THE WORLD'S FIRST SMART FLUX

ECO SMART® FLUX

GLOBAL

Turn to the Pros
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

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.

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

NEED A SILVER BRAZING ALLOY?
HARRIS MANUFACTURES A COMPLETE LINE OF CADMIUM-FREE HIGH SILVER BRAZING ALLOYS

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www.harrisproductsgroup.com
**PART SHOWN:**

**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**
- **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.
- **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.
- **Consistency:** Smooth, with very little separation; flux remains in suspension when stored for extended periods of time.

**Detailed Description**
- **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.
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**High Heat - Paste Brazing Flux**

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<tr>
<td>ESF250PB</td>
<td>FLUX - BLACK PASTE</td>
<td>250g - JAR</td>
<td>AWS A5.31M/A5.31: 2012 FB3-C</td>
<td>EN 1045 FH 12</td>
<td>371°C (700°F) - 982°C (1800°F)</td>
<td></td>
<td>Dissolves metallic and refractory oxides.</td>
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<td>ESF500PB</td>
<td>FLUX - BLACK PASTE</td>
<td>500g - JAR</td>
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<td></td>
</tr>
<tr>
<td>ESF1/2PB</td>
<td>FLUX - BLACK PASTE</td>
<td>1/2lb - JAR</td>
<td>AWS A5.31M/A5.31: 2012 FB3-C</td>
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**Color Change - Powder Brazing Flux**

**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**
- **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, and applied to base metal.
- **Active Temperature Indication:** Flux color changes from green to clear to indicate that active temperature has been reached.
- **Life - Base Metal Protection:** Good throughout the active range - Prevents oxidation of base metal during brazing operation.
- **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.
- **Hygroscopicity:** Absorbs less water from the air, resulting in less clumping than fluxes containing boric acid.

**Detailed Description**
- **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, and applied to base metal.
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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-rod ding (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.

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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.

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<tr>
<td>ESF250DB</td>
<td>FLUX - BLACK POWDER</td>
<td>250g</td>
<td>JAR</td>
<td>AWS A5.31M/A5.31: 2012 FB3-J</td>
<td>EN 1045 FH 12</td>
<td>371°C (700°F) - 982°C (1800°F)</td>
<td>Dissolves metallic and refractory oxides.</td>
</tr>
<tr>
<td>ESF500DB</td>
<td>FLUX - BLACK POWDER</td>
<td>500g</td>
<td>JAR</td>
<td>AWS A5.31M/A5.31: 2012 FB3-J</td>
<td>EN 1045 FH 12</td>
<td>371°C (700°F) - 982°C (1800°F)</td>
<td>Dissolves metallic and refractory oxides.</td>
</tr>
<tr>
<td>ESF50000DB</td>
<td>FLUX - BLACK POWDER</td>
<td>50kg</td>
<td>DRUM</td>
<td>AWS A5.31M/A5.31: 2012 FB3-J</td>
<td>EN 1045 FH 12</td>
<td>371°C (700°F) - 982°C (1800°F)</td>
<td>Dissolves metallic and refractory oxides.</td>
</tr>
<tr>
<td>ESF1/2DB</td>
<td>FLUX - BLACK POWDER</td>
<td>1/2lb</td>
<td>JAR</td>
<td>AWS A5.31M/A5.31: 2012 FB3-J</td>
<td>EN 1045 FH 12</td>
<td>371°C (700°F) - 982°C (1800°F)</td>
<td>Dissolves metallic and refractory oxides.</td>
</tr>
<tr>
<td>ESF40DB</td>
<td>FLUX - BLACK POWDER</td>
<td>40lb</td>
<td>PAIL</td>
<td>AWS A5.31M/A5.31: 2012 FB3-J</td>
<td>EN 1045 FH 12</td>
<td>371°C (700°F) - 982°C (1800°F)</td>
<td>Dissolves metallic and refractory oxides.</td>
</tr>
</tbody>
</table>

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 Counsel) found that these chemicals can damage the reproductive systems and fetal development.

Monel® is a registered trademark of Special Metals Corporation.