General

The Cooper Power Systems 25 kV Bushing Insert threads into a universal bushing well and uses a patented design with an all-copper current path. The uncomplicated nature of the current path design delivers superior, reliable performance.

Latch Indicator Ring

The 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.

Internal Hex Broach

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

Long Insert

If additional clearance between the transformer faceplate and the high voltage underground cables is required, the long insert version is recommended. Its longer design provides an additional three inches of clearance, which may be important if there is a problem with cable congestion due to the placement of the primary and secondary cables within the transformer cabinet. This design provides easier switching and cable movement where this issue may be a concern.

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

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 the LBI installation torque tool (see Figure 4), consistent installation can be easily achieved. Refer to Installation Instruction Sheet S500-12-1 (5000050749) for details.

Production Tests

Tests conducted in accordance with IEEE Standard 386™:

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

Tests conducted in accordance with Cooper Power Systems requirements:

- Physical Inspection
- Periodic Dissection
- Periodic X-ray Analysis

Table 1: Voltage Ratings and Characteristics

<table>
<thead>
<tr>
<th>Description</th>
<th>kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Voltage Class</td>
<td>25</td>
</tr>
<tr>
<td>Maximum Rating Phase-to-phase</td>
<td>26.3</td>
</tr>
<tr>
<td>Maximum Rating Phase-to-ground</td>
<td>15.2</td>
</tr>
<tr>
<td>AC 60 Hz 1 Minute Withstand</td>
<td>40</td>
</tr>
<tr>
<td>DC 15 Minute Withstand</td>
<td>78</td>
</tr>
<tr>
<td>BIL and Full Wave Crest</td>
<td>125</td>
</tr>
<tr>
<td>Minimum Corona Voltage Level</td>
<td>19</td>
</tr>
</tbody>
</table>

Voltage ratings and characteristics are in accordance with IEEE Std 386™ standard.

Table 2: Current Ratings and Characteristics

<table>
<thead>
<tr>
<th>Description</th>
<th>Amperes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous</td>
<td>200 A rms</td>
</tr>
<tr>
<td>Switching</td>
<td>10 operations at 200 A rms at 26.3 kV</td>
</tr>
<tr>
<td>Fault Closure</td>
<td>10,000 A rms symmetrical at 26.3 kV for 0.17 s after 10 switching operations</td>
</tr>
<tr>
<td>Short Time</td>
<td>10,000 A rms symmetrical for 0.17 s</td>
</tr>
<tr>
<td></td>
<td>3,500 A rms symmetrical for 3.0 s</td>
</tr>
</tbody>
</table>

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INSULATION
High quality, peroxide-cured EPDM rubber formulated, mixed and molded in-house for consistent and reliable field performance.

CONTACT TUBE
Molded thermoplastic contact tube ensures reliable switching and fault close performance.

FINGER CONTACTS
The copper finger contacts are threaded into the copper piston.

ARC SNUFFER ASSEMBLY
Arc-ablative plastic produces arc extinguishing gas during load-break switching operations.

LATCH INDICATOR RING
Molded-in bright yellow ring eliminates elbow installation guesswork by assuring a quality connection.

HEX BROACH
5/16" hex broach permits consistent installation with torque tool.

THREADED BASE
3/8"-16 UNC Copper threads provide connection to bushing well stud.

DRAIN WIRE TABS
Three tabs molded into a semi-conductive shield for the attachment of a drain wire to maintain deadfront safety.

COPPER KNURLED PISTON
Fault activated copper knurled piston is forced forward by gas pressure generated during fault close to engage elbow probe. Knurled piston contact provides reliable current interchange and locks piston in place during switching operations.

INSULATION
High quality, peroxide-cured EPDM rubber provides protective deadfront shield that meets requirements of IEEE Std 592™ standard.

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