

QUALITY: THE SILMET LIFE STYLE

All Silmet Level Wound Coils for industrial use and ACRs are produced in compliance with all international standards and also with the specific requirements of customers.

Particular attention is paid to dimensional uniformity, uniformity of the physical state, the absence of faults and internal cleanliness.

The length, approximate weight, number of faults present, dimensions and all references aimed at guaranteeing the traceability of the product with regard to laboratory tests carried out in compliance with stringent sampling and control plans implemented during production, are highlighted for each individual coil.

The internal cleanliness of the tubes is considerably above the limit of 0.038 g/m².

The Silmet Quality System is certified in compliance with standard **ISO 9001:2008** and the Quality Service is assigned to highly qualified, constantly updated personnel with functions that are independent from production departments; they use the most sophisticated laboratory and production control equipment.

Tutte le fasi del processo produttivo, a partire dall'accettazione materia prima, sono sottoposte a piani di All phases of the production process, starting from acceptance of raw materials, are subject to very severe sampling and control plans aimed at guaranteeing that the end products achieve very high quality standards.

Silmet S.p.A. has been manufacturing copper tubes for usage in water and gas tubes in sanitary and heating applications and in the industrial sectors since 1973. Over recent years, due to its excellent conductivity, machinability, resistance to corrosion and user-friendliness, the copper tube has made a name for itself as the ideal product for air-conditioning/refrigeration equipment and for the heating industry.

Silmet has always been aware of the needs of the market and is constantly up-to-date technologically.

With all these things in mind, in order to help its customers with the growing trend in production automation and to be able to satisfy their requirements, Silmet is equipped with cutting-edge Level Wound Coils production plants.



COPPER CHEMICAL/PHYSICAL/TECHNOLOGICAL PROPERTIES

Symbol	Cu
Atomic number	29
Atomic weight	2.6625
Crystalline structure	cubic with faces centred with the side of the cube 3.6078 Å
smelting temperature	1083° C
Boiling temperature	2595° C
Volumic mass (density) at 20° C	8.94 g/cm ³
Coefficient of linear thermal expansion at 20° C	0.0000165 · K ⁻¹
Solidification shrinkage	4.92%
Specific heat at 20° C	385 J/kg K
Latent smelting heat	205 kJ/kg
Thermal conductivity at 20° C	391 W/m K
Electric resistivity at 20° C annealed physical state	0.017241 Ω mm ² /m
Electric resistivity temperature coefficient at 20° C	0.00393 · K ⁻¹
Alloy for the production of LWC	Cu-DHP CW024A (Cu = 99.90% min. - P = 0.015 ÷ 0.040%)

MECHANICAL CHARACTERISTICS OF COPPER AND LOW ALLOY COPPER ALLOYS - EN 12449

Designation material state	thickness t mm max.	resistance to tensile strength Rm N/mm ² min.	yield at 0,2%		elongation A % min.	hardness			
			Rp0,2 N/mm ²			HV		HB	
			min.	max.		min.	max.	min.	max.
R200	20	200	-	110	40	-	-	-	-
H040	20	-	-	-	-	40	65	35	60

TOLERANCES ON EXTERNAL DIAMETER IN COMPLIANCE WITH EN 12449 - TUBES IN LWC

external nominal diameter mm		tolerances on nominal diameter mm	
greater than	up to and including	applicable to mean diameter	applicable to any diameter including deviation from circular form
3	6	± 0,06	± 0,30
6	10	± 0,06	± 0,50
10	20	± 0,08	± 0,70
20	30	± 0,12	± 0,90

TOLERANCES ON THICKNESS ACCORDING TO EN 12449 - TUBES IN LWC

external nominal diameter mm		tolerances on nominal thickness t %	
greater than	up to and including	t from 0.3 mm up to and including 1 mm	t greater than 1 mm up to and including 3 mm
3	28	± 15	± 13

Even if not included in this table, measurements must be agreed when the order is made.

LWC tubes can be delivered WITH or WITHOUT cardboard coils.

The coils are stacked on wooden pallets and secured with a sheet of heat-shrunk plastic. The practical dimensional limits of the pallets are 2.1 m in height and 1.5 tons in weight.

Any other packing requirement can be assessed when the order is made.

