

## HTA-600® High Tensile Alloy Copper Foil - for Batteries

This precipitation hardening copper alloy has very high conductivity combined with high tensile strength and relaxation resistance.

This combination of properties are recommend for complex technical application where high conductivity and increased thermal and mechanical loads occur.

*Copper content (%): ≥ 98,5; rest Cr and Zr*

### PHYSICAL PROPERTIES – information only

• Density	8,9 g/cm <sup>3</sup>
• Melting point	1081 °C
• Electrical conductivity	min. 50 m/(Ω·mm <sup>2</sup> ) (at 20 °C R480)
• Electrical resistivity	max. 0,02 Ω·mm <sup>2</sup> /m (at 20 °C R480)
• Thermal conductivity	330 W/(m·K) (at 20 °C)
• Coefficient of thermal expansion (linear)	18·10 <sup>-6</sup> /K (at 20 to 300 °C)
• Modulus of elasticity	135 GPa (at 20 °C R480)

TEMPER	TYPICAL VALUES (information only)					
	Tensile strength R <sub>m</sub> in MPa		Yield strength R <sub>p0,2</sub> in MPa		Elongation in % L <sub>0</sub> = 100 mm	
	Typical value	sample value	Typical value	sample value	Typical value	sample value
R540	≥ 540	590	≥ 400	570	< 5	1,9

# TECHNICAL INFOSHEET

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www.schlenk.com • [battery@schlenk.com](mailto:battery@schlenk.com)



## SAMPLE MATERIAL

### M) plain – degreased – lamination Quality

0.010 x 250 mm

Material no.

159338

**surface roughness (Ra)**

actual value Ra 0.20 – 0.40  $\mu\text{m}$

**carbon residue**

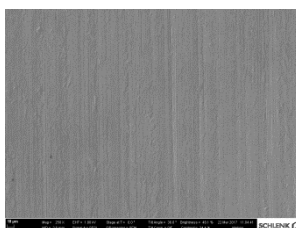
solvent degreased / residue < 15 mg/m<sup>2</sup>

**passivation**

organic tolytriazole derivative

**topography**

rolled surface



### N) plain – electrolytically degreased

0.010 x 250 mm

Material no.

159339

**surface roughness (Ra)**

actual value Ra 0.20 – 0.40  $\mu\text{m}$

**carbon residue**

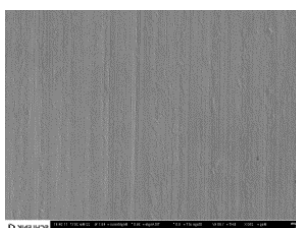
electrolytically degreased / residue  $\leq$  4 mg/m<sup>2</sup>

**passivation**

rolled surface

**topography**

chromate passivation



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## SHELF LIFE

- Shelf Life  $\leq 6$  months
- Storage condition: (15-35°C storage temperature) and air humidity (environmental conditions), <85% rel. humidity at original closed package

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MANUFACTURING PROGRAM Rolls, spools, sheets	THICKNESS	WIDTH
J) Plain – degreased – lamination quality	0.008* – 0.100 mm	0.6 – 640 mm
K) Plain – electrolytically degreased	0.008* – 0.100 mm	0.6 – 300 mm *
<i>not all combinations of thickness and width are available</i>	* thickness below on demand	* Width up to 640 mm after modification of our manufacturing equipment

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## FUTURE DEVELOPMENTS

Schlenk is highly experienced in rolling processes and continuously optimizes the features of rolled foils.

Please contact us for future developments e.g. for LiSi Anode (silicon containing) material or others.  
We offer copper alloys for Li ION application in terms of high tensile strength with reasonable conductivity:

- **High Tensile Alloy Copper Foil – HTA<sup>®</sup>-750 – with increased tensile strength**
- **High Tensile Alloy Copper Foil – HTA<sup>®</sup>-520 – with improved conductivity**

## RELATED PRODUCTS

Please consider also our attached information regarding:

- **Cu-PHC copper** for Batteries used for anode material
- **Aluminium Copper-Clad material** used for tab ribbon and bipolar electrode application and
- **Tab Ribbon** made from Copper, Silver, Nickel and their alloys

For further information, please visit our website: [www.schlenk.com](http://www.schlenk.com) or contact our Area Sales Manager or your local representative. E-Mail contact: [battery@schlenk.com](mailto:battery@schlenk.com).