

Ball-Attach Flux

Selection Guide

WS-446HF

Target Applications:

- **#1 go-to flux for ball-attach and flip-chip die-attach applications**
- Pin transfer, printing, and **dipping**
- Capable of one-step process on Cu-OSP pad
- Available in **30cc syringe** and 150g cartridge

Custom packaging available upon request

Problems Solved:

- Extra pre-clean step for Cu-OSP pad surface
- Inconsistent flux deposition over time
- **Non-wet opens**
- **Dendrites**
- Missing/double balls
- White/flux residue remnants after cleaning process

WS-823

Target Applications:

- BGA ball-attach only
- Pin transfer and printing
- Capable of one-step process on Cu-OSP pad
- Available in 150g cartridge

Custom packaging available upon request

Problems Solved:

- Extra pre-clean step for Cu-OSP pad surface
- Inconsistent flux deposition over time
- Exposed Cu pad or insufficient wetting
- Missing/double balls
- White/flux residue remnants after cleaning process



Contact: **Sze Pei Lim, Jason Chou, or Evan Griffith**
Learn more: www.indium.com/BAflux

Ball-Attach Flux

Selection Guide

WS-829

Target Applications:

- Standard BGA (sphere size <0.25mm) and wafer-/panel-level packaging ball-attach
- Mini/microLED die-attach
- Printing and pin transfer
- Best flux residue cleanability, especially for fine-pitch application
- NOT suitable for one-step process on Cu-OSP pad

Problems Solved:

- Stubborn contamination from previous processes before ball mount
- Inconsistent flux deposition over time
- Flux slumps after printing
- Exposed Cu pad or insufficient wetting
- Missing/double balls
- White/flux residue remnants after cleaning process

Features	WW-446HF/WS-823	WS-829	WS-446-AL
Wetting	AA	A	AAA
One-step Cu-OSP process	AAA	NA	AAA
Cleaning of pad contamination	AAA	AAA	AA
Flux residue cleanability	AA	AAA	A
Tackiness	AA	AAA	AA
Halogen-free	Yes	Yes	No



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