

TECHNICAL DATA SHEET

EVOCAB FLEX FR UV 0H corrugated cable protection conduit

PRODUCT:

Corrugated single- or double-wall pliable pipe **EVOCAB FLEX FR UV 0H** with minimum compression strength of 450N intended for protection and insulation of cables and wires, offering a perfect balance of performance properties:

- Outstanding ability to resist harsh thermal, chemical and ultraviolet environments;
- The pipes are made from halogen-free plastic;
- High mechanical strength, long-term durability and abrasion resistance;
- Remarkable fire-resistance combined with low-smoke emission;
- While metals rust and rouge with age, **EVOCAB FLEX FR UV 0H** pipes provide long-lasting, corrosion-free service;
- The pipes have installed costs comparable to stainless steel without the maintenance costs;
- The pipes are lighter weight and more abrasion resistant than stainless steel and are easily assembled (even with heat, if necessary).

APPLICATION:

Mechanical protection and insulation of power cables during the establishment of:

- Safe connections and installations at electric switching substations;
- Connections of buildings to electrical power networks;
- Transition of overhead lines to underground cable networks;
- The conduits are ideal for simple concealed electrical cable installations as well as for cables installed in hollow walls, partitions, suspended ceilings and plastering.

EVOCAB FLEX FR UV 0H system combines excellent mechanical properties, guaranteed long-term performance, simplicity and cost effectiveness of assembly.

SPECIFICATION OF PIPES:

EVOCAB FLEX FR UV 0H is corrugated single- or double-wall pliable pipe produced in coil lengths of 25 and 50 metres with pre-installed pulling wire. Each coil is fixated with polypropylene band. The coils are positioned on pallets and Stretch-packed for comfortable handling. Optionally, an Ink-jet marking on the pipe, repeating every 1000 mm, could be executed. The marking may contain standard information about the product as well as customer's name.

Conformity to standards:

- General conformity to

LVS EN 61386-1:2009

- Flame properties tested in accordance with EN 60332-1-3:2005.
UL Bulletin 94 (V-2).
- Smoke properties tested in accordance with EN 61034-2:2005.

Mechanical and physical properties of the material:

The pipes are manufactured from special halogen-free, flame retarding PP-based compound.

Mechanical characteristics of the material:

- Density 0.95 g/cm³ acc. to ISO 1183
- Flexural modulus 1700 MPa acc. to EN ISO 527
- Tensile strength 20 MPa acc. to EN ISO 527
- Elongation at break >100.0 % acc. to EN ISO 527
- Notched impact strength 35 kJ/m² acc. to EN ISO 179

Thermal characteristics of the material:

- Thermal conductivity 0.20 W/m °C acc. to DIN 52612 (23°C)
- Mean linear expansion $1.3 \cdot 10^{-4} \text{ K}^{-1}$ acc. to DIN 53752

Electrical characteristics of the material:

- Dielectric strength 25 kV/mm acc. to DIN IEC 60243-1 (23°C)
- Volume resistivity $>10^{13} \text{ Ohm} \cdot \text{cm}$ acc. to DIN IEC 60093
- Surface resistance $>10^{13} \text{ Ohm}$ acc. to DIN IEC 60167
- Dielectric constant 7.0 acc. to DIN 53483 (23°C, 1.00 mm, 1 kHz)

Flammability characteristics of the material:

- Flame rating V – 2 acc. to UL 94
- Oxygen index 27 % O₂ acc. to ASTM D2863

TECHNICAL DATA: EVOCAB FLEX FR UV 0H DN/OD 110

Material: Special compound, high mechanical strength, thermal resistance between -40 °C and +90 °C, fire resistant, low-smoke emission, corrosion resistant.

APPLICATION AREA	Mechanical protection of power cables in areas where complete non-flammability of the installation is required	
MATERIAL	Halogen-free, flame retarding PP-based compound	
OUTSIDE DIAMETER, [mm]	Ø 110.0	
INSIDE DIAMETER, [mm]	Ø 95.0	
MECHANICAL STRENGTH	450 N	
CODE	XXXXXXXXXXXXX	
COLOUR	White, black, red or any upon request	
COILS, [m]	50	
PER PALLET, [m] / PER TRUCK, [m]	250 / 5000	
MECHANICAL AND PHYSICAL PROPERTIES		
DENSITY	0,95 g/cm ³ (ISO 1183)	
FLAME RATING	V – 2 (UL 94) ^a	
OPERATION TEMPERATURE	from -40 °C to + 90 °C	
CHEMICAL RESISTANCE	between pH 2 (acid) and pH 12 (alkaline) following ISO/TR 10358	
UV/WEATHER FACTOR RESISTANCE	excellent: >10 years of outdoor exposure in direct sunlight with no tangible effect on the physical properties guaranteed	
OZONE RESISTANCE	excellent chemical resistance to ozone exposure	
FUNGUS RESISTANCE	pipes do not support growth of fungi	
IMPACT RESISTANCE	impact test withstood (acc. to EN 61386-24)	
BENDING PROPERTIES	bending test withstood (acc. to EN 61386-24)	

^a Successful execution of the flammability test in accordance to UL 94 and obtaining of results corresponding to V – 2 class implies the following:

- Specimens do not burn with flaming combustion for more than 30 seconds after either test flame application.
- Total flaming combustion time does not exceed 250 seconds for each set of 5 specimens.
- Specimens do not burn with flaming or glowing combustion up to the specimen holding clamp.
- Specimens can drip flaming particles that ignite the cotton.
- No specimen has glowing combustion remaining for longer than 60 seconds after removal of the test flame.

TECHNICAL DATA: EVOCAB FLEX FR UV 0H DN/OD 160

Material: Special compound, high mechanical strength, thermal resistance between -40 °C and +90 °C, fire resistant, low-smoke emission, corrosion resistant.

APPLICATION AREA	Mechanical protection of power cables in areas where complete non-flammability of the installation is required	
MATERIAL	Halogen-free, flame retarded PP-based compound	
OUTSIDE DIAMETER, [mm]	Ø 160.0	
INSIDE DIAMETER, [mm]	Ø 137.0	
MECHANICAL STRENGTH	450 N	
CODE	XXXXXXXXXXXXX	
COLOUR	White, black, red or any upon request	
COILS, [m]	25	
PER PALLET, [m] / PER TRUCK, [m]	125 / 2500	
MECHANICAL AND PHYSICAL PROPERTIES		
DENSITY	0.95 g/cm ³ (ISO 1183)	
FLAME RATING	V – 2 (UL 94) ^a	
OPERATION TEMPERATURE	from -40 °C to + 90 °C	
CHEMICAL RESISTANCE	between pH 2 (acid) and pH 12 (alkaline) following ISO/TR 10358	
UV/WEATHER FACTOR RESISTANCE	excellent: >10 years of outdoor exposure in direct sunlight with no tangible effect on the physical properties guaranteed	
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- Specimens do not burn with flaming or glowing combustion up to the specimen holding clamp.
- Specimens can drip flaming particles that ignite the cotton.
- No specimen has glowing combustion remaining for longer than 60 seconds after removal of the test flame.