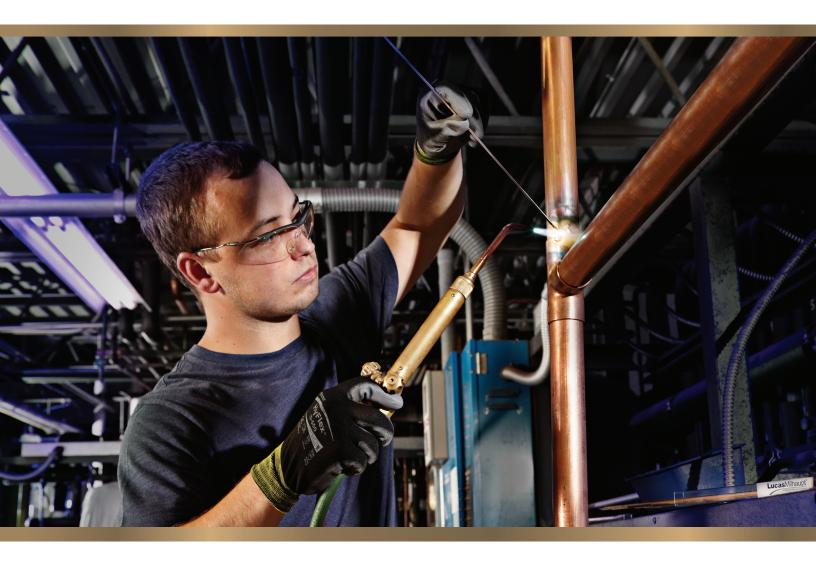
YOUR COMPLETE SOURCE FOR BRAZING & SOLDERING ALLOYS & FLUXES





WE HAVE EXPANDED OUR COMMITMENT TO THE METAL JOINING INDUSTRY

For more than seventy-five years, you've relied on Lucas-Milhaupt to provide superior brazing products. Our extensive product knowledge, ready inventory of brazing and soldering materials, and technical expertise has enabled us to offer our customers a level of support unmatched in the industry.

Since we became part of Handy & Harman in 1967, we've continued to grow our leadership position. Founded more than a century ago in 1867, Handy & Harman had long been recognized as a leading company in precious metal fabrication, processing and refining. Together, we have continued to raise the bar of quality and manufacturing excellence.

We've now taken another leap ahead - expanding our commitment to the metal joining industry - by acquiring the brands, manufacturing capabilities, and expertise of Wolverine Joining Technologies. Historically, Wolverine's offerings have complemented those in the Lucas-Milhaupt line, but have typically been sold through different outlets. This JOINING of two leaders offers YOU the advantages of both:

- Expanded network of distribution points for even better availability
- Expanded sales support network
- Broader range of product line to better serve your needs
- Commitment to USA manufacturing
- Technical support a recognized Lucas-Milhaupt strength!

Joining the legacies of these two industry leaders positions Lucas-Milhaupt to be even stronger, and to support our customers well into the future! The new, stronger brazing leader, with the backing of a global metals power.

The new Lucas-Milhaupt – committed to your metal joining needs today...and into the future.



SIL-FOS® Family of Brazing Alloys

For Joining Copper and Copper-based Alloys.

This group of alloys allows the joining of copper to copper without a flux and copper based alloys (brass and bronze) with a flux. The family of products includes the original Sil-Fos 15. Developed and patented over 75 years ago, Sil-Fos is the workhorse filler metal used in the refrigeration and air conditioning industry.

Think of the brazing alloy as the glue that holds the refrigeration system together. The thermal cycling (and subsequent expansion and contraction), vibration stresses and higher pressures of the new refrigerants strongly suggest that the ductility of the braze alloy is extremely important—not just for an initial leak tight joint, but to be hermetic for many years down the road.

SIL-FOS® 15	Best alloy for	general copper-copper brazing in t	ne Sil-Fos fami		AWS Spec	Comp	osition	s %	Melt	Flow
copper-to-copper joints the phosphorus in the Sil-Fos product serve as the fluxing agent and no separate flux is necessary. For bra applications however, flux is recommended. For use where close fit-up cannot be maintained Sil-Fos 15 works well to "bridge" gaps. Highe joint ductility of the entire Sil-Fos family to best withstand the stresse inherent in refrigeration applications. Slow Flow.						Ag 15	Cu 80	P 5	1190°F 643°C	1475°F 802°C
Product Name	Item #	Description	Case Qty.							
Sil-Fos® 15	95150	.125" × .050" × 20" × 28 Rods	25 lb.							
Sil-Fos® 15*	95161	.125" x .050" x 20"	25 lb.		SI SI SI SI SI SI SI SI SI SI SI SI SI S		Same In Subsci	part & constraint, NATA	Calena Colona Calena Colona	28 Tigs- A6 28 Rods
Sil-Fos® 15	1202092	.125" sq. x 20" x 11 Rods in Plastic Tube	25/Box	\$ 11C2	antiparty, 21	L.FOS 15	15		W95150	15% Ag
Sil-Fos® 15	95177	.125" x .050" x 20" x 7 Rods in Plastic Tube	20/Box	Luc	asMilhaupt	ORIGINAL SINCE	1931			
Sil-Fos® 15	1202082	.125" sq. X 36"	25 lb.		MA MALERY, PA					
Sil-Fos® 15*	95158	.094" Dia. X 36"	25 lb.							
Sil-Fos® 15 Coil	32181	.050" x .125" x 5' length	6/Box							
Sil-Fos® 15 Coil	32183	.050" x .125" x 22' length	5/Box							



HANDY-FLO® 6	Recommende	d for use where a close fit-	up cannot be maintain	ed. AWS Spec None	Compositions % Ag Cu P			Melt 1190°F	Flow 1460°F	
	strength. Slov	y 10 mi gaps and 10 m mier v Flow. (formerly Sil-Fos® 61	M)		6	88	6	645°C		
Product Name	Item #	Description	Case Qty.				of Eurobeant PET	29 Barra 6'n Ag		
Handy-Flo® 6	95120	.125" x .050" x 20" – 28 Rods	25 lb.	Lucas Minus	HANDY-FLO	106	And and a series of the series	a95120 pa Rode On Au		
Handy-Flo® 6	95131	.125" x .050" x 20"	25 lb.							

SIL-FOS® 5	Designed pr	imarily for those applications	where close fit-	-ups cannot	AWS Spec	Comp	osition	s %	Melt	Flow
	be maintaine	ed. It has the ability to fill go ecting joint strength. Slow Flo	aps and form fil	lets without	BCuP-3	Ag 5	Cu 89	P 6	1190°F 643°C	
Product Name	Item #	Description	Case Qty.						anTiges	
Sil-Fos® 5	95060	.125" x .050" x 20" - 28 Rods	25 lb.		Lucas Minaux	1.FOS 5	lang to past I was fallow 1877 Topolo 1874	and SEC Subsection	DO Rock St. Ag	
Sil-Fos® 5	95071	.125" x .050" x 20"	25 lb.		Lucasi Mihaudi	IL-FOS 5				
Sil-Fos® 5 Coil	32299	.050" x .125" x 5' length	6/Box		UCA STATE OF THE PARTY OF THE P					
Sil-Fos® 5 Coil	32302	.050" x .125" x 22' length	5/Box							

SIL-FOS® 2	A filler metal	with comparable characteris	tics to Fos-Flo 7.	A	WS Spec	Comp	osition	ns %	Melt	Flow
	Medium Flow	<i>i</i> .		В	CuP-6	Ag 2	Cu 91	P 7	1190°F 643°C	1450°F 788°C
Product Name	ltem #	Description	Case Qty.				lang to make Evolution	1985. Indones Street S	28 Tiges 2% Ag	
Sil-Fos® 2	95030	.125" x .050" x 20" – 28 Rods	25 lb.	Lucas	SIL-F	05 2 F05 2	Supplied Survey		795030 2ª AO	

FOS-FLO®	An economic	al, very fluid medium tempera	AWS Spec	Compositions %			Melt	Flow		
103110	copper, bras	al, very fluid medium tempero s and bronze. Withstands mo	derate vibration	. Fast Flow.	BCuP-2	Ag 0	Cu 92.75	P 7.25	1310°F 709°C	1460°F 793°C
Product Name	Item #	Description	Case Qty.						20Tigers	
Fos-Flo®	95000	.125" x .050" x 20" – 28 Rods	25 lb.		LucasManaupt F	OS-FLO	May be you from the first	and the second s	995000 20 Rodo 0" A0	
Fos-Flo®*	95011	.125" x .050" x 20"	25 lb.		Colombia Colombia					



Brazing Copper to Brass with SIL-FOS®



Brazing Copper to Copper with SIL-FOS®

High Silver Brazing Alloys

For joining ferrous (iron-based) and non-ferrous materials.

Brazing is so universally used because it is economical, easy to do and produces strong leak-tight joints. It is also a flexible process that allows you to join both similar and dissimilar metals. In refrigeration applications, much of the brazing involves joining copper tubing. However, there are numerous applications where other materials need to be joined (steel, brass, stainless steel, carbide, etc.) These high silver brazing alloys facilitate the joining of these metals.

Lucas-Milhaupt offers these high silver alloys in a variety of package sizes and wire diameters depending upon your needs and application. For added convenience, several of these alloys are available as flux coated rods or flux cored rods. This eliminates the separate fluxing operation previously required when using this family of alloys.

SILVALOY® 560		temperature, Cadmium-free filler metal	, very fluid
	alloy flo	ow y Braze™ 560	
Product Name	Item #	Description	Case Qty.
Silvaloy® 560	98060	1/16" (1.6 mm) Dia. × 1 Troy Oz. Clam Shell	6/Box
Silvaloy® 560	98062	1/16" (1.6 mm) Dia. × 5 Troy Oz. Clam Shell	6/Box
Silvaloy® 560*	98064	3/32" (2.4 mm) Dia. × 50 Troy Oz. Knock-out Box	1/Box
Silvaloy® 560	98065	1/16" (1.6 mm) Dia. × 50 Troy Oz. Knock-out Box	1/Box
Silvaloy® 560*	98067	1/32" (0.8 mm) Dia. × 50 Troy Oz. Knock-out Box	1/Box

luid	AWS Spec	Con	nposit	ions '	%	Melt	Flow	
	BAg-7	Ag 56	Cu 22	Zn 1 <i>7</i>	Sn 5	1145°F 618°C	1205°F 652°C	
Qty.		C		5/	<u> </u>			
		SI	LVALO	Anather Surgery	60		- 1	
			ije tue i	and the same of th			- 1	
			Troy oz.	OZT SEAWIN PAST #90002				
			(1)					

Best general purpose filler metal available. Recommended SILVALOY® 505 for stainless steel as it retards interface corrosion. Nickel content provides superior adhesion to base metal surfaces. Formerly Braze™ 505 **Product Name** Item # Description Case Qty. Silvaloy® 505 98070 1/16" (1.6 mm) Dia. \times 1 Troy Oz. Clam Shell 6/Box Silvaloy® 505 1/16" (1.6 mm) Dia. \times 5 Troy Oz. Clam Shell 98072 6/Box 3/32" (2.4 mm) Dia. × 50 Troy Oz. Knock-out Box Silvaloy® 505* 98050 1/Box Silvaloy® 505 98051 1/16" (1.6 mm) Dia. \times 50 Troy Oz. Knock-out Box 1/Box Silvaloy® 505* 98053 1/32" (0.8 mm) Dia. × 50 Troy Oz. Knock-out Box 1/Box







5	SILVALOY® 452		emperature, general-purpose alloy wit rties than Silvaloy® 450. rty Braze™ 452	h better flow
	Product Name	Item #	Description	Case Qty.
	Silvaloy® 452	98010	1/16" (1.6 mm) Dia. × 1 Troy Oz. Clam Shell	6/Box



5	SILVALOY® 4	50	noi	neral purpose filler metal for join n-ferrous and dissimilar metals with arances. Formerly Braze™ 450	
	Product Name	ltem	#	Description	Case Qty.
	Silvaloy® 450	98000	О	1/16" (1.6 mm) Dia. × 1 Troy Oz. Clam Shell	6/Box
	Silvaloy® 450	98002	2	1/16" (1.6 mm) Dia. × 5 Troy Oz. Clam Shell	6/Box
	Silvaloy® 450*	98004	4	$3/32$ " (2.4 mm) Dia \times 50 Troy Oz. Knock-out Box	1/Box
	Silvaloy® 450	98003	5	1/16" (1.6 mm) Dia × 50 Troy Oz. Knock-out Box	1/Box
	Silvaloy® 450*	98007	7	$1/32$ " (0.8 mm) Dia \times 50 Troy Oz. Knock-out Box	1/Box

s,	AWS Spec	Con	nposition	ıs %	Melt	Flow
nt	BAg-5	Ag 45	Cu 30	Zn 25	1225°F 663°C	1370°F 743°C
7.			0			
			Luca	sMihaupt'		
			SILVAL	OY 45	0	
				nu Station		
			Troy oz.	OCT GEAT PERSONS		
			2 - 13/3°00	15://		

A more economical filler metal with a fairly narrow melt range, this alloy has application for both steel and copper-based materials. Formerly Braze™ 401 Case Qty. **Product Name** Item # **Description** Silvaloy® 401* 98090 $1/16\mbox{"}$ (1.6 mm) Dia. \times 1 Troy Oz. Clam Shell 6/Box

SILVALOY® 401

C	ompositions	%	Melt	Flow
Ag	Cu	Zn	1245°F	1340°F
40	30	30	675°C	725°C



ASY•FLO® 4	15		rsatile alloy, used for most ferrous and		AWS Spec	Co	mposi	tions	%	Melt	Flow	
			etals. Contains Cadmium, therefore exercise ex ution as Cadmium fumes are toxic.		BAg-1			Cd 24	1125°F 607°C	1145°F 618°C		
Product Name	Item	#	Description	Case Qty.			0					
Easy Flo® 45	9829	6	1/16" (1.6 mm) Dia. × 1 Troy Oz. Clam Shell	6/Box			Lucas Vithaux					
Easy Flo® 45	9829	8	1/16" (1.6 mm) Dia. × 5 Troy Oz. Clam Shell	6/Box			EASY·FLO 45					
Easy Flo® 45*	9829	0	3/32" (2.4 mm) Dia × 50 Troy Oz. Knock-out Box	1/Box				Consiste of				
Easy Flo® 45	9829	5	1/16" (1.6 mm) Dia x 50 Troy Oz. Knock-out Box	1/Box		Troy or 1 of T						
Easy Flo® 45*	9830	5	1/32" (0.8 mm) Dia × 50 Troy Oz. Knock-out Box	1/Box				45	%/3			
a result, these materi	als shou	Jlá c	contain Cadmium. Cadmium fumes are to only be used in well-ventilated areas. For c oformation or contact our Technical Service	additional				O Carlotte				



Lead-Bearing SoldersLow-temperature, tin/lead solders available in solid wire

or acid core.

50/50	Stand joint c	ard (learc	genero inces.	ral purpose Tin/Lead solder for moderate . Available as Solid, Acid or Rosin core.				
Compositi	Composition %			Melt	Flow			
Sn 50	Pb 50			361°F 183°C	421°F 216°C			
Product No	ame	Ite	m #	Description		Case Qty.		
50/50		53	137	1/8" Dia x 1 lb Sp	ool	25 lb.		

Product Availability: 1/8" diameter 1 pound spools standard, however other diameters and sizes (including 1/2 lb., 5 lb., 10 lb., 25 lb., 25# spools and bar) are available upon request

Packaging Options: 25 pounds per case (1 lb. spool).

Tin/Antimony Solder

	General purpose Tin/Antimony solder. Not for use on brass alloys.					
Composition	%		Melt		Flow	
Sn 95	Sb 5		450°F 233°C		464°F 240°C	
Product Name	Item :	#	Description		Case Qty.	
95/5	57263		1/8" Dia x 1# Spa	ool	25 lb.	
_						

Solder Fluxes

For soldering applications we offer two different flux products depending on the materials to be joined. They include SILVABRITE® Flux for general purpose applications and TEC Liquid Flux where more aggressive fluxing is required for the more difficult-to-solder materials (e.g. steel, stainless steel, etc.).

Product Name	Item #	Description	Case Qty.
Handy® Type TEC Liquid Soldering Flux	97000	4 oz. (113g) Flip Top Squeeze Bottle	24/Box
SILVABRITE® Paste Solder Flux	<i>7</i> 5108	4 oz. (113g) Brush Cap	24/Box



Silver-Bearing, Lead-Free Soft Solders

High strength—general purpose solders. Higher strength than Tin/Lead solders and safe for potable water systems.

These alloys are widely used in low-stress, low-pressure copper-copper and copper-steel applications (e.g. sight glasses where temperature must be kept low, etc.). For copper-copper, Silvabrite® Paste Flux is the flux of choice. For copper-steel applications, TEC Liquid Flux is recommended as it is more aggressive at keeping the metal surfaces to be joined free of oxides. TEC is a more corrosive flux however, and subsequent flux residue removal is recommended.



SILVABRITE®	Silver/tin solde	ring alloys engineered specifically for field	Nom. Com	position %	Melt	Flow
STM B32 Sn96	and confidently	ly formulated to make difficult repairs swiftly v. Use for fast melting, free flowing jobs.	Ag 3.6	Sn 96.4	430°F 221°C	430°F 221°C
Product Name	Item #	Description		Case (Qty.	
SILVABRITE®	56619	1/8" Dia x 1 lb Spool		25 lb.		

SILVABRITE® S	Silvabrite S wh	ich contains 4.6% Ag as compared with	Nom. Com	position %	Melt	Flow
STM B32 Sn95	the added silve			Sn 95.4	430°F 221°C	473°F 245°C
Product Name	Item #	Description		Case (Qty.	
SILVABRITE® S	53113	1/8" Dia x 1 lb Spool		25 lb.		

5	SILVABRITE® 973	systems and ot	safe and effective lead free solder for drinking water stems and other application where an environmentally lendly product is preferred Nom. Composition % Cu Sn 3.5 96.5		Melt 440°F 225°C	Flow 572°F 300°C	
	Product Name	ltem #	Description		Case		
	SILVABRITE® 973	52154	1/8" Dia x 1 lb Spool		25 lb.		

Lead-free and o	Nom. Composition %			Melt	Flow	
systems and oth copper, steel, st low melting poi	ns and other applications. Suitable for joining er, steel, stainless steel. Nickel metals and alloys. A selting point and wide melting range for excellent		Sn 95.5	Cu 4	440°F 225°C	660°F 349°C
Item #	Description			Case	Qty.	
56761	1/8" Dia x 1 lb Spool	1/8" Dia x 1 lb Spool				
<i>57</i> 110	1/8" Dia x 5 lb Spool			10/Box	(
57111	1/8" Dia x 20 lb Spool			1/Box		
	as a safe and e systems and off copper, steel, st low melting poi flow and contro Item # 56761 57110	as a safe and easy to use solder for drinking water systems and other applications. Suitable for joining copper, steel, stainless steel. Nickel metals and alloys. A low melting point and wide melting range for excellent flow and control. Item # Description 56761 1/8" Dia x 1 lb Spool 57110 1/8" Dia x 5 lb Spool	as a safe and easy to use solder for drinking water systems and other applications. Suitable for joining copper, steel, stainless steel. Nickel metals and alloys. A low melting point and wide melting range for excellent flow and control. Item # Description 1/8" Dia x 1 b Spool 57110 1/8" Dia x 5 b Spool	as a safe and easy to use solder for drinking water systems and other applications. Suitable for joining copper, steel, stainless steel. Nickel metals and alloys. A low melting point and wide melting range for excellent flow and control. Item # Description 1/8" Dia x 1 b Spool 57110 1/8" Dia x 5 b Spool	as a safe and easy to use solder for drinking water systems and other applications. Suitable for joining copper, steel, stainless steel. Nickel metals and alloys. A low melting point and wide melting range for excellent flow and control. Ag	as a safe and easy to use solder for drinking water systems and other applications. Suitable for joining copper, steel, stainless steel. Nickel metals and alloys. A low melting point and wide melting range for excellent flow and control. Ag

JIIVADIKIII O		ead-free, silver-bearing high-strength solder used for applications requiring large joint clearances. Easiest			6 Melt	Flow
ASIM B32 Sn94	Silver-bearing s	ring soft solder to work with as temperature mits "bridging" loose fit-ups if necessary.		Sn 94.4	430°F 221°C	536°F 280°C
Product Name	Item #	Description		Ca	se Qty.	
SILVABRITE® 6	96010	1/8" Dia x 1 lb Spool).	

HANDY ONE® Aluminum Braze

Flux-cored, low temperature braze for joining aluminum and copper alloys

Flux cored alloy is ideal for brazing aluminum to aluminum or aluminum to copper. Non corrosive flux does not require removal after brazing.

AL 822			Flux Cored Braze	
Con	position %		Melt	Flow
Zn 78	A 2		800°F 426°C	900°F 482°C
Product N	ame	Item #	Description	Case Qty.
AL 822 Handy Flux Cored Braz	L 822 Handy One Alum 99088 .090" Dia x 20" x 4 Stic ux Cored Braze Plastic Tube		- 20/Box	





How to Braze Aluminum to Copper



Aluminum Brazing with AL 822



Flux-cored brazing alloys

Handy One is a brazing alloy in strip form that is rolled around a powdered flux. This simplifies and improves the brazing operation by eliminating the separate fluxing operation, and by delivering the correct amount of flux – right where it's needed.

Other benefits include:

- Improves joint strength due to a reduction in flux inclusions
- Reduces brazing cycle time flux insulates, so less flux means parts heat up to brazing temperature quicker
- Minimizes post braze cleaning

HANDY ONE®	Flux-co	ored brazing rods	
Product Name	Item #	Description	Case Qty.
Silvaloy® 505† Handy One Flux Cored	99076	.075" Dia x 20" x 8 Rods – Plastic Tube (1.9 mm x 510 mm)	12/Box





How to Braze Copper to Steel with HANDY ONE®

Flux Coated Brazing Rod

For joining ferrous and non-ferrous materials.

In addition to bare and cored high silver brazing alloys, we also offer rods that are coated with our general purpose Handy Flux. We start with 1/16" diameter wire and coat on the flux for a final diameter of 1/8". Rods are 18" in length and product is packaged into 1/4 pound tubes.

LUX COATED	Flux-coa	ted brazing rods	
Product Name	Item #	Description	Case Qty.
Silvaloy® 560† Flux Coated (Orange)	98120	.062" Dia x 18" x 8 Rods – Plastic Tube (1.6 mm x 457 mm)	12/Box
Silvaloy® 505† Flux Coated (White)	98110	.062" Dia x 18" x 8 Rods – Plastic Tube (1.6 mm x 457 mm)	12/Box
Silvaloy® 452† Flux Coated (Blue)	98100	.062" Dia x 18" x 8 Rods – Plastic Tube (1.6 mm x 457 mm)	12/Box

†Refer to page 4 or 5 for Alloy Composition



The Function and Stages of Flux - Flux as a Temperature Indicator



White Flux vs. Black Flux



Brazing Flux - HANDY FLUX®

Where fluxing is required as part of the brazing operation, Handy Flux is recommended. Handy Flux is an all-purpose flux for use in brazing both ferrous and non-ferrous metals and alloys. Where larger mass assemblies are being joined, Black Flux or Handy B1 is often recommended as it offers higher temperature protection.

Handy Flux (White)
Handy Flux Type B-1
(Black-Boron Modified)

Handy Flux conforms to: AWS A5.31 FB3A SAE AMS-3410

Product Name	Item #	Description	Case Qty.
Handy® Flux	97030	7 oz. (.190kg) Jar w/Brush Cap	24/Box
Handy® Flux	97032	1 lb. (.454kg) Jar	24/Box
Handy® Flux	97034	5 lb. (2.27kg) Jar	6/Box
Handy® Flux*	97035	25 lb. (11.35kg) Pail	1 ea.
Handy® Flux*	97036	50 lb. (22.68kg) Pail	l ea.
Handy® B1 Flux*	97041	Boron Modified - 1 lb. (.454kg) Jar	24/Box
Handy® B1 Flux*	97042	Boron Modified - 5 lb. (2.27kg) Jar	6/Box
Handy® B1 Flux*	97043	Boron Modified - 25 lb. (11.35kg) Pail	1 ea.

Brazing Flux - ULTRA FLUX®

Premium grade general application silver brazing flux. For use on all metals except aluminum, magnesium, and titanium. Fully molten at 1100°F, effective to 1600°F. Like all Lucas Milhaupt fluxes, Ultra Flux is manufactured to the highest quality standards to assure consistently outstanding performance.

Ultra Flux conforms to: AWS A5.31 FB3A SAE AMS-3410 Fed Spec O-F-499 Type B

ULTRA FLUX®		Brazing Flux		
Product Name	Item #	Description	Case Qty.	
Ultra Flux®	75014	7 oz. (.190kg) Brush Cap	24/Box	
Ultra Flux®	<i>7</i> 5015	1 lb. (.454kg) Jar	24/Box	
Ultra Flux®	<i>7</i> 5016	5 lb. (2.27kg) Jar	6/Box	





Brazing Flux - BLACK FLUX™

Black Flux is a boron modified, water based active fluoride/borate-type flux in paste form, which has been specially formulated to give excellent adhesion when dipped or brushed on parts. It is recommended to use with filler metals that flow between 1050°F (565°C) - 1800°F (982°C) and specifically formulated to ensure a creamy consistency. The flux provides excellent protection of parts up to 1800°F (982°C).

Black Flux conforms to: AWS A5.31 FB3C SAE AMS-3411 Fed Spec O-F-499D, Type B

BLACK FLUX™		Brazing Flux		
Product Name	Item #	Description	Case Qty.	
Black Flux	75020	1 lb. (.454kg) Jar	24/Box	
Black Flux	<i>7</i> 5021	5 lb. (2.27kg) Jar	6/Box	

Brazing Tips and Techniques Brochure

An excellent "How To" publication produced by Lucas-Milhaupt that covers a wide variety of topics regarding the nature of brazing. Included is information pertaining to the six brazing fundamentals including proper joint design, clearance, cleaning, brazing techniques and safety information. This book can be ordered individually or in packs of 25.

Pack of 25 - Part # 99092



BRAZING & SOLDERING SELECTION GUIDE SELECTION GUIDE SOLUTION GUIDE SOLUTIO

Counter Mat

A laminated, non-slip foamed back counter mat that includes an easy to read selection guide with a competitive cross reference for the Lucas-Milhaupt brazing and soldering product line. Counter mat is available at no charge with minimal brazing material orders.

Counter Mat - Part # 99200

Point-of-Purchase Display

Suitable for counter top display or hanging on pegboard. It includes a helpful laminated alloy selection guide for use by the trade in selecting the proper alloy and flux for a variety of metal joining applications. Display comes preassembled and is included at no charge with your initial minimum order. And while we recommend a specific stocking mix, product assortment can be customized for your requirements.

POP Display - Part # 99202



SIZE CHART

- = 1/32'' (.031") (.8mm)
- = .075'' (1.9 mm) (Handy 1)
- \bullet = 3/64" (.047") (1.2mm)
- = .078" (2mm) (Aluminum Solder)
- = 1/16" (.062") (1.6mm)
- = 3/32" (.094") (2.4mm)
- .125" (3.2mm) (Square)
- = 1/8" (.125") (3.2mm)
- $= .125'' \times .050''$ (Flat Rod) $(3.2 \text{mm} \times 1.27 \text{mm})$

ATOMIC SYMBOLS

Ag = Silver Ni = Nickel P= Phosphorus

Zn = Zinc

Al = AluminumSn = Tin

Cu = Copper Pb = Lead

Cd = Cadmium Sb = Antimony

WARNING! Brazing can generate potentially harmful fumes and gases. Protect yourself and others. Obtain a Safety Data Sheet (SDS) from your supplier or from Lucas-Milhaupt, Inc. Follow the SDS' instructions for safe brazing practices and appropriate measures.

Bare Metals to be Joined	Filler Metal to be Used	Proper Flux Selection	Comments	
COPPER OR BRASS	SOLDER WITH: Silvabrite® 6 Silvabrite® 5 Silvabrite® 100	Silvabrite® Flux or TEC Flux	Silvabrite® 6 is alloy of choice. It is lead free, contains 5.6% silver and can be made to exhibit either fluid or sluggish characteristics.	
COPPER OR BRASS	BRAZE WITH: Sil-Fos® 15 Handy Flo® 6 Sil-Fos® 5 Sil-Fos® 2 Fos-Flo® (0% Ag)	These alloys are self-fluxing on copper, but Handy Flux® is needed for brass.	Sil-Fos® 15 is the #1 choice by contractors, due to its greater ductility & ability to absorb vibration stresses, etc. Due to potential for brittle iron-phosphide formation, these alloys are not recommended for brazing steel or other ferrous alloys.	
COPPER OR BRASS TO STEEL	SOLDER WITH: Silvabrite® 6 Silvabrite® 5 Silvabrite® BRAZE WITH: Silvaloy® 560 Silvaloy® 505	TEC FLux TEC Flux Handy Flux® Handy Flux® Handy Flux®	Silvabrite® 6 used with the more agressive TEC Liquid Flux is the recommended choice.	
	Silvaloy® 450 Silvaloy® 401 Silvaloy® 560 Flux Coated or Flux Cored Silvaloy® 505 Flux Coated or Flux Cored Silvaloy® 452 Flux Coated Silvaloy® 380 Flux Cored		Silvaloy® 505 is fast becoming the alloy of choice because it offers higher strength, better corrosion resistance and better "wetting" to steel and stainless steel especially.	
COPPER OR BRASS OR STEEL	SOLDER WITH: Silvabrite® 6 Silvabrite® S Silvabrite®	TEC FLux TEC Flux	Silvabrite® 6 used with the more agressive TEC Liquid Flux is the recommended choice.	
10	BRAZE WITH: Silvaloy® 505	Handy Flux®	We always advise using a nickel- bearing alloy to eliminate corrosion.	
STAINLESS STEEL	Silvaloy® 505 Flux Coated or Flux Cored		Silvaloy® 505 is an excellent choice	
ALUMINUM TO ALUMINIUM	AL-822 Flux Cored Aluminum Braze		High strength, low temperature braze for joining aluminum to aluminium, and aluminium to copper. Easy to use, contains a non-corrosive flux.	
OR COPPER				



DISTRIBUTED BY:



5656 S. Pennsylvania Ave. Cudahy, WI 53110 USA Telephone: (414) 769-6000

800-521-5490

235 Kilvert Street Warwick, RI 02886 USA Telephone: (401) 739-9550

800-225-2130