

Hebei Hanna (Powder) Technology Co., Ltd

Bending test

Standard: GB/T 23257-2017

SY/T 0315-2013

SY/T 0442-2010/18CAN

CAN CSA.Z.245.20-14(2015)

Equipment: press machine, bending mandrel, freezer

The test procedure should meet the following requirements:

a) The edges of the coating should be smooth to eliminate any potential stress rise points. Put the test piece into the freezer and cool it to the specified minimum bending test temperature, within $\pm 3^{\circ}\text{C}$ of -30°C or -18°C or 0°C , and keep it for at least 1h.

b) As shown in Figure D.1, place the test piece on a flat surface and measure the thickness t of the test piece. This value is the sum of the copper tube wall thickness and the inner arc chord height of the test piece.

c) Use the following publicity to find the radius of the mandrel:

When the mandrel corresponds to the unit pipe diameter and the length is bent 3° : $R=18.60t$

When the mandrel corresponds to the unit pipe diameter and the length is bent 2.5° : $R=22.42t$

When the mandrel corresponds to the unit pipe diameter and the length is bent 2° : $R=28.15t$

When the mandrel corresponds to the unit pipe diameter and the length is bent 1.5° : $R=37.70t$

Remark:

R ——mandrel radius in millimeters(mm)

t —— Specimen thickness in millimeters(mm)

d) The test piece is placed on a mandrel with a selected radius of curvature for

the bending test. The bending process of each test piece should be completed within 30s after being taken out of the freezer, and the bending rate should be maintained within 10s during the whole process.

e) The temperature of the above-mentioned test piece rises back to $20^{\circ}\text{C}\pm 5^{\circ}\text{C}$ and keeps it for at least 2h. Within 1h thereafter, check whether there is any crack in the test piece.

Authorized by	Quality Management Department	Review by	Michael Zhang	Approve By	Mark Lee
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