

## SHANGHAI HAILIANG COPPER CO., LTD

## CERTIFICATE OF PRODUCT QUALITY

(Product Name) \_\_\_\_\_

(Customer Name) Etapol Ltd (Alloy No) C12200 (Temper) O60(Dimension) Φ15.88\*0.89 (Specification) ASTM B280 (Order No.) 15HLHK03D112

| (Test Items)                                     | (Normal Value)         | (Test Value) |           | Result |
|--|------------------------|--------------|-----------|--------|
|  |                        | 1            | Sample 1  |        |
| (Surface)  | As per standard        | Pass         |           | Pass   |
| (size)   | OD) mm                 | 15.88±0.05   | 15.90     | Pass   |
|  | (wall thickness)mm     | 0.89±0.08    | 0.84-0.90 | Pass   |
| (Clearness)                                      | mg/m <sup>2</sup>      | ≤38          | 20.81     | Pass   |
| (Grain Size)                                     | mm                     | ≥0.04        | 0.040     | Pass   |
| (Mechanical Property)                            | (Tensile Strength) MPa | ≥205         | 245       | Pass   |
|  | (Elongation) %         | ≥40          | 53        | Pass   |
| (Expansion Test)<br>α =60 ° D <sub>1</sub> =1.4D | No crack when vision   | Pass         |           | Pass   |
| (Surface)  |                        | Conform To   |           |        |
| (Packing Requirement)                            |                        | Conform To   |           |        |
| (Marking)  |                        | Conform To   |           |        |
| %<br>Chemical<br>Compositio<br>n                 | Cu                     | ≥99.90       | 99.96     | Pass   |
|  | P                      | 0.015-0.040  | 0.0276    | Pass   |
| RESULT   | <b>PASS</b>            |              |           |        |

*This Product is Certified to be in accordance with the specification.*

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