



SMISOL[®] Clim

QUALITY AND
GUARANTEE

FIELDS OF APPLICATION:

- Air-conditioning systems and heat pumps (refrigerant lines).
- Transport of refrigerant gases compatible with copper (e.g. R32, R410A, R407C).

In compliance with and within the limits set by the applicable regulations.

SMISOL[®] Clim is a pre-insulated copper tube for ACR systems, developed in close cooperation with the leading market operators to meet the most stringent technical requirements, while maintaining a competitive cost-performance ratio.

The copper tube complies with the European standard EN 12735-1, which defines requirements, tests, dimensional tolerances and conditions of supply for seamless tubes intended for air-conditioning and refrigeration systems.

The thermal insulation is made of closed-cell polyethylene foam compliant with the requirements of EN 14114, ensuring high performance in terms of insulation and resistance to vapour diffusion.

SMISOL® Clim stands out for its low eccentricity values, a critical parameter for correct flaring of the lines and for the overall quality of installations.

INSULATING COATING CHARACTERISTICS

The insulating coating in closed-cell expanded polyethylene is designed to offer:

- Thermal conductivity: $\lambda \leq 0.038 \text{ W/(m}\cdot\text{K)}$ at 40 °C.
- Water-vapour diffusion resistance factor: $\mu > 40,000$.
- Average insulation density: $\sim 33 \text{ kg/m}^3$.
- Free from ammonia residues.
- High resistance to external chemical agents.
- Reaction to fire – class BL-s1,d0 according to EN 13501-1.
- Free from CFCs and HCFCs, in compliance with Reg. (EU) 2024/590.

INTERNAL SURFACE OF THE TUBE

The internal surface of the copper tubes is bright, clean and free of moisture, an essential characteristic to ensure perfect integration with the system's terminal elements and to facilitate brazing and connection operations.

During production, each coil is sealed at the ends to preserve the internal cleanliness until the moment of installation.



ECCENTRICITY

Eccentricity measures the offset between the centre of the outer circumference and that of the inner circumference of the tube. A value close to zero indicates uniform walls, essential for an optimal result of flaring operations and for the overall quality of mechanical connections.

TUBULAR CROSS-SECTION OF THE INSULATION

The tubular cross-section of the insulation ensures uniform adhesion to the copper tube, improving the overall performance of the system in terms of thermal insulation and prevention of condensation.

MARKING

In accordance with the update of EN 12735-1, the insulation is marked with:

- Reference to the applied standard (EN 12735-1).
- Nominal dimensions in mm of the copper tube (outside diameter x wall thickness).

TABLE: STANDARD PRODUCTION SIZES - COILED TUBE

Size OD x WT		Min. Guaranteed Coil Length (m)	Min. Coating Thickness (mm)	Burst Pressure (MPa)	ASTM Working Pressure (MPa)	Water Content (l/m)
(mm)	(inches)					
6,35 x 0,7	1/4"	50	6	49,47	12,37	0,019
6,35 x 0,8	1/4"	50	6	56,54	14,14	0,018
6,35 x 1	1/4"	50	6	70,68	17,67	0,015
9,52 x 0,7	3/8"	50	8	33,00	8,25	0,051
9,52 x 0,8	3/8"	50	8	37,71	9,43	0,049
9,52 x 1	3/8"	50	8	47,14	11,79	0,044
12,70 x 0,7	1/2"	50	10	24,74	6,18	0,100
12,70 x 0,8	1/2"	50	10	28,27	7,07	0,097
12,70 x 1	1/2"	50	10	35,34	8,83	0,090
15,87 x 1	5/8"	25	10	28,28	7,07	0,151
19,05 x 1	3/4"	25	10	23,56	5,89	0,228
22,22 x 1	7/8"	25	10	20,20	5,05	0,321

OD = Outer Diameter WT = Wall Thickness