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KappFree™

Description

KappFree™ Tin-Copper-Silver solder is a Lead-free, Cadmium-free formulation designed specifically to replace KappLead™ (Tin-Lead) solders in standard Stainless Steel, Copper, and Brass plumbing applications. This solder is simple, effective, and easy to use in both the installation and repair. **KappFree™** provides less joint strength, vibration resistance, and thermal cycle fatigue resistance than KappZapp™ solders, so it is used less often in high pressure or very cyclical heat exchangers, or HVAC systems.

This product complies with NSF/ANSI Standard 372: Drinking Water System Components – Lead Content. Product also Certified to NSF/ANSI 61, Annex G and conforms with Lead content requirements for "Lead-free" plumbing as defined by California, Vermont, Maryland, and Louisiana state laws and the U.S. Safe Drinking Water Act in effect as of January 4, 2014. Weighted average lead content < 0.25%; Solder and flux lead content < 0.20%. This alloy complies with the European RoHS and REACH directives. No lead, cadmium or mercury used in production.

KappFree™ has been designed to accomplish three important Lead/Cadmium-free objectives:

1. Produce a cost-effective Lead/Cadmium-free composition to address environmental and health concerns – **meet ASTM and NSF Food Grade and Potable Water Standards**
2. Provide superior strength and corrosion resistance to KappLead™ (Tin-Lead) solders
3. Allow easy application at low temperatures with any heat source

Applications

- Installation and repair of Stainless Steel, Copper, and Brass plumbing
- Electrical and mechanical connectors, as well as heat exchangers
- Electronic components for harsh environments
- Paired with **Kapp Comet™ Flux**

Benefits over Silver Brazing Alloys

- Lower material costs (up to 4X more cost effective)
- Up to 4X faster production due to ease of use and lower process temperatures
- Faster post-production cleanup, often requiring only inspection
- Non-Toxic – Lead and Cadmium-free
- Elimination of the effects of high heat used in brazing – avoiding base metal deformation, discoloration, segregation, annealment, and heat related oxide-scale formation, to name a few.

Properties

Composition	
Sn (Tin):	95.5%
Cu (Copper):	4%
Ag (Silver):	0.5%
Technical Data	
Melting Range:	440-500°F (226-260°C)
Tensile Strength (Copper):	10,000 psi
Tensile Strength (Stainless):	18,000 psi
Shear Strength:	5,000 psi
Elongation:	48%
Electrical Conductivity (%TACS):	24.9%
Matching Kapp Flux:	Comet™ Flux

Product Variants -

Available in standard forms: 1/32" (0.031") (0.8mm), 1/16" (0.063") (1.6mm), 1/8" (0.125") (3.2mm). Custom alloys and forms are our specialty. Call Kapp Alloy to discuss what size and diameter are right for you.