



## Tube Sheets: BT-A

The customer manufactures tube sheets made from Titanium (185-190 Bhn) using a horizontal Tarus heavy duty drilling machine operating at 2000 PSI (138 bar) with an oil based coolant. The customer is testing different tooling.

None of these tools were able to complete the operation to the customer requirements. All three tools failed with unacceptable hole straightness and tolerances above 0.017" (0.432 mm), which rendered the tube sheets unusable.

The **BT-A Drill** met the customer's needs.



<b>Product:</b> BT-A	<b>Measure</b>	<b>Competitor</b>	<b>BT-A</b>
<b>Objectives:</b> Improve process			
<b>Industry:</b> Aerospace	RPM	400	125
<b>Part:</b> Tube sheets			
<b>Material:</b> Titanium, 185-10 Bhn	Feed Rate	0.005 IPR (0.127 mm/rev)	0.006 IPR (0.152 mm/rev)
<b>Hole Ø:</b> 0.758" (19.253 mm)			
<b>Hole Depth:</b> 15" (381 mm)	Penetration Rate	2.0 IPM (50.8 mm/min)	0.75 IPM (19.05 mm/min)

- ▶ BT-A Drill Head  
1 series
- ▶ T-A® GEN2 Insert  
Item No. 4C11H-.7580-HE



The BT-A provided:

- ✓ Necessary hole straightness
- ✓ Tolerance under 0.017" (0.432 mm)

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