Declaration of Manufacturer

Product: **HVI®power Conductor**

Product Specification.:

Part no. 819 160	Part no. 819 165
Part no. 819 137	Part no. 819 161
Part no. 819 430	Part no. 819 163
Part no. 819 431	Part no. 819 760
Part no. 819 433	

Manufacturer:

DEHN + SÖHNE GmbH + Co. KG.
ELEKTROTECHNISCHE FABRIK
Hans-Dehn-Straße 1
D-92318 Neumarkt/OPf. / Germany

Application:

The HVI®power Conductor is a voltage-controlled, high-voltage insulated conductor with a special outer sheath. It can be used as an insulated down conductor for controlling the separation distance **s** according to IEC 62305-3:2010-12 "Protection against lightning - Part 3: Physical damage to structures and life hazard."

Electrical strength of the insulating down conductor

The electrical strength of the HVI®power Conductor was determined and is controlled continuously within the scope of our quality management system.

According to standard IEC 62305-3:2010-12, subclause 6.3, the equivalent separation distance **s** for the above mentioned conductor corresponds to

a max. distance of **s ≤ 0,90 m** in air (material factor k_m = 1)

a max. distance of **s ≤ 1,8 m** in solid material,
e.g. brickwork (material factor k_m = 0.5)

These values for separation distance **s** of the HVI®power Conductor can only be guaranteed when the specifications of the installation instructions of the articles concerned are observed.

DEHN + SÖHNE Declaration of Manufacturer
HVI®power Conductor

Lightning current carrying capacity

The lightning current carrying capacity of the connection components of the HVI®power Conductor was determined and controlled continuously within the scope of our quality management system.

According to DIN EN 62561-1 (VDE 0185-561-1:2013-02) "Lightning Protection Components (LPC) - Part 1: Requirements for connection components", the lightning current carrying capacity is provided according to

Classification H 100 kA (10/350 µs)

The test according to DIN EN 62561-1 (VDE 0185-561-1:2013-02) was passed successfully with

I_{imp} 150 kA (10/350 µs)
I_{imp} 200 kA (10/350 µs)

Thermal stress

When discharging lightning currents, the inner conductor of the HVI®power Conductor is expected to heat up temporarily (ΔT) by max.

22 K in lightning protection systems type **III/IV** I_{imp} = 100 kA ($_{10/350\ \mu s}$)

or

51 K in lightning protection systems type **II** I_{imp} = 150 kA ($_{10/350\ \mu s}$)

or

98 K in lightning protection systems type **I** I_{imp} = 200 kA ($_{10/350\ \mu s}$)

The HVI®power Conductor is not thermally overloaded with the above mentioned lightning currents.

Neumarkt, 16.02.2016

Dr.-Ing. Ralph Brocke
R & D Director