

ステンレス鋼耐浸食表面処理「SP処理」

Surface Treatment of Stainless Steel against Corrosion

株式会社タムラ製作所は鉛フリーはんだによるステンレス鋼浸食の防止に効果の高い新しい表面処理「SP処理」をソニー株式会社（GPS SSGHO標準技術室）様、株式会社極東窒化研究所様と共同開発し、特殊な最適な耐食処理として採用しています。「SP処理」とは表面処理技術で、これまで効果的とされてきた一般的な窒化処理に比べ、当社内浸食加速試験において優れた耐食性を示しています。

Tamura Corporation has started handling "SP treatment" a new surface treatment highly effective for the prevention of erosion of stainless steel by use of Pb-free solder "SP treatment" is a surface treatment technology and it demonstrated an excellent erosion resistance in erosion acceleration tests conducted in our company, as compared with commonly practiced nitriding treatment, which was believed to be effective heretofore.

特長

- 従来の窒化処理に比べ極めて侵食が起こりにくい。
- 未処理に比べ表面硬度が上がり、傷つきにくい。
- はんだ（カス）が付着しにくい。
- 従来の窒化処理に比べ、比較的安価。

FEATURES

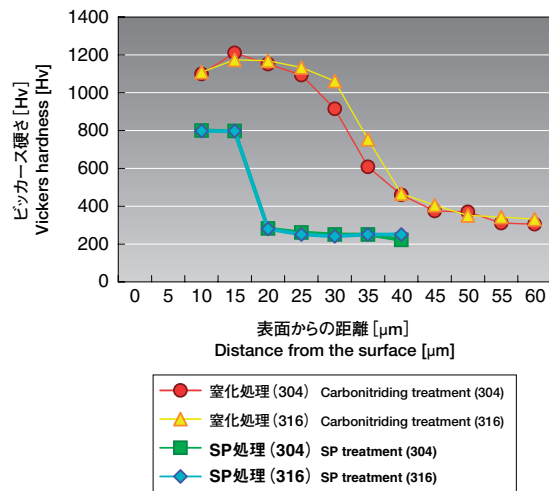
- Corrosion is hardly caused, compared with conventional nitriding.
- Surface hardness is improved to become relatively free from scratching as compared with the untreated.
- Solder residues will adhere less.
- Relatively inexpensive compared with conventional nitriding.

ステンレス鋼での処理の違いによる耐食性および耐磨耗性の比較
 Comparison of corrosion resistance and abrasion resistance by the difference in treatment of stainless steel

	無処理 No treatment	窒化処理A Nitriding A	SP処理 SP treatment
耐食性 Erosion resistance	×	△	◎
耐磨耗性 Abrasion resistance	×	◎	○

◎：優 Excellent (社内浸食試験データによる According to in-house erosion test data)
 ○：良 Good
 △：可 Acceptable
 ×：不可 Weak

硬さ測定による表面処理層厚さの推定
 Estimation of surface treatment thickness by hardness measurement



侵食加速試験結果 Erosion Acceleration Test

SUS304 無処理 Non-processed
 (侵食部表面拡大写真×20)
 (Magnified photograph showing corroded surface, ×20)

400℃×500hr
 侵食最大深さ2.0mm以上 (貫通)
 400℃×500 hr.
 Maximum depth of corrosion exceeding 2.0mm (pierced through)

SUS316 窒化処理A Nitriding A
 (侵食部表面拡大写真×20)
 (Magnified photograph showing corroded surface, ×20)

400℃×1000hr
 侵食最大深さ約950 μm
 400℃×1000hr
 Maximum corroded depth approximately 950 μm

SUS316 SP処理 SP treatment
 (侵食部表面拡大写真×20)
 (Magnified photograph showing corroded surface, ×20)

400℃×1000hr
 侵食最大深さ約40 μm
 400℃×1000hr
 Maximum corroded depth approximately 40 μm