

# 低温タイプ鉛フリー無電解ニッケルめっき液

Low Bath Temperature Type, Lead-free Electroless Nickel Plating Process

# トップニコロンMSH-LF

TOP NICORON MSH-LF

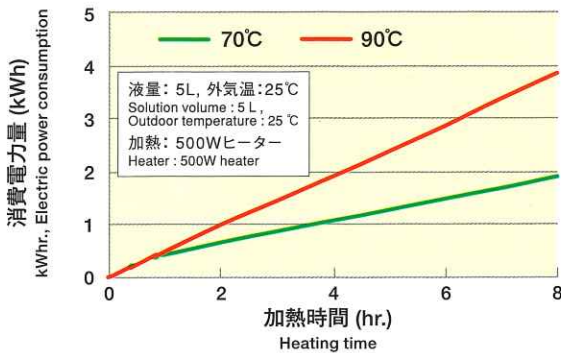
- 低温(70°C)で使用できるため、光熱費を削減でき、作業環境にも優しい
- 連続使用時の析出速度がほぼ一定で、浴管理しやすい
- 皮膜応力が低く、連続使用による応力の変動も少ない

- Can be used at 70°C of low bath temperature, so that the fuel cost can be reduced. This product is friendly to the working environment
- The deposition rate is almost constant even if the bath is aging gradually
- Stress of deposited film is low and a variation of the stress is less when the bath is aging gradually

## 作業条件 Working condition

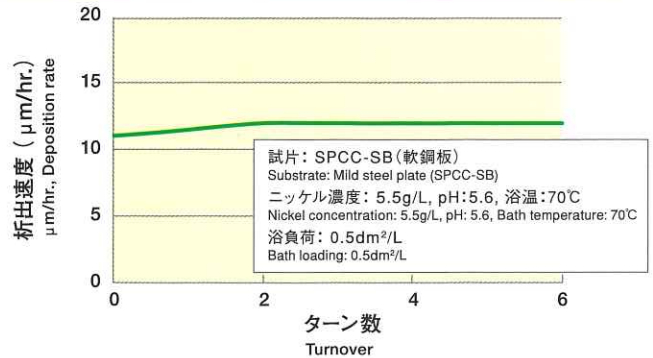
建浴濃度 Makeup	トップニコロンMSH-SLF TOP NICORON MSH-SLF 200ml/L
ニッケル濃度 Nickel concentration	5.5g/L
pH	5.6
温度 Bath temperature	70°C

## 性能 Performance



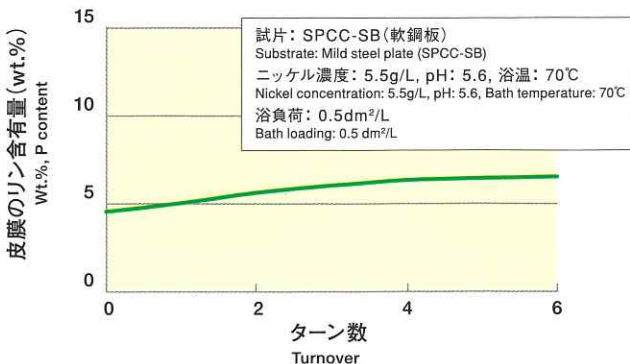
加熱時間と消費電力の関係

Relation between electric power consumption and heating time



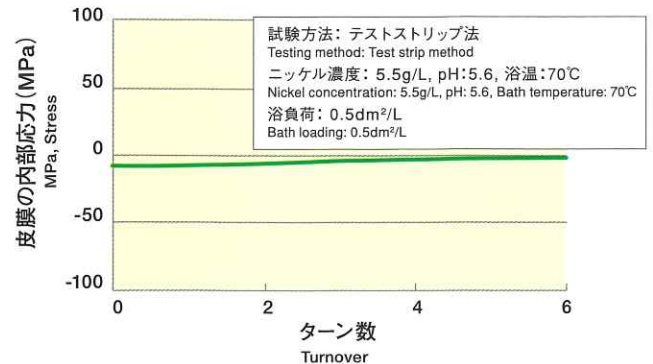
連続使用時の析出速度の変化

Relation between deposition rate and bath aging



連続使用時のリン含有量の変化

Relation between P content and aging of the bath



連続使用時の内部応力の変化

Relation between internal stress and aging of the bath