



METALS INTERNATIONAL LIMITED

金属国际有限公司

1068 Wuzhong Road, Shanghai 201103, P.R. China

Tel: +86-21-60900836/60900837

Fax: +86-21-60900838

www.klsteel.com

Email: metalsintl@klsteel.com

Page 1 of 8

INSPECTION REPORT

Report No.: MIL 100601-01A1

Issued on: Jul 9th, 2010

Inspection Time: Jul 7th & 8th, 2010

P.O. No. 100707

Inspection Subject:	Copper Tubes-Pancake Coils			
Manufacturer:	Metals International Limited			
Specification:	ASTM B280	Inspector:	Lin Gaojie	Stamp No:

Visit Summary:

Scope of Inspection

- Visual inspection.
- Quantity and weight verification.
- Chemical and physical test verification.
- Dimension inspection.
- Packaging inspection.
- Documents review.
- Part photo service.

Results of inspection to MIL 100513-01A2

● Process Verification

1. Visual Inspection

The tubes were good except some imperfection, and the details were as followed:

- 1) The outside surface of tubes was bright;
Photo attachment as below



Size: 1/4\"/>



Size: 5/16\"/>



METALS INTERNATIONAL LIMITED

金属国际有限公司

1068 Wuzhong Road, Shanghai 201103, P.R. China

Tel: +86-21-60900836/60900837

Fax: +86-21-60900838

www.klsteel.com

Email: metalsintl@klsteel.com

Page 2 of 8



Size: 3/8"*.0.7mm*15m



Size: 1/2\"*.0.7mm*15m



Size: 3/4\"*.0.8mm*15m



Size: 7/8\"*.0.8mm*15m





METALS INTERNATIONAL LIMITED

金属国际有限公司

1068 Wuzhong Road, Shanghai 201103, P.R. China

Tel: +86-21-60900836/60900837

Fax: +86-21-60900838

www.klsteel.com

Email: metalsintl@klsteel.com

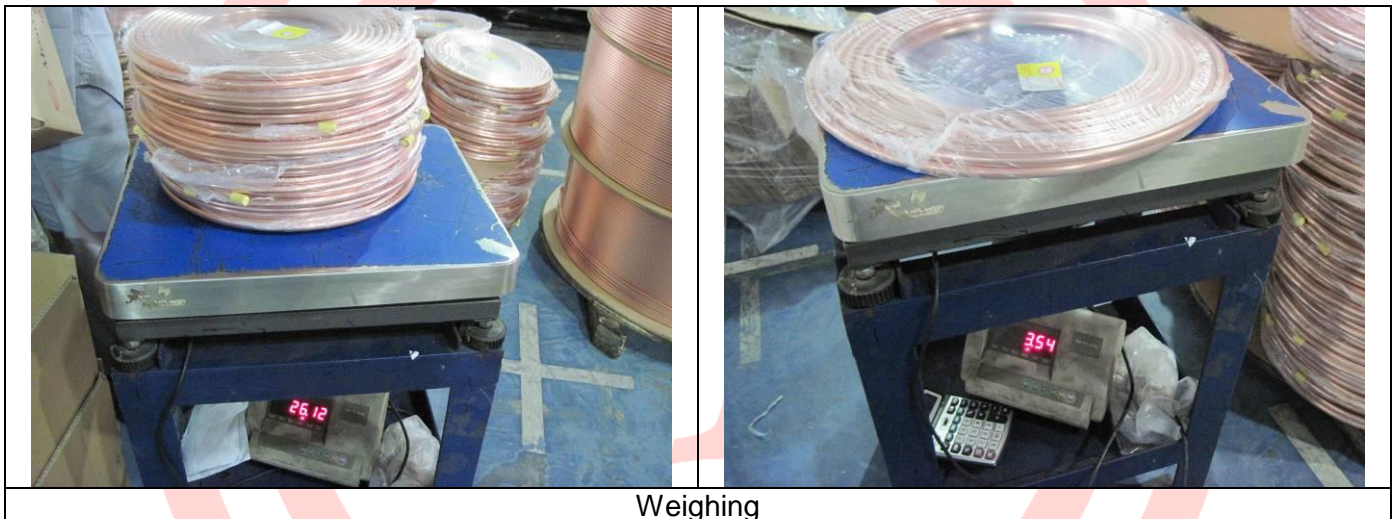
Page 3 of 8

2. Quantity and weight verification

- 1) The quantity was sufficient;
- 2) The weight was right, and the detailed data is in the following table.

Item No.	Size	Quantity / Coils	Weight / Kgs/coil
1	1/4"*0.7mm*15m	285	1.67
2	5/16"*0.7mm*15m	228	2.16
3	3/8"*0.7mm*15m	180	2.61
4	1/2"*0.7mm*15m	150	3.54
5	3/4"*0.8mm*15m	78	6.10
6	7/8"*0.8mm*15m	66	7.26

Photo attachment as below



Weighing

3. Chemical and physical test verification

- 1) The raw material was the same as the last cargo and up to snuff, and the supplier was ISA;
- 2) The tension test of three test pieces was qualified, and the detailed data is in the following table;

Item No.	Size	Rm ≥ 205 MPa	Elongation ≥ 40 %
1	1/4"*0.7mm*15m	240	47
2	5/16"*0.7mm*15m	238	53
3	7/8"*0.8mm*15m	234	45

- 3) The flattening test of three test pieces was qualified.

Photo attachment as below



METALS INTERNATIONAL LIMITED

金属国际有限公司

1068 Wuzhong Road, Shanghai 201103, P.R. China

Tel: +86-21-60900836/60900837

Fax: +86-21-60900838

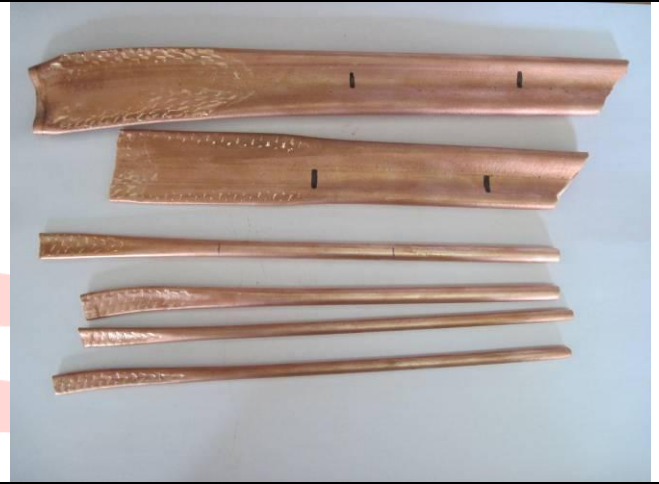
www.klsteel.com

Email: metalsintl@klsteel.com

Page 4 of 8



Tension test



Test pieces being broken



Flattening test



Test pieces after being flattened

4. Dimension inspection

The tubes were qualified according to ASTM B280 And the detailed data is in the following table.

Item No.	Size	Inspection Amount / pc	Average OD / mm	WT / mm
1	1/4"*0.7mm*15m	1	6.355~6.36	0.65~0.71
2	5/16"*0.7mm*15m	1	7.92~7.94	0.68~0.71
3	3/8"*0.7mm*15m	1	9.51~9.53	0.63~0.75
4	1/2"*0.7mm*15m	1	12.66~12.70	0.67~0.72
5	3/4"*0.8mm*15m	2	18.965~18.97	0.76~0.81

Photo attachment as below



METALS INTERNATIONAL LIMITED

金属国际有限公司

1068 Wuzhong Road, Shanghai 201103, P.R. China

Tel: +86-21-60900836/60900837

Fax: +86-21-60900838

www.klsteel.com

Email: metalsintl@klsteel.com

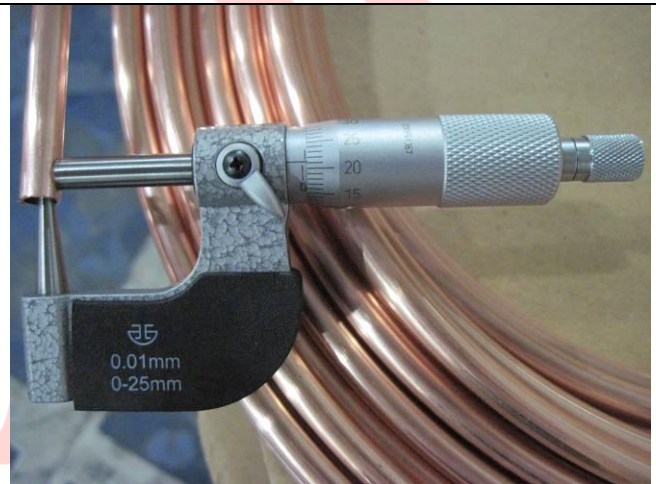
Page 5 of 8



Gage calibration



Measuring OD



Measuring WT

5. Packaging inspection

The tubes were plugged with caps on the end first, then encapsulated by the poly bags and put into cartons, lastly bundled by polywood tray. Details as below:

- 1) There were 123 cartons and 3 trays;
- 2) There was one label on each poly bag and informations were written on the carton;
- 3) The shipping mark will be pasted on the tray.

Photo attachment as below



METALS INTERNATIONAL LIMITED

金属国际有限公司

1068 Wuzhong Road, Shanghai 201103, P.R. China

Tel: +86-21-60900836/60900837

Fax: +86-21-60900838

www.klsteel.com

Email: metalsintl@klsteel.com

Page 6 of 8



Caps



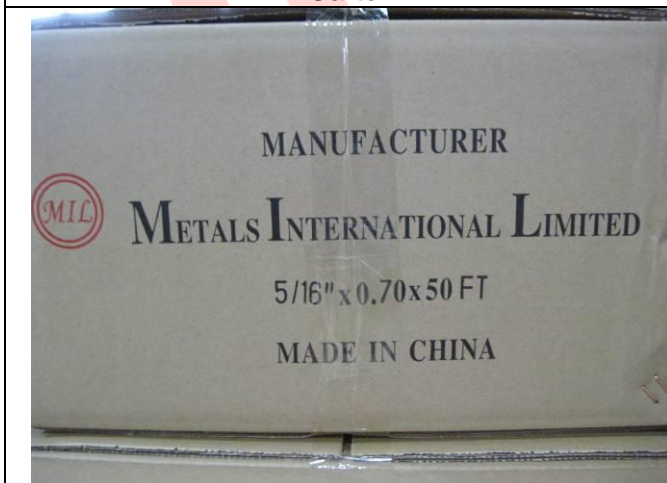
Label on poly bag



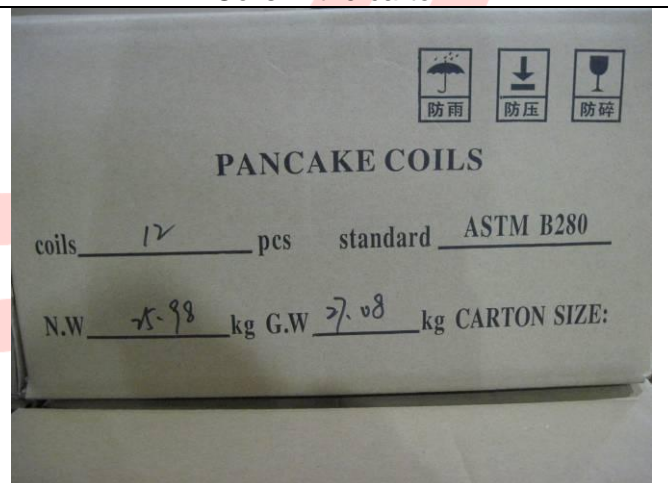
Carton



Coils in the carton



Carton Stencil





METALS INTERNATIONAL LIMITED

金属国际有限公司

1068 Wuzhong Road, Shanghai 201103, P.R. China

Tel: +86-21-60900836/60900837

Fax: +86-21-60900838

www.klsteel.com

Email: metalsintl@klsteel.com

Page 7 of 8



Carton being piled on the tray



Finished plywood tray

- **Review of Documentation**

Material Test Certificate

- **Conclusions**

The inspection results shows that the pancake coils are in full conformity with the specifications.