THESSCO
INDUSTRIAL & BRAZING

COOLING & REFRIGERATION

Brazing solutions specifically developed for the refrigeration industry.

Thessco SAS has long been at the forefront of innovation in brazing technology for both industrial and commercial refrigeration. Our alloys, entirely manufactured in house, are designed to ensure superior performance and reliability in the cooling and HVAC sectors. Our wide range of brazing solutions is engineered to improve the efficiency and durability of the equipment on which they are used.

Copper-Phosphorus and Copper-Phosphorus-Silver Alloys

These alloys significantly reduce oxide formation, enhancing the joint's mechanical strength while ensuring reliability and durability. The addition of silver, along with phosphorus, further improves the mechanical performance of the joint.

Connections
Copper to Copper,
Copper to Brass

Available Formats
Bare Rods,
Wires (Coils & Spools),
Rings,
Preforms

Recommended Flux
Standard and boric acid free fluxes
Format available:
Paste and Powder

Certification
AWS A5.8 - EN1044 - DIN 8513 - NFA 81-362 - BS1845 - EN 17672 REACH and RoHS Complaint

Thessco Grade	ISO 17672:2016	Nominal Composition (%)			Melting Range (°C)	
		Silver	Copper	Phos	Solidus	Liquidus
Phos 15	CuP 284	15	80	5	645	800
Phos 5	CuP 281	5	89	6	645	815
Phos 2	CuP 279	2	91.7	6.3	710	825
Phos 0	CuP 182		92.2	7.8	710	770
Phos 0L	CuP 180		93	7	710	820
Phos 0R	CuP 179		93.8	6.2	710	890

Available in – Rods & Wire – 1mm to 5mm. Strip & Foil – from 0.08mm to 3mm thickness. Other Alloys are available subject to customer requirement.

Silver-Based Alloys

These alloys are selected for their resistance to corrosion and high temperatures, making them ideal for refrigeration systems. The rods coated with flux reduce the need for post-brazing cleaning, simplifying and accelerating production processes, available in different ratio based on customer needs.

Connections
Copper to Brass,
Copper to Steel,
Copper to Stainless Steel

Available Formats
Bare Rods, Flux Coated Rods,
Wires (Coils & Spools),
Rings, Preforms

Recommended Flux
Standard and boric acid free fluxes
Format available:
Paste and Powder

Certification
AWS A5.8 - EN1044 - DIN 8513 - NFA 81-362 - BS1845 - EN 17672 REACH and RoHS Complaint

Rings and Preforms

In order to meet the needs of the market, increasingly oriented towards the efficiency of production processes with automation, we are able to create, rings, preforms, pieces of wire, discs, shims. The latter include forks, lengths of wire, discs, plates, shears and bends. Rings are available with overlapping or non-overlapping ends, in single-turn or multi-turn. For larger diameters they are packaged and supplied on tubes.

Thessco Grade	ISO 17672:2016	Nominal Composition (%)					Melting Range (°C)	
		Silver	Copper	Zinc	Tin	Silicon	Solidus	Liquidus
CS114	Ag 156Si	56	22	17	5.0	0.15	620	655
CS111	Ag 155Si	55	21	22	2	0.15	630	660
CS91	Ag 145Si	45	27	25.5	2.5	0.15	640	680
CS81	Ag 140Si	40	30	28	2	0.15	650	710
CS77	Ag 138Si	38	32	28	2	0.15	650	720
CS71	Ag 134Si	34	36	27.5	2.5	0.15	630	730
CS61	Ag 130Si	30	36	32	2	0.15	665	755
CS51	Ag 125Si	25	40	33	2	0.15	680	760

Alloys contain silicon

Aluminum-Based Brazing Alloys

With the increasing use of aluminum in HVAC systems due to its light weight and excellent thermal conductivity, aluminum-based alloys have become essential. These are specifically formulated to join aluminum parts, which is particularly challenging due to aluminum's high affinity for oxygen, as well as for aluminum-to-copper joints. respective alloys.

Connections
Aluminium to Aluminium,
Aluminium to Copper

Available Formats
Bare Rods,
Flux Cored Rods,
Wires (Coils & Spools),
Rings,
Preformss

Recommended Flux
STANDARD: corrosive and non-corrosive
Format available:
Paste and Powder

Certification
AWS A5.8 - EN1044 - DIN 8513 - NFA 81-362 - BS1845 - EN 17672 REACH and RoHS Complaint

Please check on thesscogroup.com **for the full range of alloys**

Fluxes

The purpose of flux is to eliminate any oxides present on the base and filler materials, improving wettability and protecting the brazed joint from further oxidation. Our range of fluxes, CMR compliant, has eliminated toxic components while simultaneously enhancing brazing quality.

Competitive Advantages

We are **manufacturers**, not distributors—thanks to our in-house foundry, we produce all alloys ourselves, 100% Made in Italy.

Our **CuP and CuPAg alloys technology**, provide a non-sparkling effect and a porosity-free, cleaner brazing process.

Our **fluxes**, free from toxic components, are environmentally friendly and improve brazing quality.

We provide **tailored solutions** for each customer's internal processes, along with dedicated technical support.

Target Applications

- Cooling systems
- Commercial refrigeration
- Industrial refrigeration

PURCHASE CONTACTS

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