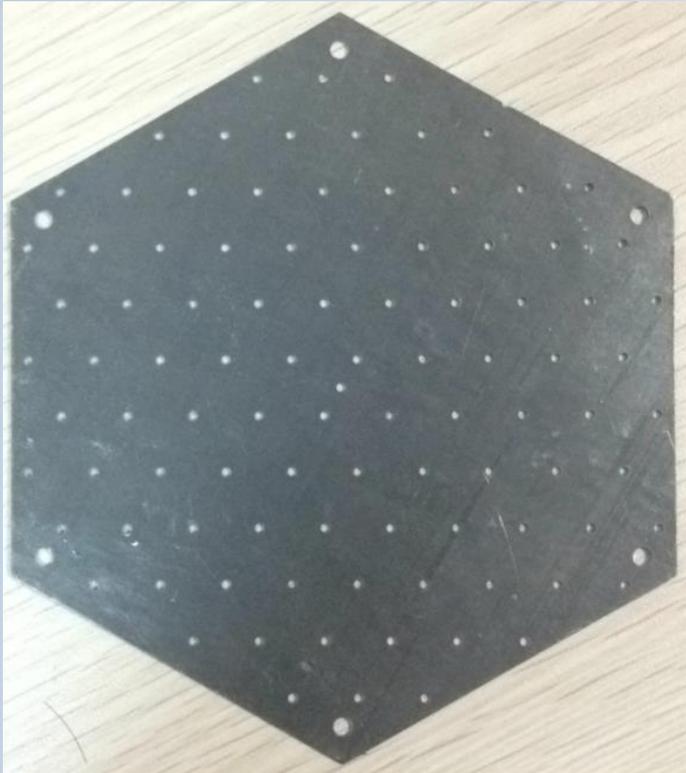


Shashlyk Lead Plate Machining Accuracy Test



Shandong University

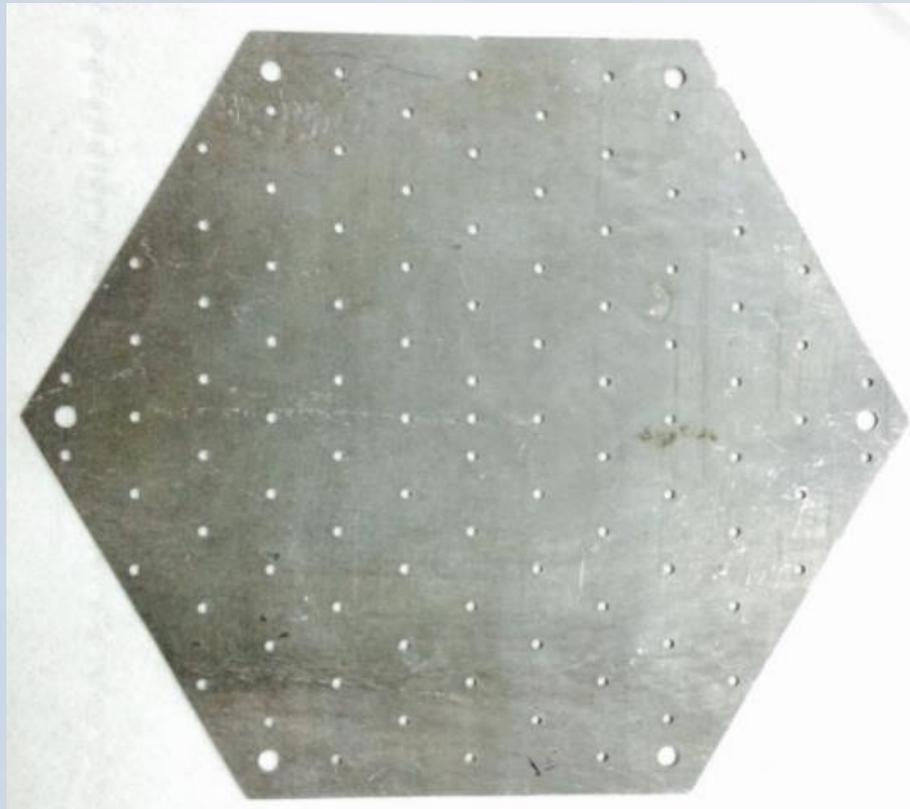
Ye Tian

Cunfeng Feng

Jianbin Jiao

Machining Process

- Made by company in Qingdao(青島), China, and only get two samples now
- Use a die to drill all the holes and cut edges of one plate at the same time

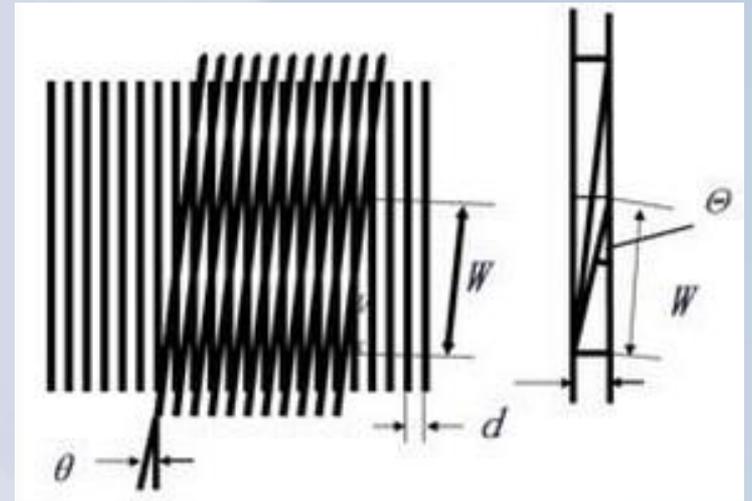


Test Instrument: Grating Scale

Utilize moire fringe, moving lines result to the change of light and shade area.

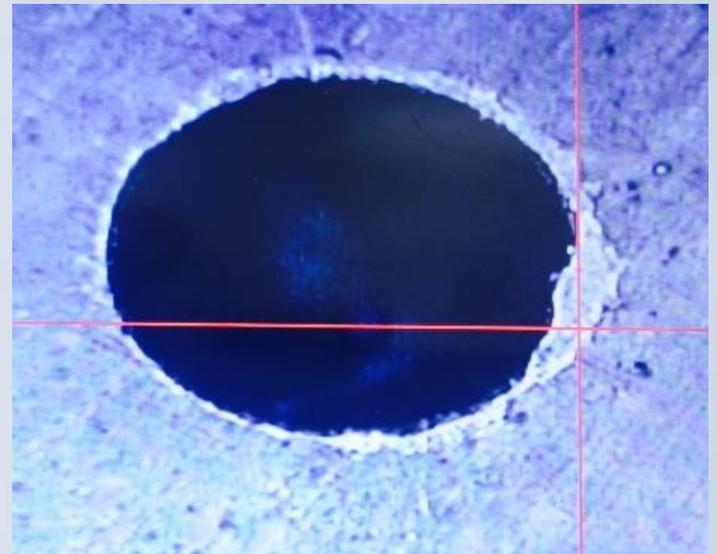
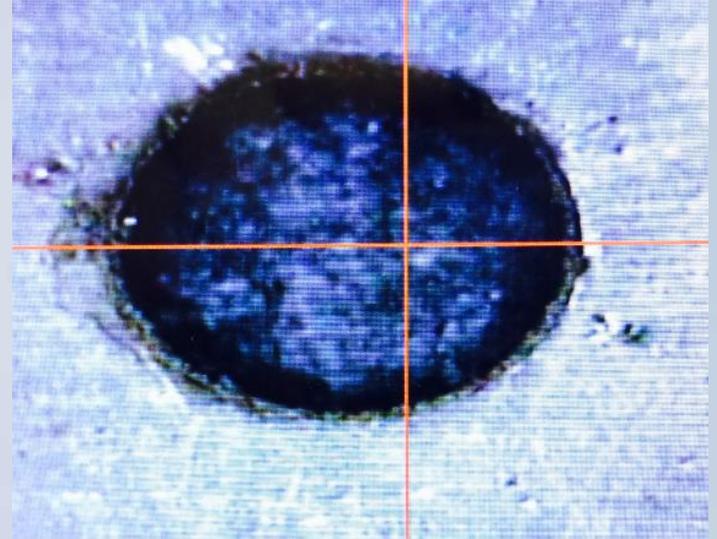
Facility

Fundamental principle



Machining Accuracy of Holes

- A little difference between front and back of plate(front refers to the direction of drill enter into)
- Zooming of screen result to the oval shape
- We just measured the back side. Because of irregular edge, most diameter of 1.5mm holes are **1.49-1.50mm**
- For 3mm diameter hole, get the result of **3mm \pm 0.03mm**



Distance Between Holes

- For convenience, we measured all the distance between adjacent holes, and set the left edge of hole as start point.
- Unfortunately , we found the granting scale own error in specific location, which can not be ignored, and get consistent big or small result at the same location. Through verification, we confirm reason caused by granting scale, which should have been calibrated.
- The demand should around 10.83
- Result from other better location

1	4.672	10.891	10.848	10.824	10.806	5.422	5.449	10.801	10.805	10.817	10.842	6.171
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Comparison of two samples

Because the two samples are made from one plate, the difference should not be big.

1	4.645	15.511	26.311	37.148	47.952	53.376	58.813	69.619	80.419	91.243	102.903	108.227
2	4.700	15.554	26.335	37.165	47.948		58.793	69.617	80.444	91.289	102.089	108.281

Backup

0.025

54.13 ±0.025

48.71 ±0.025

43.30 ±0.025

37.89 ±0.025

32.48 ±0.025

27.06 ±0.025

21.65 ±0.025

16.24 ±0.025

10.83 ±0.025

5.41 ±0.025

Four Quadrants Symmetric

Regular
Material:
All units in

