



**OSNALINE<sup>®</sup>**  
**ANTISTATIC & FLEX**

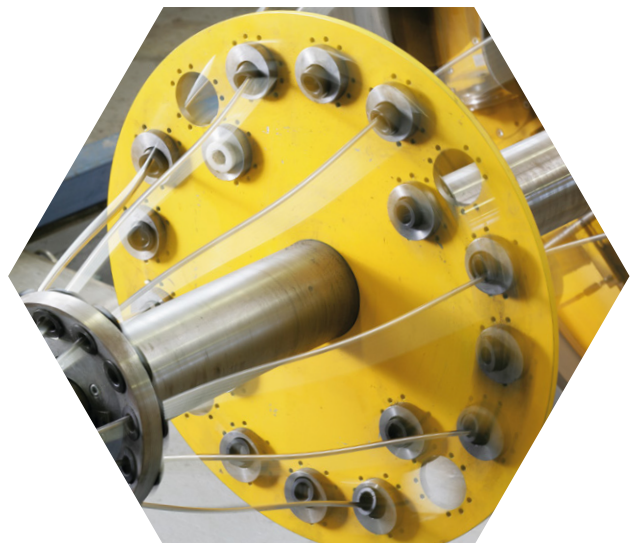


INDUSTRIAL  
APPLICATIONS



# OSNALINE®

cunova as one of the largest manufacturers of copper and copper alloy products offers best possible product and engineering solutions in the various fields of industrial applications. cunova's Special Products Division includes a variety of specialised tube bundles known as OSNALINE®. These products are pre-fabricated tube-runs consisting of a small diameter tube or group of tubes stranded in an extruded outer jacket.



# OSNALINE® Antistatic

## OSNALINE® Antistatic

Safe tube lines in extraordinary endangered areas within the chemical and petrochemical industry are essential for the absolute reliable function of equipment and the safety of humans and environment by avoiding breakdowns and disasters. Especially in explosion proof areas (EX-Zones) an antistatic outer jacket is a strong protection to avoid the danger of ignition resulting from electrostatic charge, as clearly required by the TRBS (technical rules for operating safety).

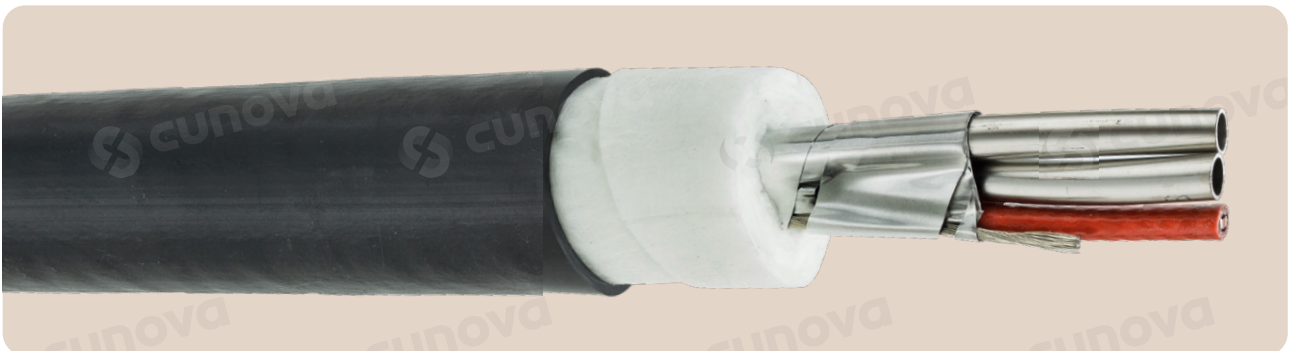
Reason enough for cunova to design an antistatic outer jacket for its highly recommended OSNALINE® tube bundles which is already available for the range for OSNALINE® heat traced bundles. So far it was common practice to use completely pre-assembled lines with a corrugated outer jacket made of polyamide (PA) which were only available in short lengths and could not be cut to size even when only slight modifications appeared on site.

cunova's OSNALINE® Antistatic (patent approved and registered) tube bundles is a ready-to-use solution and available in long lengths including all necessary connection accessories as per customer request and can easily be adapted on-site. Another decisive advantage of the new OSNALINE® Antistatic tube bundles is a significant reduction of the common practice of individual acceptance by technical experts. cunova's OSNALINE® Antistatic tube bundles with their outer jacket of highly discharging TPU (Thermo-plastic Polyurethane) and a specific re-sistance  $<109 \Omega m$  fit perfectly in installations in complex explosion proof areas (EX-Zones).

Electrically traced OSNALINE® Antistatic tube bundles are available with a different number of inner tubes, in different sizes and with different options of electrical heat tracers. The excellent properties of the TPU jacket regarding bend ability during installation and temperature stability remain unchanged in comparison to cunova's range of other OSNALINE® tube bundles with a standard outer jacket. OSNALINE® Antistatic are available in long lengths including all necessary.



Pre-insulated Single PTFE-Tube with Electric Tracer



Pre-insulated Tube Bundle with Electric Tracer - 2 Core

### Applications

- Heat traced lines for sample extraction and process lines
- Transportation lines

### Advantages

- Self-regulating heaters (ex-proof)

### Size Ranges [mm]\*

Stainless steel: 6 x 0,5 mm – 12 x 1,5 mm  
¼" x 0.035" – ½" x 0.065"

Copper: 6 x 1mm – 12 x 1,5 mm

### Special Designs

- Pre-assembling heating cable end fitting
- Frost protection:  
Electrical heat tracing: up to 150°C
- Temperature maintenance:  
Steam tracing: up to 500°C
- Spring wire armoring
- Tube in tube system

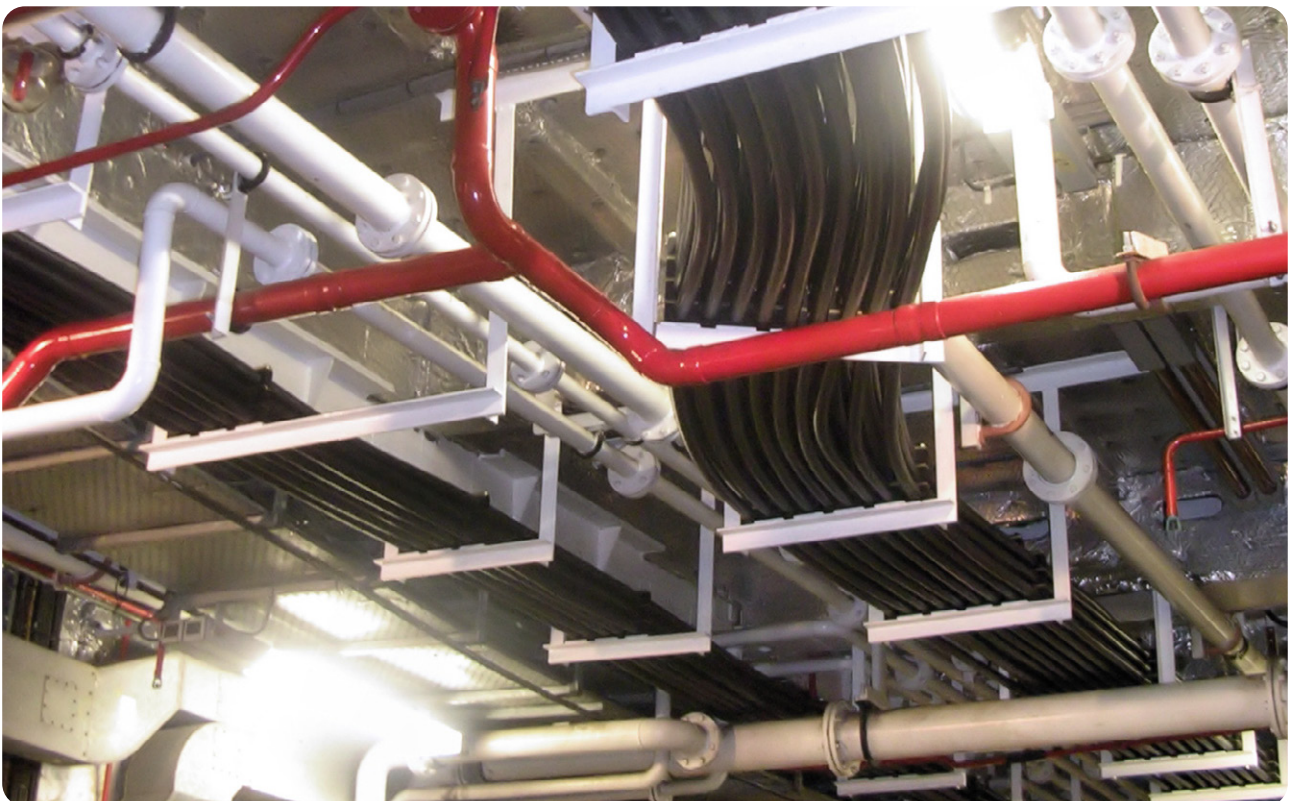
### Materials

Tubes: Stainless steel, 6Mo, PTFE, PFA

Outer jacket: TPU-AS

Insulation: Thermo-fleece, fibreglass-fleece

\*Other dimensions on request.



# OSNALINE® Flex

## OSNALINE® FLEX

Working with OSNALINE® is nowadays much more easier as the outer jacket can be bend in more tighter and flawless curves than ever before. Bending radii were reduced from 10 times outer dia-meter to 5 times outer diameter, which means a reduction of 50% whilst the outer diameter of the tube bundle is still round and shows no crinkles.

Dismantling with a standard cutter is easy to be done without damaging the insulating layer, thus no special tools are necessary.

Last but not least we improved the strength of the new jacket by further 30% adding another substantial safety benefit to OSNALINE® tube bundles.



The new OSNALINE® FLEX tube bundle needs 50% less space - compared to a common tube bundle.



This figure shows the different needed space (grey border) of an S-curve bending of tube bundles.





**Further information on  
OSNALINE® Antistatic & Flex:**

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