Mini, Micro LED 向け微細粉末ペースト

Fine powder no-clean solder paste for Mini and Micro LEDs

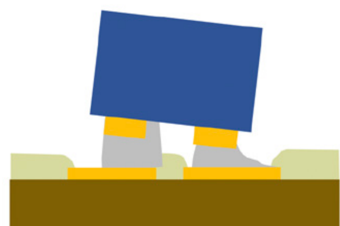
Display用基板における相当量のMini LED実装を想定し、安定した印刷形状を実現！

Assuming mounting of a huge amount of LED chips on a display board, stable solder printing at fine aperture

NP303-GSD003-T6

NG

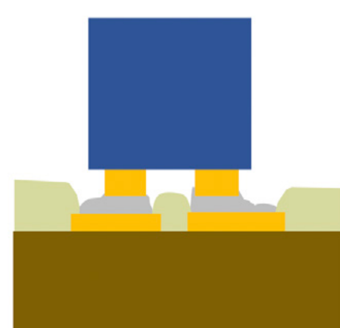
LED チップ部品が傾いて実装される。
LED chip stands not flattening after mounting



理由
⑴両側の接合用基板 Pad へのはんだ供給量が不均一。印刷供給によるはんだ量が過多または不十分により、ムラを発生させる。
⑵はんだの濡れ性が不均一であるため。

Reason:
⑴The supply of solder paste is uneven. When Solder paste is too much or too less, it would cause "MURA (unevenness)."
⑵Solder paste is wetting unevenly.

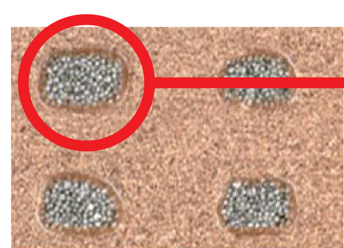
OK



理由
⑴はんだの印刷供給量が均一。
⑵はんだの濡れ性が均等。

Reason
⑴The supply of solder paste is even.
⑵ Solder paste is wetting evenly.

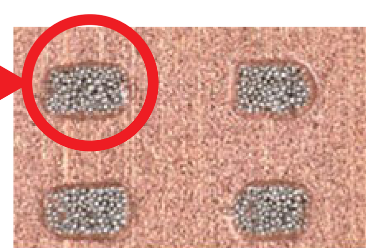
従来品 Conventional product



印刷後のはんだ高さが不均一
Uneven height after printing

NP303-GSD003-T6

良好な印刷抜け性により、広く印刷
Prints more widely due to smooth transferring



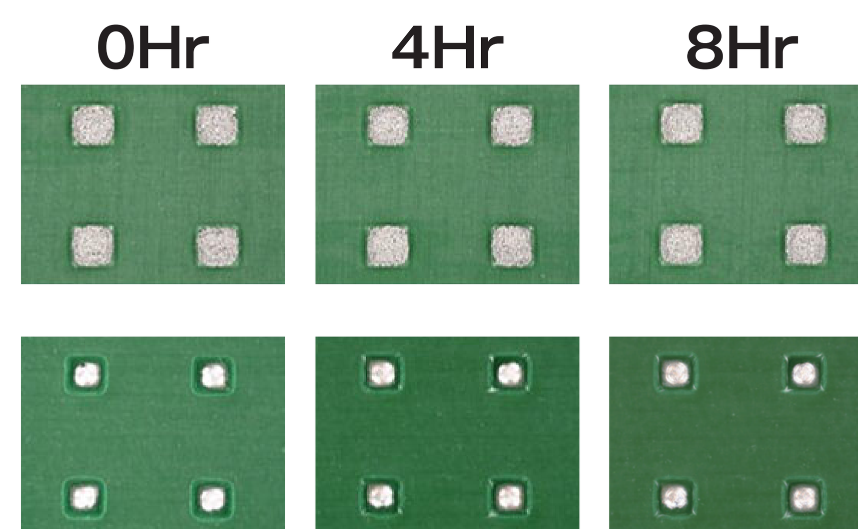
印刷後のはんだ高さが均一
Evenly Height after printing

印刷条件 Print Condition

- 印刷マスク厚：20µm Stencil Thickness
- スキージ速度：30mm/s Squeegee Speed
- 開口寸法：55×80µm Stencil opening
- スキージ圧：2.0×0.1MPa Squeegee Pressure

- 粘度、チクソ性の調整により、印刷はんだ量の安定化を実現。 By adjusting the viscosity and thixotropy,the quantity of print becomes stable.
- 安定化により、ムラを改善 Thus, the MURA is also improved.

連続印刷結果 Continuous printing result



良好な印刷性 Excellent printability

良好な溶融性 Excellent solderability

粘度とチクソ性が経時的に安定しており、8 時間の連続印刷後も良好な印刷性と良好な溶融性を維持。
Viscosity and thixotropy stay stable via time, and the performances of printability and solderability are still terrific after 8 hr continuous printing.

半導体パッケージ向け微細粉水溶性ペースト

Fine powder water soluble solder paste for semiconductor packages

NP303-WS6301-T6

微細開口における印刷性及び溶融性 Printability and Solderability in fine apertures

開口径：□75µm

印刷後 After printing　加熱後 After heating

印刷性、溶融性良好
Excellent printability and solderability

連続印刷 continuous printing

従来品 Conventional product　WS6301

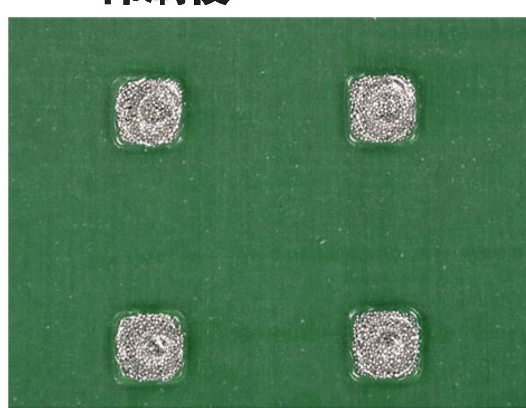
0Hr　8Hr

連続印刷による粘度・チクソ低下を抑制 印刷形状維持
Keep initial viscosity, thixotropy and shape of printing after continuous printing for 8 hours

印刷・加熱だれ Slump-in-print&heat

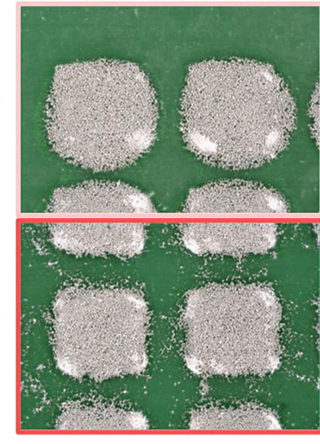
印刷条件 Printing Conditions	銅張積層板 copper-surface board	ステンシル厚 100µm Stencil thickness 100µm
加熱条件 Heating conditions	オーブン Oven	150℃ 10 分 大気 atmosphere

加熱後 After heating



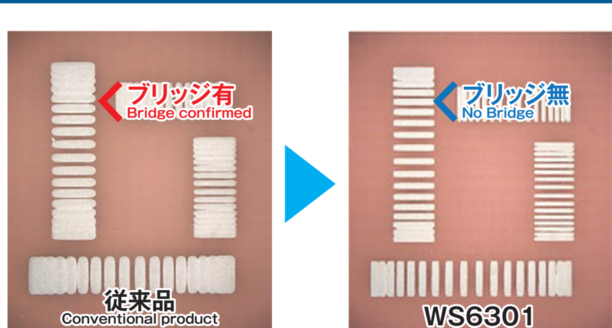
ボイド Void

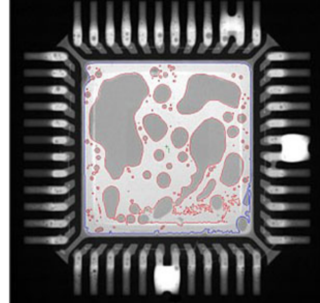
従来品 Conventional product　WS6301

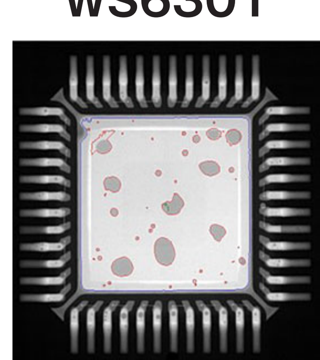


ボイド：46% Void　ボイド：9% Void

印刷条件 Printing Conditions
Cu Pad 5×5mm
ステンシル厚 100µm Stencil thickness 100µm

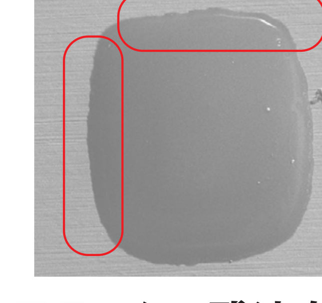




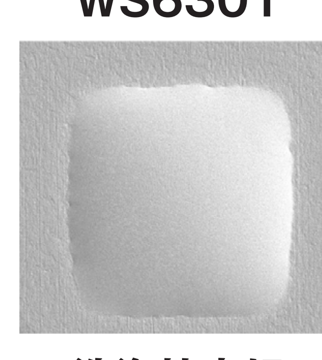


洗浄性 Cleanability

従来品 Conventional product　WS6301



フラックス残渣有り There is flux residue



洗浄性良好 Excellent cleanability

洗浄条件 Cleaning conditions
温水60℃、超音波4分 Warm water 60°C, ultrasonic waves 4 min.
SEM 観察 SEM observation