



Harris 20 Brazing Filler Metal

TECHNICAL DATA SHEET

BRAZING PROPERTIES

Harris 20 brazing filler metal is primarily designed for brazing copper, brass, and steel. This alloy has a wide melting range which allows use where part clearance cannot be tightly controlled. Harris 20 is often selected as a lower cost, replacement for higher silver content alloys. Harris 20 should be heated at a rapid rate through its melting range to avoid liquation.

CHEMICAL COMPOSITION

| | |
|---------------|------------------|
| Silver | 20% |
| Copper | 45% |
| Zinc | 35% |
| Other (total) | ISO Requirements |



TYPICAL PHYSICAL PROPERTIES

| | |
|-----------------|-----------------------|
| Solidus | 690°C (1275°F) |
| Liquidus | 810°C (1490°F) |
| Specific weight | 8,7 g/cm ³ |

CORROSION RESISTANCE

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

AVAILABLE FORMS

Standard wire diameters, preform rings, coils, strip, and flux coated rods.

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

ISO 17672 Ag 220



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.