

# ALPHA<sup>®</sup> HRL3 Solid Solder

Low Temperature, High Reliability, Lead-Free

## Enhanced Low Temperature Alloy for Selective and Dip Soldering

**ALPHA HRL3** is the latest low temperature solid solder developed for soldering heat sensitive substrates, components or board materials by selective and dip soldering. This alloy exhibits greater thermomechanical reliability performance versus existing low temperature alloys. Special additives in HRL3 enable high mechanical properties, fast wetting and reduced Copper erosion performance in the soldering process.

**ALPHA HRL3** is also recommended for users of low temperature, lead-free solder paste that require a compatible low temperature alloy in PTH applications.

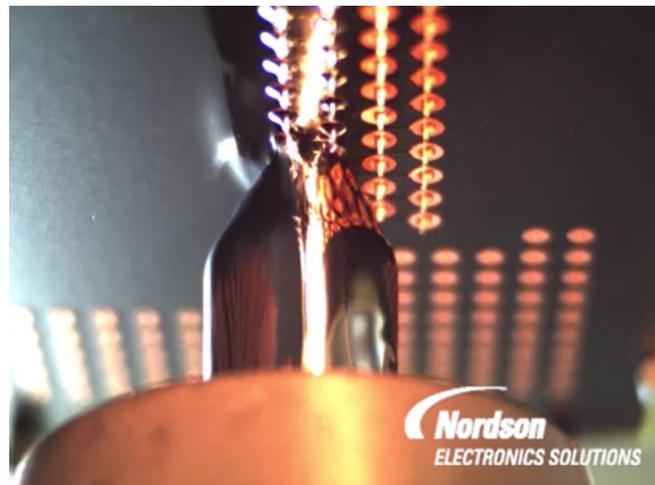
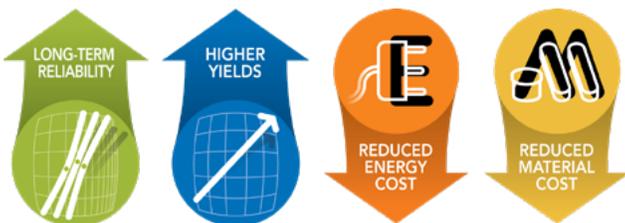


ALLOY PROPERTIES	ALPHA HRL3
Melting Range (°C)	138 - 146
Density (gm/cm <sup>3</sup> )	8.6
Tensile Strength (MPa)	64.8
Yield Strength (MPa)	54.9
Hardness (Hv0.5), as received	21



## Key Features

- Enables low operating temperature
- Provides efficiencies in both energy and cost
- Excellent wettability and high hole fill
- Low Copper erosion
- High mechanical reliability



ALPHA HRL3 in Selective Soldering

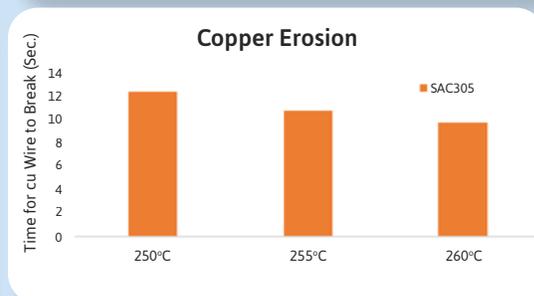
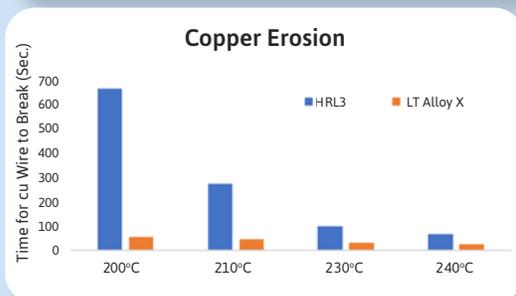
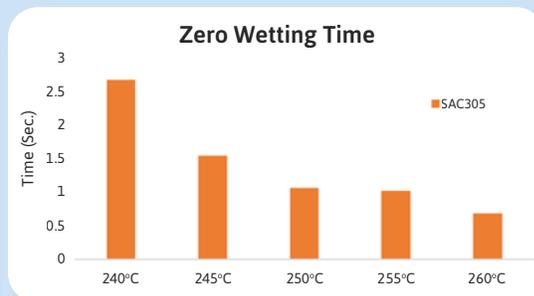
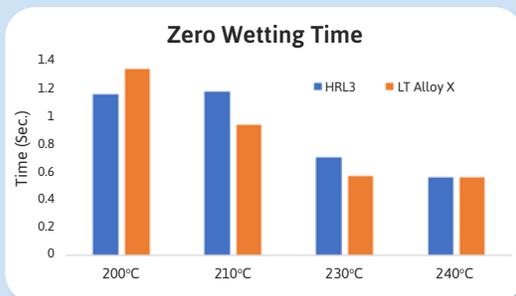
Visit MacDermid Alpha's Youtube channel for low temperature technology videos.

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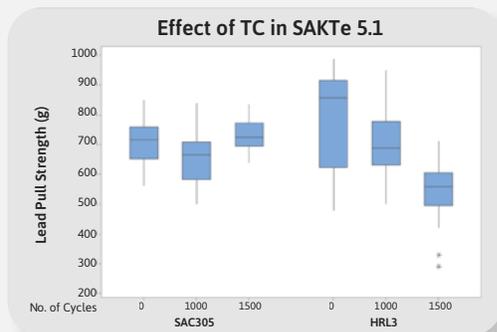
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## Excellent Soldering Performance



ALPHA HRL3, with a special blend of additives, delivers high wetting performance and low Copper erosion compared to SAC305 and Low Temp Alloy X.

## High Reliability



Excellent joint strength of ALPHA HRL3, comparable mechanical strength to SAC305.

## Sustainability



ALPHA HRL3 low temperature solid solder is an enabling technology that yields high reliability assemblies while reducing peak reflow temperatures. This enables lower overall energy consumption contributing to long-term environmental sustainability.



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March 2022

Alpha and Kester are a product brand of MacDermid Alpha Electronics Solutions.



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to know more

For more information, contact us at  
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