



## TECHNICAL INFORMATION SHEET

### SAFETY SILV® 20 BRAZING FILLER METAL

#### NOMINAL CHEMICAL COMPOSITION%:

Silver	18.5- 21.5
Copper	42.0- 46.0
Zinc	33.0 –38.0
Other (Total)	0.15

#### TYPICAL PHYSICAL PROPERTIES:

Solidus	1315°F (712°C)
Liquidus	1490°F (810°C)
Electrical Conductivity	23.5 (%IACS)
Density	4.58 (Troy ounces./cu.in.).

#### BRAZING PROPERTIES:

A 20% silver cadmium free brazing filler metal, with a fairly wide melting range. This filler metal offers good joint strength and reasonable ductility. It is primarily selected as an economical filler metal for brazing steel, copper, and brass alloys.

#### AVAILABLE FORMS:

Standard wire diameters, preform rings, coils.

#### RECOMMENDED FLUX:

Stay-Silv® white flux is suitable for many applications. Stay-Silv® black brazing flux is often used if brazing stainless steel or where heating cycles are prolonged or focused as in induction brazing. Harris ECO SMART® boric acid free flux, (powder or paste), is an excellent choice to promote sound brazed assemblies and comply with European REACH requirements.

Remove flux residue upon completion of brazing.

#### SPECIFICATION COMPLIANCE:

Harris Products Group Engineering Specification

#### SAFETY INFORMATION:

**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.
- See American National Standard Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society, 8669 Doral Blvd., Doral, Florida 33166; OSHA Safety and Health Standards, available from the U.S. Government Office, Washington, DC 20402.

#### STATEMENT OF LIABILITY- DISCLAIMER:

Any suggestion of product applications or results is given without representation or warranty, either expressed or implied. 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 non-infringement of the rights of others. The Harris Products Group and its affiliates shall have no liability in respect thereof.

#### THE HARRIS PRODUCTS GROUP

A LINCOLN ELECTRIC COMPANY

4501 Quality Place • Mason, OH 45040 U.S.A Tel: 513-754-2000 Fax: 513-754-6015

Additional information available at our web site: [www.harrisproductsgroup.com](http://www.harrisproductsgroup.com)