Technical Datasheet

High-voltage cable type HKA 04/01 item no.: 050014

SCHNIER
Der Partner für Elektrostatik

Technical data:

Outer Ø:	7.5 +/- 0.3 mm
Outer jacket:	PUR, wear-proof, not blocking
Conductor:	Polyolefin, conductive rated. 50 kOhm/m
Insulation:	Polyolefin
Strand Ø:	5.2 +/- 0.2 mm
Shield:	Copper
Rated voltage:	90 kV
Test voltage:	120 kV purs. to EN 50176
Rated current:	1 mA
Chem.res.:	Conditionally solvent-resilient.
Miscellaneous:	Suitable for drag chains Extreme dampening of peak currents

Accessories:

Ring eyelet M4 with Connection thread, item no.: 260057, type: HAN 17/02

Ring eyelet M5 with Connection thread, item no.: 260053, type: HAN 18/02

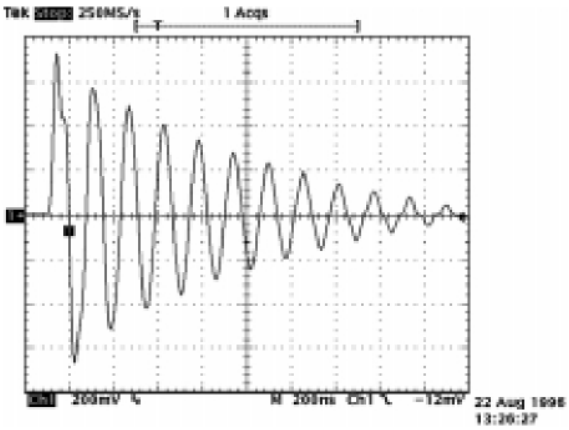
Ring eyelet M6 with Connection thread, item no.: 260054, type: HAN 19/02

Ring eyelet M8 with Connection thread, item no.: 260055, type: HAN 20/02

4mm bunch plug with Connection thread, item no.: 260063, type HAN 11/02

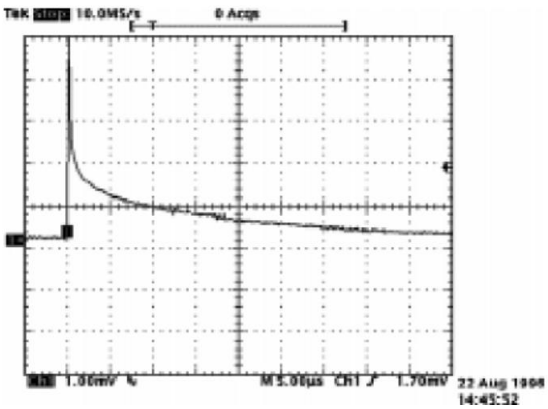
Discharge curve, conventional HV cable

Charge v. U = 10kV,
Capacity C = 220pF
Maximum current peak = **75 A**



Discharge curve HV cable with polyolefin Conductor

Charge v. U = 10kV,
Capacity C = 290pF,
Maximum current peak = **0,6 A**



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Intended use:

The high-voltage cable type HKA 04/01 is only permissible in connection with electrostatic coating plants that correspond at least to one of the following standards:

EN 50050
EN 50059
EN 50176
EN 50177
EN 50223
EN 50348

Any work at HV-cables must only be performed when the high-voltage supply is powered down and discharged.

Installation:

The high-voltage cable must not come into contact with insulating grease and/or insulating oil. Insulating grease and/or insulating oil diffuses through the insulation into the conductor and considerably increase line impedance.

The high-voltage cable must not be exposed to larger amounts of solvents for extended periods. If the HV cable is laid in hoses, it must be ensured that no solvent can enter the hoses.

The high-voltage cables are sensitive to mechanical deformation, such as strong pressure or tension strain.

When using cable ties, only wire plastic ones must be used.
Cable ties must not be used as tension relief but only tightened until the cable is loosely enclosed.

If cable screws are used, only use those matching the cable diameter. Screws must only be tightened moderately.

When cutting the outer jacket, always avoid damaging the insulation.

A minimum bending radius of 10xOD must be complied with when placing the high-voltage cables. If the cables are placed in protective hoses, the OD of the high-voltage cable applies.

For a single bend, e.g. at stationary placement, the bending radius may be cut in half. If the cables are placed in protective hoses, the OD of the high-voltage cable applies.

Unshielded high-voltage cables must not be placed in parallel to earthed parts like areas, etc. (max. route 1.0 m). Distances to earthed parts >50 mm do not apply as parallel placement anymore.

Placement of non-shielded high-voltage cables in metal pipes considerably increases the electrical capacity and thus the discharge energy. Therefore, we recommend avoiding all-round enclosure beyond a route of 150 mm.

Unshielded high-voltage cables must not be guided or placed across sharp edges of earthed parts. A sharp edge in the sense of this specification means a bend radius of < 5.0 mm.

If it cannot be avoided that low-voltage cables were routed close to unshielded high-voltage cables, the low-voltage cables must be shielded. A minimum distance of 50 mm must be complied with between the low-voltage and high-voltage cables.

If unshielded high-voltage cables are routed through bores of conductive, earthed materials, they must have a rough depth Rz <25. If the wall thickness of the earthed component is less than 5.0 mm, potential-controlled feedthroughs must be used. The bore diameter should be > 20.0 mm, the HV cable must be centered with an insulating piece.

The above high-voltage cables must not come into contact with insulating grease and/or insulating oil.

Cleaning

Regular cleaning of the high-voltage components in electrostatic coating plants is a prerequisite for fire and explosion protection as well as for production safety and availability of a plant.

The plant operator must ensure that the plant is cleaned at regular, appropriate intervals. The cleaning notes must be observed. Damage that has been caused by non-observance of the cleaning notes is at the expense of the operator.

Cleaning work must be specified in an operating instruction and must be coordinated with the respective local and operational situation.

These general cleaning notes always must be seen in the context of the information indicated in the special operating instructions for the individual plant components.

Recovery of proper condition of a plant after cleaning of electrical equipment, in particular of isolating protective devices, must be inspected by an electrician, or possibly by a person instructed in electrical engineering or under guidance and supervision of an electrician or a person instructed in electrical engineering (s.VDE 0105, part 1, para. 2.5 et seq).

If flammable cleaning agents are used, only those with a flash point at least 5K above the ambience temperature must be used. This means that, e.g., the flash point of a cleaning agent must be at least 28 °C at a cabin temperature of 23 °C.

Ensure sufficient ventilation. During cleaning work in spray cabins, the technical ventilation and fire protection system must be effective. There may be self-ignition during cleaning work if there is any contact between cleaning agents and coating material. Also expect electrostatic charging during cleaning work (ignition sparks).

Cleaning tools must not damage insulating surfaces mechanically. Damaged surfaces make cleaning difficult and lead to formation of creepage sections.

Only tools like brushes, cloths, etc. must be used for cleaning. Deposits on insulating areas must only be removed by wiping off of the affected parts with a solvent-moistened rag.

Only use earthed, electrically conductive containers for the cleaning liquid.

Contamination of hoses, cables and outer surfaces of the movement devices may lead to operating interferences of the high-voltage supply. Particularly these plant parts must be inspected for cleanliness after cleaning work.

Moist surfaces must be wiped dry and blown off with compressed air if required.

Protective enclosures of hose and cable infeeds must only be cleaned on the outside. Cleaning liquid must never enter the protective enclosure.

EC-Declaration of Conformity

Manufacturer:

SCHNIER Elektrostatik GmbH
Bayernstrasse 13

D-72768 Reutlingen

Product Designation:	High-voltage cable
Type / article number:	HKA 04/01 050014
Mark:	Ⓔx II 3G/D T6 X

We hereby declare that the cable described above corresponds to the following EC directives based on its design and build in the version marketed by us:

EC- directive 2014/34/EU (ATEX)
EC- directive 2006/42/EG (machinery directive)

Applied harmonized standards:

EN 50176 Stationary electrostatic application equipment for ignitable liquid coating material

EN 50177 Stationary electrostatic application equipment for ignitable coating powders

EN 50223 Stationary electrostatic application equipment for ignitable flock material

EN 50348 Stationary electrostatic application equipment for non-ignitable liquid coating material

EN 50050 Electrical apparatus for potentially explosive atmospheres - Electrostatic hand-held spraying equipment

EN 50059 Electrostatic hand-held spraying equipment for non-ignitable coating materials

Rommelsbach 23.08.2018

Olav Schnier (General Manager)