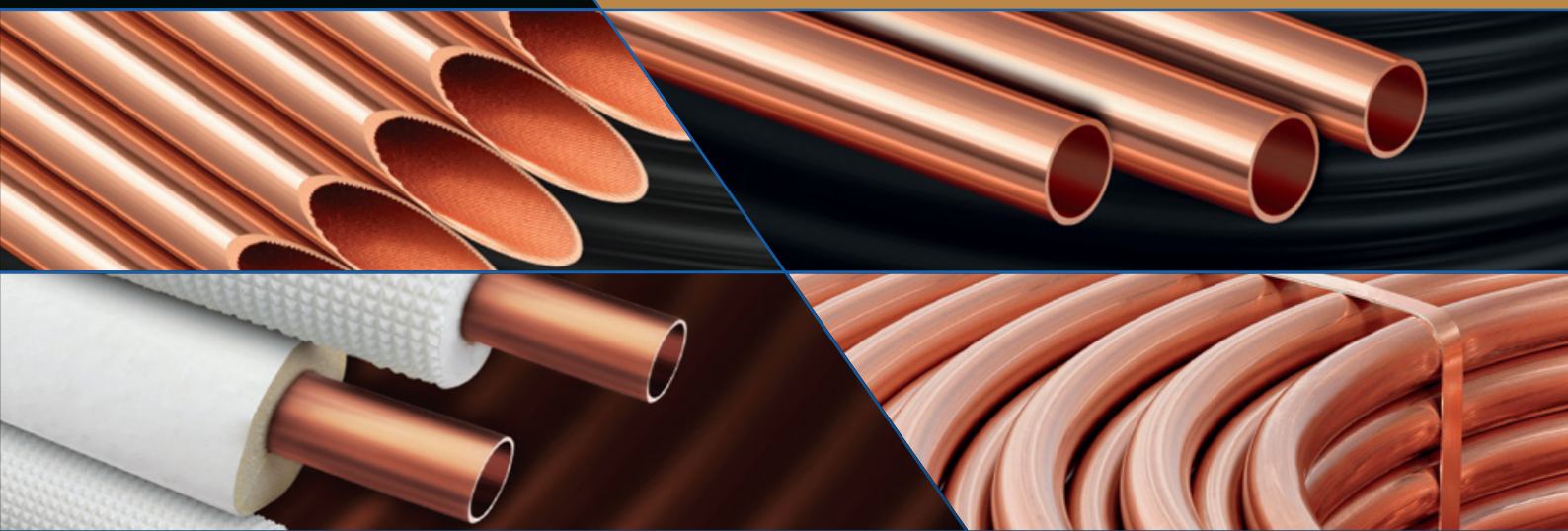


**HALCOR**

AIR CONDITIONING & REFRIGERATION





# **HALCOR**

Member of **Copper Alliance**

Halcor is the copper tubes division of ElvalHalcor S.A., a leading copper industry that specializes in the production, processing and marketing of copper and copper alloys products with dynamic commercial presence in the European and global markets. For more than 80 years, Halcor has been offering innovative and added-value solutions that meet contemporary client demands in fields, such as plumbing, HVAC&R, renewable energy, architecture, engineering and industrial production.

Halcor and the copper subsidiaries Fitco, Sofia Med and HC ISITMA consist the copper segment of ElvalHalcor S.A. and they operate a total of five production plants in Greece, Bulgaria and Turkey. Halcor and the copper subsidiaries develop and distribute a wide range of products, including copper, brass and copper-alloy rolled and extruded products with Halcor being the sole producer of copper tubes in Greece.

High quality in production is achieved through strict controls applied throughout the production process. With a consistent quality focus, Halcor implements an ISO 9001:2008 Certified Quality Management System and leverages high technologies and expert staff.

As a result of the strategic investments in research & development, Halcor is recognized as one of the leading copper producers globally, setting new standards in copper processing. Halcor maintains a consistent focus on quality and environmental protection and a strong commitment to the principles of sustainable development. In this context, all production facilities leverage advanced technologies to bring in the market innovative products that are energy efficient and environmentally friendly.





- AIR CONDITIONING
- REFRIGERATION



### Clear Advantage in Refrigeration and Air Conditioning

TALOS<sup>®</sup> ACR ECUTHERM 2<sup>™</sup> pre-insulated copper tubes, manufactured by HALCOR are an innovation that ensures significant advantages for refrigeration and air conditioning installers.

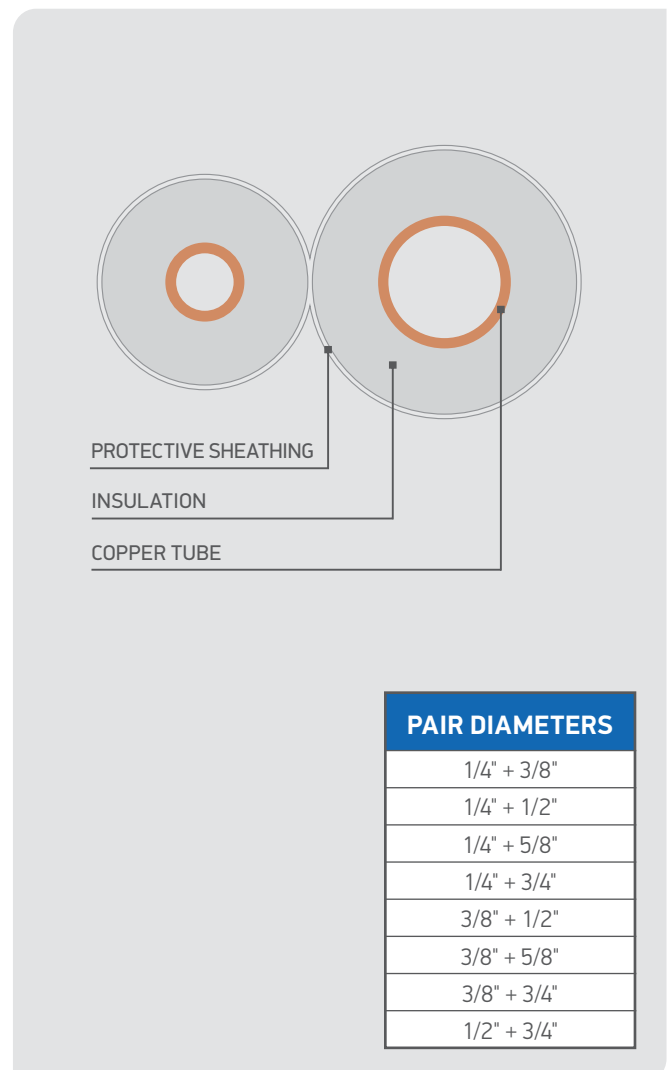
- Simplified installation process and reduction of installation time
- Reduction of overall network installation cost
- Reliable operation of installations and significant energy savings
- Aesthetic result and space saving

### Pair Combinations for any Application

TALOS<sup>®</sup> ACR ECUTHERM 2<sup>™</sup> copper tubes are manufactured in pairs, firmly connected along their entire length, and in eight standard size combinations which cover sufficiently the usual connectivity requirements of any refrigeration or air conditioning unit. TALOS<sup>®</sup> ACR ECUTHERM 2<sup>™</sup> copper tube pairs, form a single unit which is installed easily and fast, ensuring professional results.

### Certified Quality

TALOS<sup>®</sup> ACR ECUTHERM 2<sup>™</sup> pre-insulated copper tubes, have been certified by the German quality assurance organization RWTUV, with regard to trials and manufacturing tests. The quality and reliability of such products, is ensured through the implementation of a Quality Assurance System, according to standard ISO 9001: 2000, certified by TÜV Hellas.





## Appropriate also for the New Green Refrigeration Units

According to the European Standard EN12735-1:2010, as well as current market requirements, laid down by the use of new generation of refrigerants, including HFCs and HFOs, adopted by all major manufacturers of refrigeration and air conditioning units the following standardisation is applied to TALOS<sup>®</sup> ACR ECUTHERM 2<sup>™</sup> copper tubes:

- For an external diameter of 1/4" to 1/2", the wall thickness is standardised at 0,80 mm
- For an external diameter of 5/8" to 3/4", the wall thickness is standardised at 1,00 mm

## Copper Tube Material

Copper phosphorus deoxidised (Cu-DHP), having minimum copper content 99,90% and P=0,015% - 0,040%.

## Quality Marks

REFRIGERATION PIPES: AENOR, TÜV, GL, VIK

## Mechanical Properties

Temper	EN 12735 Classification	Min. Tensile Strength, R <sub>m</sub> (MPa)	Min. Elongation, A (%)
Soft	R-220	220	40

## Insulation Technical Properties



Cross-linked Polyethylene



RESISTANCE

MATERIAL	PE-X foam
DENSITY ACCORDING TO DIN 53420 ASTM D 1667	30-33 Kg/m <sup>3</sup>
THERMAL CONDUCTIVITY COEFFICIENT (λ) ACCORDING TO ASTM C 335	0,039 W/m.K
VAPOUR-WATER DIFFUSION RESISTANCE COEFFICIENT (μ) ACCORDING TO ISO 12572	> 9.000
WORKING TEMPERATURE	-80°C to +110°C
FIRE RESISTANCE	EN 13501-1 Class B or Class E, DIN 4102, B2, BS 476, NF P 92 501-M1
RESISTANCE TO CHEMICAL AGENTS ACC. TO ASTM 543-56 T	Very good
SOUND ABSORPTION ACC. TO DIN 4109 300-2500Hz	~60%
DIMENSIONAL STABILITY ACCORDING TO ISO 2796 FOR TEMPERATURES UP TO 100°C	<5%

Values are listed, as obtained under standard laboratory conditions and may be amended, without prior notice.

## Standard Pair Dimensions (Coils 15m, 25m, 30m Long)

Maximum Working Pressure calculation according to EN 14276 Standard which complies with the European Directive PED 2014/68/EU (Pressure Equipment Directive)

Copper tube external diameter	Inch	1/4-3/8	1/4-1/2	1/4-5/8	1/4-3/4	3/8-1/2	3/8-5/8	3/8-3/4	1/2-3/4
	mm	6,35-9,52	6,35-12,7	6,35-15,87	6,35-19,05	9,52-12,7	9,52-15,87	9,52-19,05	12,7-19,05
Copper tube wall thickness	mm	0,80-0,80	0,80-0,80	0,80-1,00	0,80-1,00	0,80-0,80	0,80-1,00	0,80-1,00	0,80-1,00
Overall external diameter with 9mm thick insulation	mm	24,4-27,5	24,4-30,7	24,4-33,9	24,4-37,10	27,5-30,7	27,5-33,9	27,5-37,1	30,7-37,1
Working pressure	bar	157-101	157-72	157-72	157-58	101-75	101-72	101-58	75-58

Other sizes and special packaging in pallets or cardboard boxes are available upon request.