

Refer to RoHS exemption request 18 a “Lead used in compliant pin connector systems for use in industrial monitoring and control instruments (only sub-category 9 industrial), exemption to expire in 2024”

From the perspective of a leading automotive electronics manufacturer, we fully support the applicant’s request for extended lead exemption 18a.

Intensive research of press-in connections shows major whisker growth over a wide variety of compliant pin geometries to an extent that there is an existing and observed risk for malfunction due to whisker bridging on low current and arc discharge ignition on high voltage electric circuits. Based on these results we also propose a common treatment of all different zone geometries.

This risk of using lead free surfaces will increase exponentially in the next years driven by the miniaturization initiatives due to the space restrictions and rapidly progressing functionalities of control units to reach high environment protection goals expected and partly enforced by regulations.

High effort has been spent and is still proceeding to find alternative surface finishes that are equally reliable and sufficiently whisker mitigating. None of the investigated alternatives can cover either the first or the second precondition compared to SnPb surface finish with a lead content of 3-10 % (target should be 5% due to our knowledge). The thickness of the finish is in the range of micrometers assuring a minimum content of lead in the electronics.

Some of the investigated alternatives might be available for series use for some fields of applications in the next years but it will take time to develop and ensure the reliability of these alternatives in all the various fields of applications. The impact of the change to alternative surfaces does not only affect the surface finishes but also impacts to the choice of base materials and to the adaption of geometries.

Therefore we fully support that an expiration by 2017 can’t be reached and agree from our today’s perspective to the proposed timeframe of 2024.