

# Product Information

## Copper hard solder “Cu-Rophos<sup>®</sup> 92, 93, 94“

For flux-free soldering of copper pipes

“Cu-Rophos<sup>®</sup> 92“ CuP 182, ISO 17672

“Cu-Rophos<sup>®</sup> 93“ CuP 181, ISO 17672

“Cu-Rophos<sup>®</sup> 94“ CuP 179, ISO 17672

According DVGW-Arbeitsblatt GW2 (worksheet) for hard soldering of copper pipes

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All information about our products is the result of our long standing experience, which we would like to pass on to our customers. Since we do not have any influence on the application with our products, please see the warranty claims in our conditions of sale because our liability is limited.

This product information does not represent warranted properties.

## Description

Phosphorus containing copper hard solder for flux-free soldering of copper pipelines in oil, gas and liquefied gas installation as well as in heating and drinking water installation over 28 x 1,5 mm pipe dimension.

## Properties

Excellent flow characteristics: copper to copper without additional flux. For soldering at brass and red brass you have to use an additional hard solder flux (Cu-Rosil® according to DIN EN 1045 – FH 10). Phosphorus containing copper hard solder is suitable for constant temperatures up to 200° C. Soldering at gas and liquefied gas machines (working temperatures from -50° up to +150° C).

Product	Alloy	Melting range	Working temperature	Density	Composition (weight-%)	
					Cu	P
Cu-Rophos®92	L-Cu92P	710-770 °C	min. 710 °C	8,0 g/cm³	92	8
Cu-Rophos®93	L-Cu93P	710-820 °C	min. 720 °C	8,1 g/cm³	93	7
Cu-Rophos®94	L-Cu94P	710-890 °C	min. 730 °C	8,1 g/cm³	94	6

## Standards

Product	ISO 17672	EN 1044	ISO 3677	DIN 8511
Cu-Rophos®92	CuP 182	CP 201	B-Cu92P-710/770	L-CuP8
Cu-Rophos®93	CuP 181	CP 202	B-Cu94P-710/820	L-CuP7
Cu-Rophos®94	CuP 179	CP 203	B-Cu93P-710/890	L-CuP6

## Application advices

Free soldering joint from oxide layers, tinder, dross, oils and greases. Heat up the work piece up to working temperature. The solder rod should be joined to the soldering joint in a veil of flames, from which emanates a reducing effect on the copper surface. If the solder does not run itself around the capillary gap, the solder rod has to be applied successively at several points. This is always the case when bigger diameters have to be soldered and the flame does not completely surround the soldering joint. For such applications fork burners have been proved which with its two flames can heat up the entire soldering joint. For soldering joints in corners or wall slots, which can badly be seen from the back side, a low-melting silver solder, e. g. FELDER L-Ag45Sn and flux „Cu-Rosil®“ should be used as a precaution.

Copper hard solder “Cu-Rophos®92“, “Cu-Rophos®93“, “Cu-Rophos®94“

## Special Advice

Attention! Do not use sulphurous media with phosphorus containing copper solders.

## Further Advice

FELDER “Cu-Rophos®“ copper hard solders do not contain any materials above of 0,1 weight-% (0,01 weight-% for cadmium) based on each homogeneous material for which are existing restrictions in the guideline 2002/95/EG (“RoHS”).

Protect against humidity.

Stored dry and dust-free, the material is durable for an unlimited period.

## Delivery forms

Dimensions	Packing units	Delivery form
1,5 mm square or round x 500 mm	25,0 kgs	1,0 kg carton
2,0 mm square or round x 500 mm		
3,0 mm square or round x 500 mm		
4,0 mm square or round x 500 mm		