

# Protectostan<sup>®</sup> Plus 2

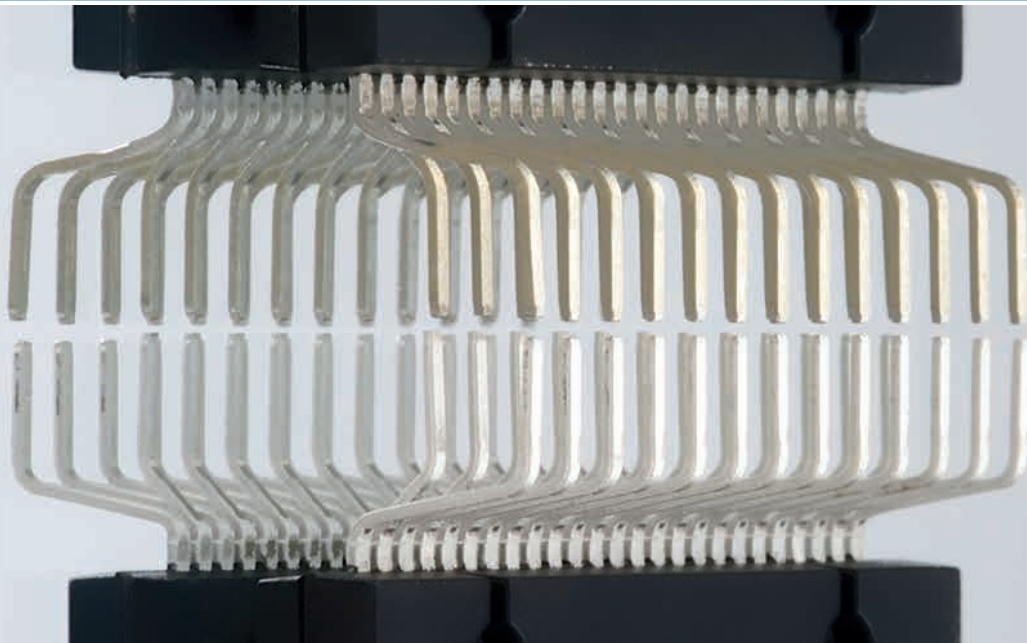
High performance “2-in-1” tin post-dip



Electronics

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## An excellent solderability preservative and a highly effective anti-corrosion agent

# 4,000

hours at 55 °C/85 % RH

No discoloration of the tin surface  
after test with Protectostan<sup>®</sup> Plus 2

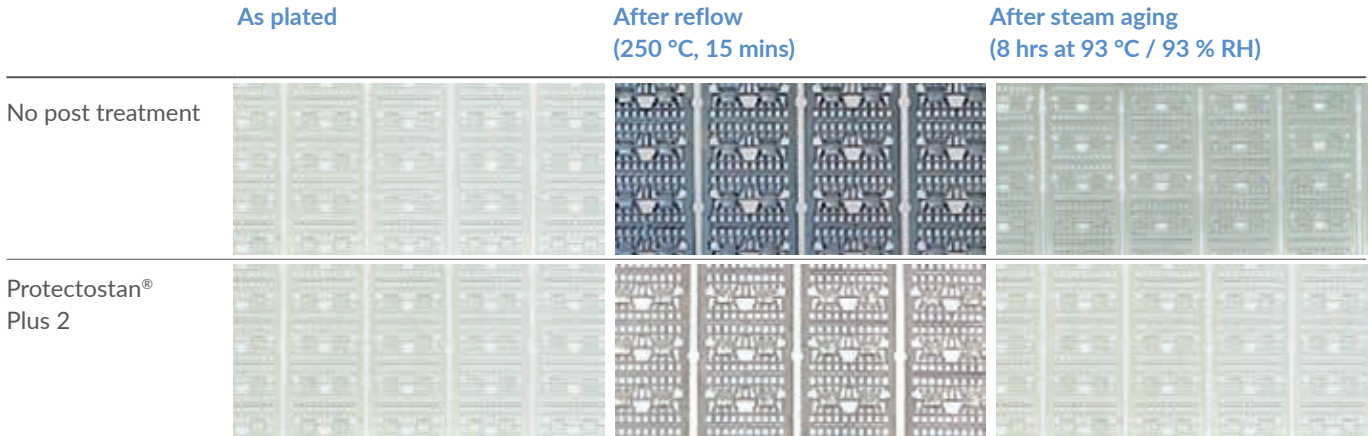
### Protection against harsh environments

Protectostan<sup>®</sup> Plus 2 is a new tin posttreatment to protect tin and tin alloy surfaces from severe oxidation or even corrosion under hot and high humid storage conditions. Apart from these extraordinary properties against high humidity conditions, Protectostan<sup>®</sup> Plus 2 is also designed to prevent tin surfaces from turning discolored under high thermal operations or during reflow. Hence, it is veritably a 2-in-1 post-dip for tin plating processes.

Protectostan<sup>®</sup> Plus 2 creates a hydrophobic coating that repels all moistures that come near, thus preventing oxidation and corrosion of the tin surfaces. This subsequently leads to enhanced solderability despite stringent preconditioning applied.

Corrosion of the tin surface of the IC leads, specifically at the vicinity of the toe-cut or dambar cut areas (copper exposed) of the leads, is a common phenomenon in the industry. The corrosion is driven by the galvanic potential between tin and copper under high humid conditions; this corrosion leads to tin whiskering. By acting as an anti-corrosion agent, Protectostan<sup>®</sup> Plus 2 is a unique solution to mitigate corrosion whiskers.

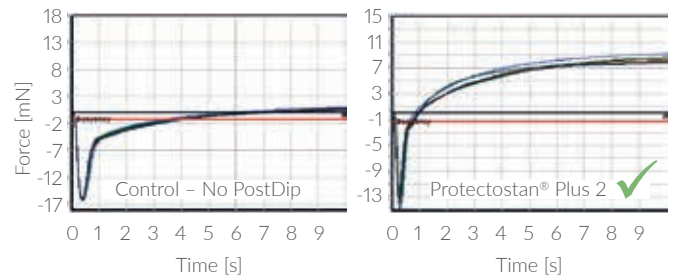
# Protectostan® Plus 2 – High performance “2-in-1” tin post-dip



## Benefits

- Excellent wettability and solderability after steam ageing and pressure cooker test conditions
- Strongly mitigates the formation of whiskers during heat and humidity to comply with the iNEMI / Jedec storage condition (4,000 h at 55 °C / 85 % RH)
- Able to withstand multiple reflow cycles without severe surface discoloration
- Prevents tarnishing during hot and humid storage conditions

## Excellent solderability under extreme conditions (8 hours steam aging with non activated flux)



## Corrosion whisker mitigation

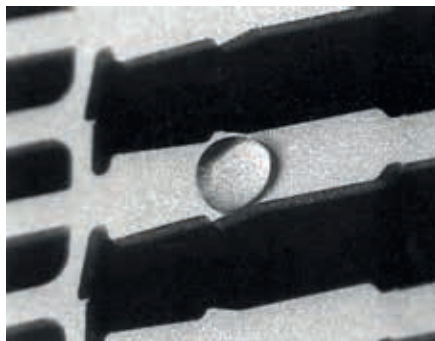


Figure 1: Protectostan® Plus 2 creates a hydrophobic effect on tin surfaces

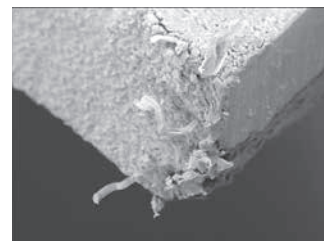


Figure 2: Control with no post-dip – Corrosion whisker growth after 4000 h heat / humidity storage at the toe cut

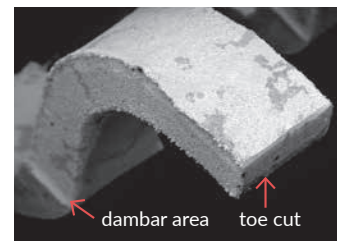


Figure 3: Protectostan® Plus 2 – No corrosion whisker found after 4000 h heat / humidity storage at the toe cut

