

Hi-Amp Accessory Grounding Kit

8473 • Primary Short Circuit Capacity Rated 15 kA – 15 ~

1. Product Description

The 8473 Hi-Amp Accessory Grounding Kit was designed to accommodate the grounding of accessories installed on longitudinally corrugated (L.C.), heavy duty tape and conventional tape shielded power cables.

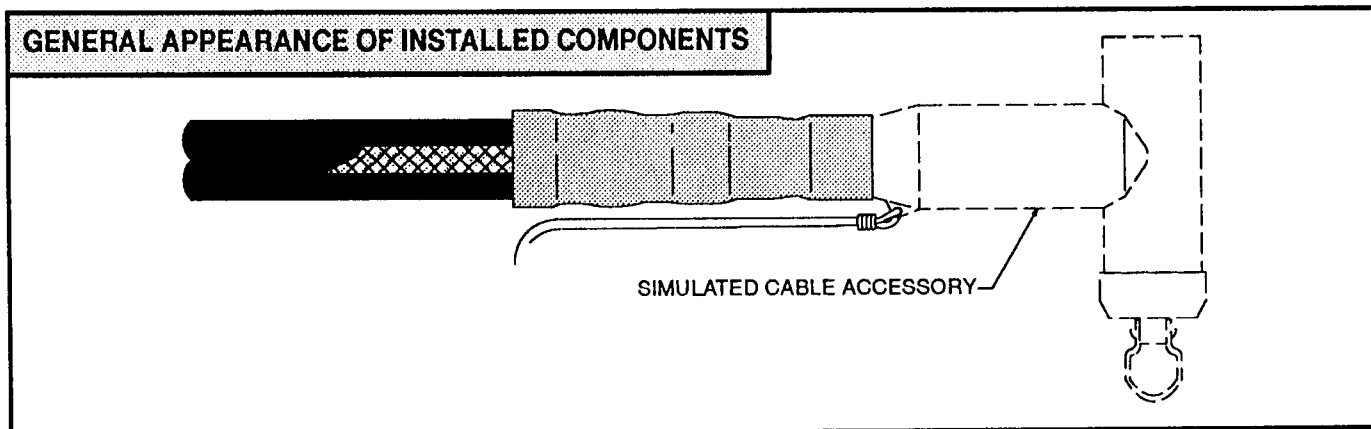
The 8473 design provides a fault current capacity of 15,000 amps for 15 cycles on 15, 25, and 35 kV class cables.

Each Kit contains sufficient quantities of the following materials to ground and seal one accessory:

Kit Contents

PST Cold-Shrink Insulator
Mastic Seal Strips
Constant-Force Spring
Preformed Ground Braid
Instruction Sheet

GENERAL APPEARANCE OF INSTALLED COMPONENTS



2. Product Applications

The 8473 Kit was designed to be used with 600 amp elbows and other accessories where cable jacket-to-accessory sealing and high-ampacity grounding is desired.

The 8473 pre-formed ground braid has a fault current capacity of 15,000 amps for 15 cycles with an equivalent cross-sectional area greater than #4 AWG copper wire.

Product application range for the 8473 Kit includes cable sizes from 350 kcm through 1000 kcm in 15 kV through 35 kV voltage classes as indicated in the table below. Final determining factor, for cables not specified, is a shield diameter range from 1.25" (32 mm) through 2.25" (57 mm).

Cable Accommodation Chart

(Final determining factor is cable shield diameter)

Product	Insulation Class	Conductor Range (kcm)
8473	15 kV (.175)	350 – 1000
	15 kV (.220)	
	25 kV (.260)	
	25 kV (.280)	
	35 kV (.345)	
Shield Diameter Accommodation Range: 1.25" (32,0 mm) min. to 2.25" (57,0 mm) max.		

3. Electrical Properties

Laboratory Test Data

Six samples were tested on L.C. Shielded Cable with approximately 14 inches between Hi Amp Ground connections. The samples were subjected to approximately 10 kA for 10 cycles, 12 kA for 12 cycles, and 15 kA for 15 cycles. The table below contains the following information:

Sample Number

Current level at first cycle Resistance (at point of contact with source)
 Current level at last cycle Temperature (temperature of sample when resistance was measured)
 Duration (cycles) Comments

Sample Number	Current Level (kA)		Duration (Cycles)	Resistance ($\mu\Omega$)	Temperature ($^{\circ}\text{C}$)	Comments
	First Cycle	Last Cycle				
1	—	—	—	720.7	21	Initial
2	—	—	—	702.8	21	Initial
3	—	—	—	675.1	21	Initial
4	—	—	—	666.3	21	Initial
5	—	—	—	662.1	21	Initial
6	—	—	—	686.9	21	Initial
1	9.6	8.6	10.5	673.0	21	~ 10 ~ @ 10 kA
2	9.5	8.5	10.5	684.2	21	~ 10 ~ @ 10 kA
3	9.9	8.8	10.5	661.9	21	~ 10 ~ @ 10 kA
4	10.6	9.4	10.5	639.7	21	~ 10 ~ @ 10 kA
5	10.5	9.4	10.5	638.5	21	~ 10 ~ @ 10 kA
6	10.4	9.1	10.5	636.1	21	~ 10 ~ @ 10 kA
1	12.3	9.8	12.5	680.5	22	~ 12 ~ @ 12 kA
2	12.2	9.8	12.5	689.6	22	~ 12 ~ @ 12 kA
3	12.5	9.9	12.5	675.8	22	~ 12 ~ @ 12 kA
4	12.8	10.2	12.5	639.6	22	~ 12 ~ @ 12 kA
5	12.8	10.3	12.5	642.8	22	~ 12 ~ @ 12 kA
6	12.6	9.9	12.5	651.0	22	~ 12 ~ @ 12 kA
1	15.0	9.5	15.5	732.0	23	~ 15 ~ @ 15 kA
2	15.1	9.6	15	741.1	23	~ 15 ~ @ 15 kA
3	15.6	9.4	15.5	736.7	23	~ 15 ~ @ 15 kA
4	15.9	9.7	15	713.6	23	~ 15 ~ @ 15 kA
5	16.0	9.6	15.5	718.5	23	~ 15 ~ @ 15 kA
6	15.7	9.3	15.5	714.0	23	~ 15 ~ @ 15 kA

A condition of stability exists when the level of resistance associated with each sample is constant. The table below is provided for easy comparison of the resistance data associated with each sample as that sample was subjected to the various tests.

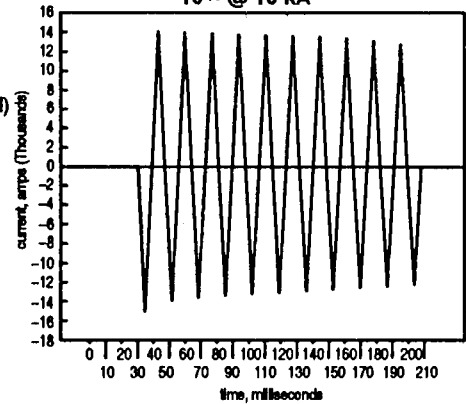
Sample Number	Initial Resistance ($\mu\Omega$)	~ 10 ~ @ 10 kA Resistance ($\mu\Omega$)	~ 12 ~ @ 12 kA Resistance ($\mu\Omega$)	~ 15 ~ @ 15 kA Resistance ($\mu\Omega$)
1	720.7	673.0	680.5	732.0
2	702.8	684.2	689.6	741.1
3	675.1	661.9	675.8	736.7
4	666.3	639.7	639.6	713.6
5	662.1	638.5	642.8	718.5
6	686.9	636.1	651.0	714.0

The following are typical oscillograms for approximately 10 ~ @ 10 kA, 12 ~ @ 12 kA, and 15 ~ @ 15 kA (the specific oscillograms are results of testing sample #1)

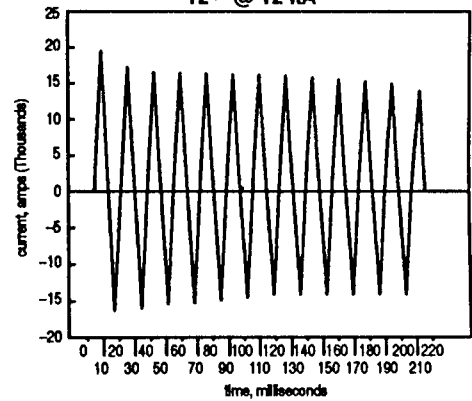
3M SHORT CIRCUIT TESTS

JULY 92

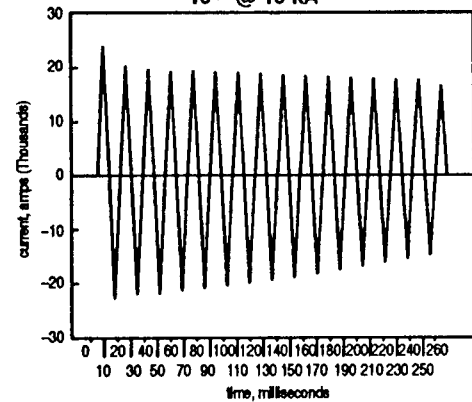
10 ~ @ 10 kA



12 ~ @ 12 kA



15 ~ @ 15 kA



NOTE: CURRENT IS PEAK TO PEAK NOT RMS

IMPORTANT NOTICE TO PURCHASER:

All statements, technical information and recommendations related to the Seller's products are based on information believed to be reliable, but the accuracy or completeness thereof is not guaranteed. Before utilizing the product, the user should determine the suitability of the product for its intended use. The user assumes all risks and liability whatsoever in connection with such use.

All statements or recommendations of the Seller which are not contained in the Seller's current publications shall have no force or effect unless contained in an agreement signed by an authorized officer of the Seller. The statements contained herein are made in lieu of all warranties expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose which warranties are hereby expressly disclaimed.

SELLER SHALL NOT BE LIABLE TO THE USER OR ANY OTHER PERSON UNDER ANY LEGAL THEORY, INCLUDING BUT NOT LIMITED TO NEGLIGENCE OR STRICT LIABILITY, FOR ANY INJURY OR FOR ANY DIRECT OR CONSEQUENTIAL DAMAGES SUSTAINED OR INCURRED BY REASON OF THE USE OF ANY OF THE SELLER'S PRODUCTS.

