Honeywell RadLo™ Low Alpha Packaging Materials
Honeywell RadLo™ Low Alpha Materials for Advanced Packaging Solutions

Enabling High-Performance Devices

Alpha emissions from packaging materials can cause soft errors in vulnerable devices. Honeywell has developed a wide range of low alpha packaging materials to meet this challenge.

Impact of Alpha Emissions on Device Performance

Device miniaturization puts packaging materials, such as wafer bumps and Cu pillar solder caps, in proximity to critical device layers. Flip-chip devices and 3-D wafer-level chips are particularly vulnerable to alpha emissions from these packaging materials.

To Reduce Soft Errors in Devices, Packaging Materials Must:
- Meet critical alpha emission specifications
- Exhibit stable alpha emission levels over time
- Be customizable and offer ease of integration

RadLo Materials:
- Reduction in alpha-emitting contaminants enables materials to meet emission specifications
- Metrology processes help ensure that alpha emissions from materials do not increase over time
- Available in various form factors and alloys

RadLo Products are Available in 3 Alpha Grades:
- Low alpha grade (<0.01 counts/hr/cm²)
- Ultra-low alpha grade (<0.002 counts/hr/cm²)
- Super ultra-low alpha grade (<0.001 counts/hr/cm²)

Our products are manufactured to meet 99.99% (4N) or higher purity.

Technology Leadership
- Advanced metrology processes based on industry-wide alpha measurement standards
- Proprietary refining techniques involving selective removal of alpha-emitting isotopes
- State-of-the-art research in alpha emitter properties and transport mechanisms supports development of next-generation products

Proven Solutions
Honeywell RadLo materials offer proven reliability in various applications. Our experience and expertise in low alpha manufacturing spans two decades.

Technical Support
We offer comprehensive technical guidance to support our customers’ needs.

HONEYWELL RESOURCES:
- Application Support and Qualification Information
- Detailed Specifications
- Ordering Information
For Additional Information, Visit www.honeywell-lowalpha.com

Honeywell Advantages

Technology Leadership

Products & Features

RadLo Materials
- Solder Pastes
- Solder Spheres
- Plating Solutions
- Plating Anodes

Honeywell RadLo® Materials Above: Solder Feedstock and Plating Anodes. Right: Plating Solution Material

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Device Miniaturization Drives Need for Lower Alpha Emissions

Device Miniaturization

Technology Nodes


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