

## PRODUCT DATA SHEET

# Nitinol Soldering Kit

### Contents

- Indalloy® 121 (96.5Sn/3.5Ag 0.030") solder wire
- Indalloy® Flux #2
- Indalloy® Flux #3
- **Nitinol** #1 wire 0.017"

**Nitinol** requires a strong flux to remove surface oxides to facilitate wetting of the solder to the surface.

### Indalloy® Flux #2

Indalloy® Flux #2 is a specialty, acid-based flux formulated for soldering **Nitinol**. It also works on high chromium-containing alloys including stainless steel.

Indalloy® Flux #2 is compatible with all types of solders. It can be brushed on, dispensed, or sprayed. All application equipment should be acid-resistant. It is not recommended for electronics applications.

### Indalloy® Flux #3

Indalloy® Flux #3 is a high-viscosity liquid flux formulated for soldering **Nitinol**. It also works on aluminum.

Indalloy® Flux #3 works best with tin-containing alloys and because of its higher viscosity, is best applied by brush or swab. Any flux equipment should be resistant to halide corrosion. It is not recommended for indium-containing alloys or electronics applications.

### Cleaning

Flux residue removal is mandatory and may be accomplished by means of warm water and mechanical scrubbing. Cleaning should be performed as soon as possible after the soldering operation to avoid corrosion. The cleaning water temperature should not exceed 50°C. Excessive water temperature may cause secondary reactions and result in corrosion and/or pitting. A warm water sonication may also be a means of flux residue removal.



### Flux Technical Specifications

	Flux #2 (P/N 84002)	Flux #3 (P/N 84003)
Activation Range	100–371°C	96–343°C
Specific Gravity	1.53gm/cc	1.33gm/cc
Flash Point	Non-flammable	93°C
Chloride Content	No zinc or other heavy metal chlorides	Contains chlorides
pH	1–1.5	8
Appearance	Water white	Yellow to pale green
Cleaning	Warm water (<50°C) and mechanical scrubbing	Warm water (<50°C) and mechanical scrubbing
Shipping	Transport in accordance with applicable regulations and requirements	Transport in accordance with applicable regulations and requirements

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### Nitinol Wire Specifications

Nitinol #1		
Austenitic Finish Temperature (Af)	10–18°C	
Flash Point	Non-flammable	
Chemical Composition	Element	Weight %
	Nickel	54.5 to 57.0 (Ref.)
	Titanium	Balance
	Carbon	<0.05 (500ppm max.)
	Cobalt	<0.05 (500ppm max.)
	Copper	<0.01 (100ppm max.)
	Chromium	<0.01 (100ppm max.)
	Hydrogen	<0.005 (50ppm max.)
	Iron	<0.03 (300ppm max.)
	Niobium	<0.025 (250ppm max.)
	Oxygen	<0.05 (500ppm max.)
	Any Single Trace Element	<0.1
	Total Trace Elements	<0.25
Ultimate Tensile Strength	>180,000psi	
Appearance	Shiny, light brown color	
Cleaning	Alcohol wipe	
Shipping	Transport in accordance with applicable regulations and requirements	

Nitinol courtesy of Fort Wayne Metals.

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