A LINCOLN ELECTRIC COMPANY

# Harris 20T CW
# Brazing Filler Metal

TECHNICAL DATA SHEET

## BRAZING PROPERTIES

HARRIS 20T is a cadmium free flux cored wire alloy which main elements are: copper, zinc, silver and tin.Tin (Sn) lowers the melting point, increases fluidity and exhibits good wetting properties. Silver (Ag) offers good corrosion resistance. This alloy needs a controlled quench to avoid the weakening of the brazed joint. It is used when brazing most ferrous, cuprous and nickel alloys, stainless steels and steal tools. Its low fluidity makes it suitable in joint configurations where the fit up is poor or in small fit-up areas. It has good fillet-forming capabilities. The flux-cored does not contain boric acid or soluble borate. The alloy contains flux, but if additional flux is required then Eco Smart boric acid free fluxes are recommended (see below recommended flux)

- Ratio metal / flux 85/15% offering significant metal weight ratio
- No direct contact between the operator and the chemical product (Flux and binder)
- Reducing emissions of fumes greater than 90%
- Better visibility of soldering joint
- Better control of the amount of deposited metal

## CHEMICAL COMPOSITION

| | |
|---|---|
| Copper | 45% |
| Zinc | 34% |
| Silver | 20% |
| Tin | 1% |
| Other (total) | ISO Requirements |

## TYPICAL PHYSICAL PROPERTIES

| | |
|---|---|
| Solidus | 690°C (1256°F) |
| Liquidus | 780°C (1400°F) |
| Specific weight | 8,35 g/cm$^3$ |

## CORROSION RESISTANCE

Generally similar to the copper base metal, but zinc containing alloys, including Harris 20T CW, should not be used if the braze is exposed to concentrated corrosive liquid for a long period of time.

## AVAILABLE FORMS

Wires-Rods-Rings and specific preforms: Ø 1.5 up to 3.0mm (others upon request)

## RECOMMENDED FLUX

Harris ECO SMART® boric acid free brazing fluxes (green or black) are an excellent choice to promote sound brazed assemblies, and comply with European REACH requirements. Stay Silv brazing fluxes (white or black) are also recommended. All fluxes above are available in paste or powder form.

## SPECIFICATION COMPLIANCE

DIN 8513: L-Ag20Sn

## SAFETY INSTRUCTIONS

WARNING: PROTECT yourself and others. Read and understand this information.
FUMES AND GASES can be hazardous to your health.
HEAT RAYS (infrared radiation) from flame or hot metal can injure eyes.

- Before use, read and understand the manufacturer's instructions, Material Safety Data Sheets (MSDS) and your employer's safety practices.
- Keep your head out of fumes.
- Use enough ventilation, exhaust at the flame or heat source, to keep fumes and gases from your breathing zone and the general area.
- Wear correct eye, ear and body protection.
- EN WARNING Use of this product may produce fumes containing hazardous compounds. Use local exhaust to keep fumes and gases from all breathing zones.

Use respirator unless exposure is below exposure limits. Infrared radiation from flame or hot metal can injure eyes. Overexposure to copper fumes may cause fever, chills, congestion and headaches. Consult SDS.

## STATEMENT OF LIABILITY - DISCLAIMER

Any suggestion of product applications or results is given without representation or warranty, either expressed or implied. The values of the chemical composition of the alloys are average values of the ranges given in the ISO standard. Actual values can only be found in the Inspection Certificate 3.1. or in the Material Test Report that can be obtained with a cost and upon request concerning one specific batch. Without exception or limitation, there are no warranties of merchantability or of fitness for particular purpose or application. The user must fully evaluate every process and application in all aspects, including suitability, compliance with applicable law and noninfringement of the rights of others. The Harris Products Group and its affiliates shall have no liability in respect thereof.

20T CW_1025_EN