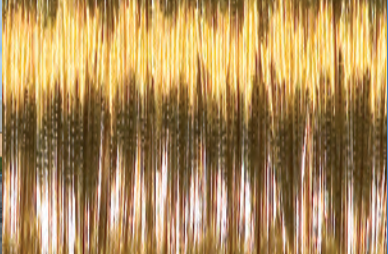


UNILLOY™
High Strength ACR Tube

UNILLOY™ is a new high strength copper alloy tube, which gives significant raw material cost savings when applied to both existing and future designs of ACR heat exchangers. This new alloy allows OEMs to utilize Luvata’s “roll-and-weld” surfaces, which produce the best heat transfer results available, at a lower cost per unit length.



About Luvata
Luvata is a world leader in metal fabrication, component manufacturing and related engineering and design services. We are committed to partnering with our customers to help them increase their competitiveness. Our products and services enable our customers to improve operational efficiency, improve products and reduce tied-up capital. Because we focus on our customers’ results and are unfailingly reliable, we are the partner on which our customers base their future development.

Description

Luvata's new UNILLOY™ tube is composed of a high strength Cu-Ni-Sn alloy. This alloy has many advantages for use in ACR applications over the industry standard C122 alloy. This new alloy allows OEMs to utilize Luvata's "roll-and-weld" surfaces, which produce the best heat transfer results available. UNILLOY is available with all Luvata's current enhanced tube surfaces. It is compatible with traditional heat exchanger manufacturing equipment resulting in no capital expenditures.

Development and Background

Luvata constantly works together with our customers to meet challenges in today's market. These partnerships have resulted in the development of this high strength copper alloy tube. Some of the challenges our customers face are the need for economical heat exchangers to handle next generation refrigerants, and the constant push for cost savings. UNILLOY is the result of joint development work between three Luvata Divisions – Rolled Products, Tubes and Heat Transfer Solutions. The product was designed and developed with the end user in mind.

UNILLOY - Benefits and Advantages

- Significant raw material cost savings when applied to both existing and future designs of ACR heat exchangers
- Enables the use of high performance roll-and-weld technology, while remaining competitive with other tube manufacturing processes
- In standard refrigerant applications it reduces copper consumption by allowing the use of thinner tube walls
- Provides a platform to develop next generation heat exchangers using CO2 and other high-pressure refrigerants
- Heat transfer and pressure drop testing shows UNILLOY tubes equivalent to current C122 alloy
- Brazing is very similar to C122, no additional training required
- One example application allowed a raw material reduction of approximately 13% with replacement of C122
- Another example increased burst pressures of approximately 20% when using UNILLOY over C122 at standard wall thickness

More information – UNILLOY alloy

UNILLOY is currently available in sizes 7mm, 5/16", and 3/8". This tube is packaged in Luvata's revolutionary "TUBE IN A CUBE™" (TIAC™) package. UNILLOY can also be supplied in custom sized hairpin form. Contact your Luvata representative for details.

	UL Pressure fatigue cycle & rupture test	Accelerated formicary corrosion test	% IACS Conductivity	Tensile strength: psi	Yield pt. .5% ext: psi	% Elongation
C122 Alloy	pass	BASELINE	80	33500	10000	47
UNILLOY	pass	UNILLOY ≥ C122	50	39200	14100	49

