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# ECO SMART® FLUX

ECO SMART® IS A BORIC ACID-FREE FLUX DESIGNED WITH COLOR CHANGE TECHNOLOGY THAT INDICATES WHEN IT'S TIME TO BRAZE.

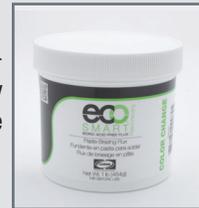


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## COLOR CHANGE - PASTE BRAZING FLUX

PART SHOWN:  
ESF1PG



GREEN

### DESCRIPTION

For brazing steel, stainless steel, Monel®, nickel, copper, brass, bronze and other ferrous and non-ferrous metals and alloys. Use with Stay-Silv®, Safety-Silv® and other brazing filler metals. Extremely fluid. Will penetrate the tightest joints. Not subject to recrystallization (lumpiness-hardening). May be water thinned. Remove all flux residue on completion of brazing.

### DETAILS

- Spatter:** Very little spatter for undiluted flux.
- Application:** Brazing rod can be dipped in the flux or flux can be brushed on the surface of the braze joint. Paste can be diluted if desired.
- Active Temperature Indication:** Flux color changes from green to clear to indicate that active temperature has been reached.
- Life - Base Metal Protection:** Excellent throughout the active range - Prevents oxidation of base metal during brazing operation. Better protection than ECO SMART® Powder Flux.
- Flux removal:** Remove flux residue after brazing with wire brush or with hot water.
- Base Metals:** Best for copper alloys, copper, brasses, bronze, steel & Monel®. Can also be used on stainless steel and nickel. Promotes optimal bonding between like and dissimilar base metals.
- Filler Metals:** BAg, LAg, LCuP and BCuP alloys
- Brazing Methods:** Flame, and furnace brazing.
- Consistency:** Smooth, with very little separation; flux remains in suspension when stored for extended periods of time.

PART #	DESCRIPTION	SIZE	AWS SPEC.	INTERNATIONAL STD.	ACTIVITY RANGE	ACTIVITY	FLUIDITY/WETTING
ESF250PG	FLUX - GREEN PASTE	250g - JAR	AWS A5.31M/A5.31: 2012 FB3-A	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)	Dissolves base metal oxides.	Excellent - Promotes filler metal flow through braze.
ESF500PG	FLUX - GREEN PASTE	500g - JAR	AWS A5.31M/A5.31: 2012 FB3-A	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		
ESF70ZPG	FLUX - GREEN PASTE	6.5oz - JAR	AWS A5.31M/A5.31: 2012 FB3-A	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		
ESF1/2PG	FLUX - GREEN PASTE	1/2lb - JAR	AWS A5.31M/A5.31: 2012 FB3-A	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		
ESF1PG	FLUX - GREEN PASTE	1lb - JAR	AWS A5.31M/A5.31: 2012 FB3-A	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		
ESF5PG	FLUX - GREEN PASTE	5lb - JAR	AWS A5.31M/A5.31: 2012 FB3-A	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		
ESF25PG	FLUX - GREEN PASTE	25lb - PAIL	AWS A5.31M/A5.31: 2012 FB3-A	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		



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# BLACK

## HIGH HEAT - PASTE BRAZING FLUX

PART SHOWN:  
ESF1PB

### DESCRIPTION

For brazing steel, stainless steel, carbide, Monel®, nickel, copper, brass, bronze and other ferrous and non-ferrous metals and alloys. Use with Stay-Silv®, Safety-Silv® and other brazing filler metals. High Heat flux is designed to extend the temperature and life of the flux. This is helpful during longer part heating cycles, or in cases of intense localized heating, such as induction brazing. Extremely fluid. Will penetrate the tightest joints. Not subject to recrystallization (lumpiness-hardening). May be water thinned.



### DETAILS

<b>Spatter:</b>	Very little spatter for undiluted flux.
<b>Application:</b>	Brazing rod can be dipped in the flux or flux can be brushed on the surface of the braze joint. Paste can be diluted if desired.
<b>Life - Base Metal Protection:</b>	Excellent throughout the active range - Prevents oxidation of base metal during brazing operation. Protection at higher temperatures and longer heating cycles than ECO SMART® color change flux.
<b>Flux removal:</b>	Remove flux residue after brazing with wire brush or with hot water.
<b>Base Metals:</b>	Best for copper alloys, copper, brasses, bronze, steel & Monel®. Can also be used on stainless steel and nickel. Promotes optimal bonding between like and dissimilar base metals.
<b>Filler Metals:</b>	BAg, LAg and BCuP alloys
<b>Brazing Methods:</b>	Flame, induction and furnace brazing.
<b>Consistency:</b>	Smooth, with very little separation; flux remains in suspension when stored for extended periods of time.

PART #	DESCRIPTION	SIZE	AWS SPEC.	INTERNATIONAL STD.	ACTIVITY RANGE	ACTIVITY	FLUIDITY/WETTING
ESF250PB	FLUX - BLACK PASTE	250g - JAR	AWS A5.31M/A5.31: 2012 FB3-C	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)	Dissolves metallic and refractory oxides.	Excellent - Promotes filler metal flow through braze.
ESF500PB	FLUX - BLACK PASTE	500g - JAR	AWS A5.31M/A5.31: 2012 FB3-C	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)		
ESF1/2PB	FLUX - BLACK PASTE	1/2lb - JAR	AWS A5.31M/A5.31: 2012 FB3-C	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)		
ESF1PB	FLUX - BLACK PASTE	1lb - JAR	AWS A5.31M/A5.31: 2012 FB3-C	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)		
ESF5PB	FLUX - BLACK PASTE	5lb - JAR	AWS A5.31M/A5.31: 2012 FB3-C	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)		

# GREEN

## COLOR CHANGE - POWDER BRAZING FLUX

PART SHOWN:  
ESF250DG

### DESCRIPTION

For brazing steel, stainless steel, Monel®, nickel, copper, brass, bronze and other ferrous and non-ferrous metals and alloys. Use with Stay-Silv®, Safety-Silv® and other brazing filler metals. Extremely fluid. Will penetrate the tightest joints.



### DETAILS

<b>Application:</b>	Flux is excellent for hot-rodging (Dipping the heated end of the brazing rod into the flux powder to achieve a flux coat). It can also be mixed with water or alcohol as needed, and applied to base metal.
<b>Active Temperature Indication:</b>	Flux color changes from green to clear to indicate that active temperature has been reached.
<b>Life - Base Metal Protection:</b>	Good throughout the active range - Prevents oxidation of base metal during brazing operation.
<b>Flux removal:</b>	Remove flux residue after brazing with wire brush or with hot water.
<b>Base Metals:</b>	Best for copper alloys, copper, brasses, bronze, steel & Monel®. Can also be used on stainless steel and nickel. Promotes optimal bonding between like and dissimilar base metals.
<b>Filler Metals:</b>	BAG, LAg, LCuP and BCuP alloys
<b>Brazing Methods:</b>	Flame, and furnace brazing.
<b>Hygroscopicity:</b>	Absorbs less water from the air, resulting in less clumping than fluxes containing boric acid.

PART #	DESCRIPTION	SIZE	AWS SPEC.	INTERNATIONAL STD.	ACTIVITY RANGE	ACTIVITY	FLUIDITY/WETTING
ESF250DG	FLUX - GREEN POWDER	250g - JAR	AWS A5.31M/A5.31: 2012 FB3-F	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)	Dissolves base metal oxides.	Excellent - Promotes filler metal flow through braze joint with points of fillet metal introduction.
ESF500DG	FLUX - GREEN POWDER	500g - JAR	AWS A5.31M/A5.31: 2012 FB3-F	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		
ESF25000DG	FLUX - GREEN POWDER	25kg - PAIL	AWS A5.31M/A5.31: 2012 FB3-F	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		
ESF50000DG	FLUX - GREEN POWDER	50kg - DRUM	AWS A5.31M/A5.31: 2012 FB3-F	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		
ESF1/2DG	FLUX - GREEN POWDER	1/2lb - JAR	AWS A5.31M/A5.31: 2012 FB3-F	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		
ESF25DG	FLUX - GREEN POWDER	25lb - PAIL	AWS A5.31M/A5.31: 2012 FB3-F	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		
ESF40DG	FLUX - GREEN POWDER	40lb - PAIL	AWS A5.31M/A5.31: 2012 FB3-F	EN 1045 FH 10	427°C (800°F) - 871°C (1600°F)		

# BLACK

## HIGH HEAT - POWDER BRAZING FLUX

PART SHOWN:  
ESF250DB

### DESCRIPTION

For brazing carbide, steel, stainless steel, Monel®, nickel, copper, brass, bronze and other ferrous and non-ferrous metals and alloys. Use with Stay-Silv®, Safety-Silv® and other brazing filler metals. High Heat flux is designed to extend the temperature and life of the flux. This is helpful during longer part heating cycles, or in cases of intense localized heating, such as induction brazing. Extremely fluid. Will penetrate the tightest joints.



### DETAILS

- Application:** Flux is excellent for hot-rodding (Dipping the heated end of the brazing rod into the flux powder to achieve a flux coat). It can also be mixed with water or alcohol as needed to form a paste, and applied to base metal.
- Life - Base Metal Protection:** Excellent throughout the active range - Prevents oxidation of base metal during brazing operation. Protection at higher temperatures and longer heating cycles than ECO SMART® color change flux.
- Flux removal:** Remove flux residue after brazing with wire brush or with hot water.
- Base Metals:** Best for copper alloys, copper, brasses, bronze, steel & Monel®. Can also be used on stainless steel and nickel. Promotes optimal bonding between like and dissimilar base metals.
- Filler Metals:** BAg, LAg and BCuP alloys
- Brazing Methods:** Flame, induction and furnace brazing.
- Hygroscopicity:** Absorbs less water from the air, resulting in less clumping than fluxes containing boric acid.

PART #	DESCRIPTION	SIZE	AWS SPEC.	INTERNATIONAL STD.	ACTIVITY RANGE	ACTIVITY	FLUIDITY/WETTING
ESF250DB	FLUX - BLACK POWDER	250g - JAR	AWS A5.31M/A5.31: 2012 FB3-J	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)	Dissolves metallic and refractory oxides.	Excellent - Promotes filler metal flow through braze.
ESF500DB	FLUX - BLACK POWDER	500g - JAR	AWS A5.31M/A5.31: 2012 FB3-J	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)		
ESF25000DB	FLUX - BLACK POWDER	25kg - PAIL	AWS A5.31M/A5.31: 2012 FB3-J	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)		
ESF50000DB	FLUX - BLACK POWDER	50kg - DRUM	AWS A5.31M/A5.31: 2012 FB3-J	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)		
ESF1/2DB	FLUX - BLACK POWDER	1/2lb - JAR	AWS A5.31M/A5.31: 2012 FB3-J	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)		
ESF25DB	FLUX - BLACK POWDER	25lb - PAIL	AWS A5.31M/A5.31: 2012 FB3-J	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)		
ESF40DB	FLUX - BLACK POWDER	40lb - PAIL	AWS A5.31M/A5.31: 2012 FB3-J	EN 1045 FH 12	371°C (700°F) - 982°C (1800°F)		

Does not contain Boric acid or any Sodium-Borate salts. The use of boric acid and sodium-borate salts is subject to restrictions within the European Union per Article 57 (c) of Regulation (EC) 1907/2006 - REACH (Registration, Evaluation, Authorization and Restriction of Chemicals). Studies performed for the EC (European Council) found that these chemicals can damage the reproductive systems and fetal development.

Monel® is a registered trademark of Special Metals Corporation.



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