Loadbreak Bushing Insert with latch indicator for applications in transformers, switches, and other apparatus.

1.3 Production Tests

Tests conducted in accordance with ANSI/IEEE Standard 386:

- ac 60 Hz 1 Minute Withstand 40 kV
- Minimum Corona Voltage Level 19 kV

Tests conducted in accordance with manufacturer's requirements:

- Physical Inspection
- Periodic Dissection
- Periodic Fluoroscopic Analysis

TABLE 1
Voltage Ratings and Characteristics

Description	kV
Standard Voltage Class	25
Maximum Rating Phase-to-Phase	26.3
Maximum Rating Phase-to-Ground	15.2
ac 60 Hz 1 Minute Withstand	40
dc 15 Minute Withstand	78
BIL and Full Wave Crest	125
Minimum Corona Voltage Level	19

Voltage ratings and characteristics are in accordance with ANSI/IEEE Standard 386.

TABLE 2
Current Ratings and Characteristics

Description	Amperes
Continuous	200 A rms
Switching	10 operations at 200 A rms at 26.3 kV
Fault Closure	10,000 A rms symmetrical at 26.3 kV after 10 switching operations for 0.17 s
Short Time	10,000 A rms symmetrical for 0.17 s 3,500 A rms symmetrical for 3.0 s

Current ratings and characteristics are in accordance with ANSI/IEEE Standard 386.

2.0 Features and Detailed Description

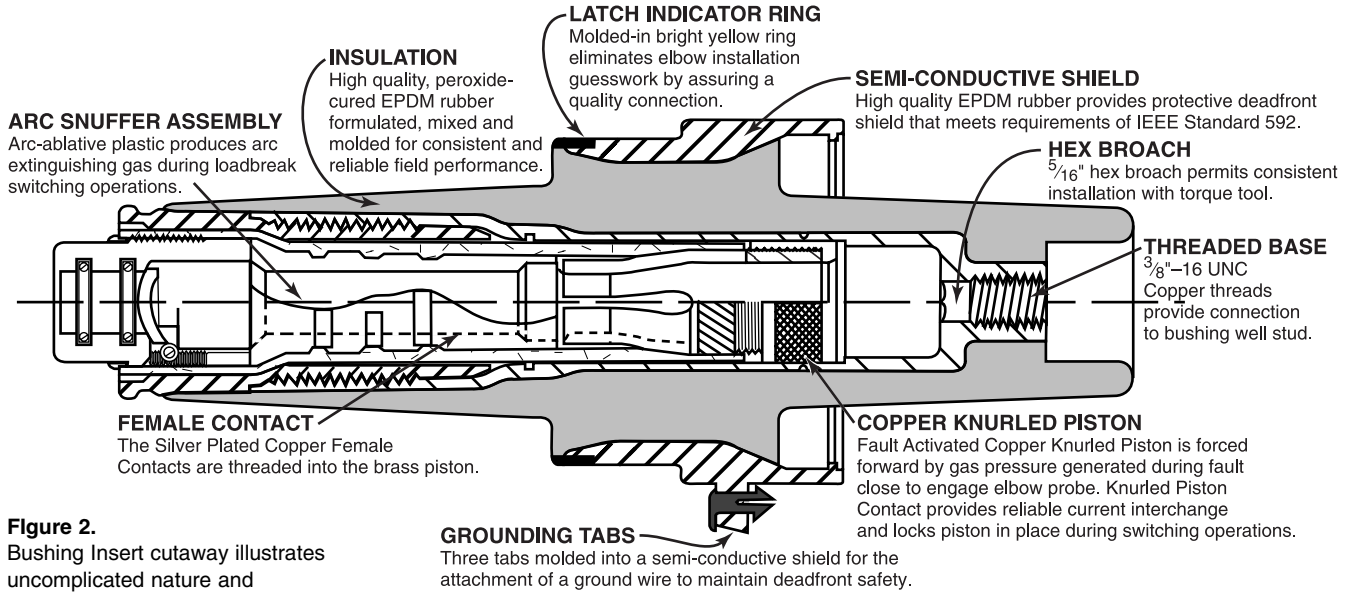


Figure 2.
Bushing Insert cutaway illustrates uncomplicated nature and dependability of current path.

A	B	S1	S2
7.11" 180.5 mm	3.16" 80.2 mm	0.76" 19.30 mm	7.14" 181.36 mm

TABLE 3
Loadbreak Bushing Insert Kit

Description	Catalog Number
Loadbreak Bushing Insert Standard Length	5811-BI-25

Each kit contains:

- Loadbreak Bushing Insert
- Shipping Cap (not for energized operation)
- Silicone Lubricant
- Installation Instruction Sheet

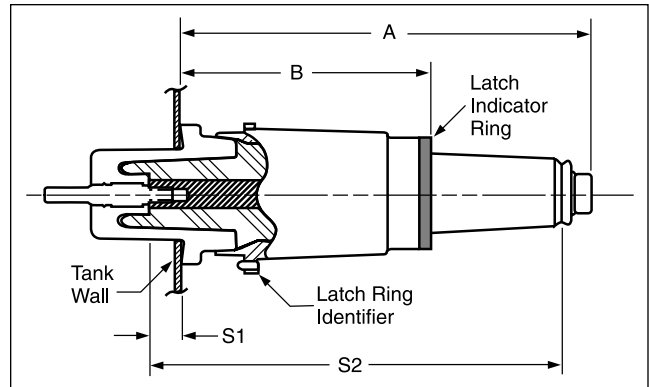


Figure 3.
Bushing Insert profile and stacking dimensions.

3.0 Availability

The 3M™ 5811-BI-25 Industrial Loadbreak Bushing Insert is available for use with ANSI/IEEE Standard 386 Universal bushing wells, for making loadbreak connections with 25 kV ANSI/IEEE Standard 386 loadbreak elbow connectors. The 5811-BI-25 is available from your local authorized 3M electrical distributor.

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IMPORTANT NOTICE

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