

Lightning Downconductors



Detailed Specifications for ERICO's ERICORE Downconductor, E1 & E2

APPLICATIONS

The awesome natural phenomenon of lightning, which strikes the earth an estimated 6000 times per minute, is an ever present and unpredictable force. It is a danger to humanity and a danger to complex and sophisticated equipment and structures.

Once captured, the excessive energy content of the lightning discharge must be safely conducted to ground and safely dissipated into a low impedance ground system. ERICORE cable has been designed to provide a low impedance path to ground and to withstand the high current associated with lightning without the risk of sideflashing to the structure or adjacent objects.

A unique semiconductive outer sheath allows electrostatic bonding of the structure through the metal cable securing saddles and potential

equilization between the cable and structure in a known and controlled manner. The composition of this cable evolved after extensive studies and modelling of potential voltage rise in structural elements due to lightning injection. The cable comprises carefully selected dielectric materials which create a capacitive balance and ensure insulation integrity under high impulse conditions.

The unique ability of ERICORE to confine the discharge current and simultaneously support electrical bonding, ensures minimal risk to the structure, occupants and sensitive electronic equipment housed within.

FEATURES

- ERICORE allows design engineers the ability to select the safest lightning route to ground, avoiding sensitive electronic equipment
- The insulated conductor can be run internal to the building utilising air ducts, electrical cable risers, etc to provide a cost effective lightning protection layout
- By using ERICORE, the surge impedance, inductance and capacitance of the cable are known and independent of the down conductor installation
- The lightning energy is contained in the core of the shielded cable virtually eliminating the dangers of sideflashing

ERICORE Downconductor, E1 & E2

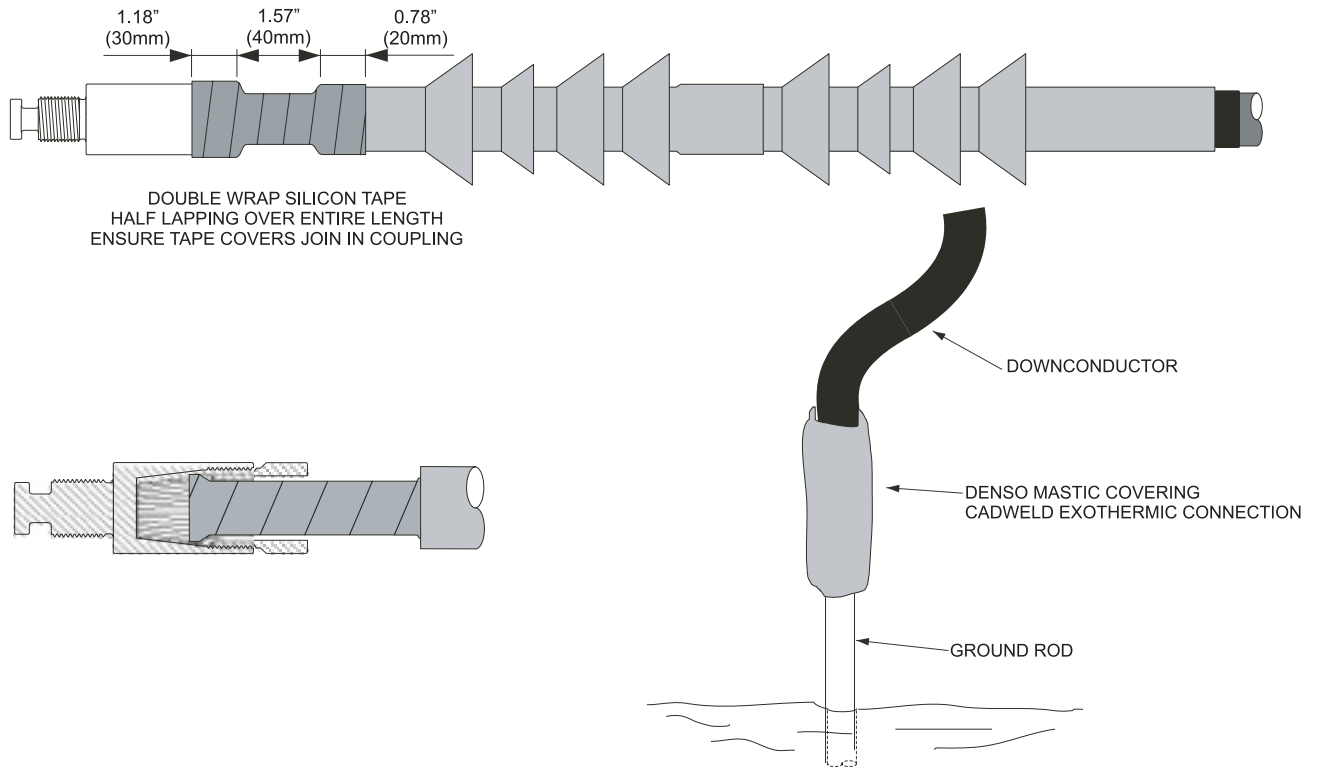
SPECIFICATIONS

Operation & Physical Data:

Model	ERICORE™ E1 or E2 cable
E1	$Z_0 = 6.6\Omega$ $L = 33\text{nH/m}$ 0.94" (24mm) outer diameter 50mm ² (\approx #1/0AWG) conductor cross sectional area For use on structures up to 200' (65m)
E2	$Z_0 = 4.4\Omega$ $L = 22\text{nH/m}$ 1.4" (36mm) outer diameter 50mm ² (\approx #1/0AWG) conductor cross sectional area For use on structures up to 400' (120m)

Due to a policy of continual product development, specifications are subject to change without notice.

Termination



CONNECTION TO GROUND FOR BOTH E1 AND E2 DOWNCONDUCTOR

ORDERING INFORMATION

Part Number	Description
ERICORE E1xxxxy	ERICORE E1 cable I/D 50mm ² , outer 24mm
ERICORE E2xxxxy	ERICORE E2 cable I/D 50mm ² , outer 36mm
where xxx meters, y="T" for factory terminated, "U" for unterminated	

USA ph: 1-440-248-0100 fax: 1-440-519-1675
Brazil ph: 55-11-261-0111 fax: 55-11-261-0066

Chile ph: 56-2-734-5022 fax: 56-2-736-9726
Mexico ph: 52-5-398-0033 fax: 52-5-397-8634

ERICO®

ERICORE's coordinated approach to facility protection - CADWELD, CRITEC, ERITECH

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