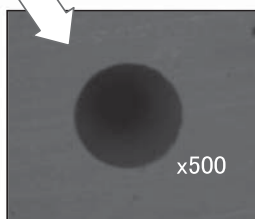


極小径ダイヤモンド電着工具 JIT加工例

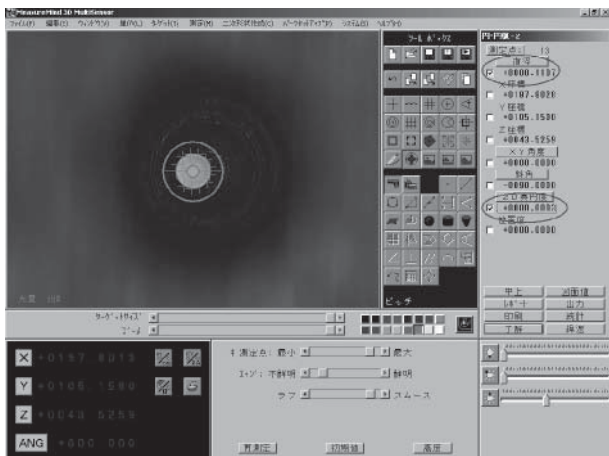
The example of processing in Electroplated Diamond Tool JIT



加工機：MEGA-III 400
Processing machine



測定器：Smart Scope ZIP
Measuring instrument



加工内容 The contents of processing

被削材：シリコニア

①特殊JIT0.1D1000にて
φ0.115の抜け穴粗加工
(ヘリカル補間)

■加工条件

ミスト
回転数-35,000min⁻¹
切削送り-1.5mm/min
(Z軸方向)
切り込み-0.002mm
(Z軸方向)
加工深さ-0.5mm
*ヘリカル補間
半径φ0.0075の円弧運動
をさせながらZ軸の切り込み
みで切削

②特殊JIT0.1D4000にて
φ0.12の抜け穴仕上げ加工
(チョッピング)

■加工条件

ミスト
回転数-35,000min⁻¹
切削送り-1.0mm/min
(X-Y軸方向)
切り込み-0.001mm
(X-Y軸方向)
加工深さ-0.5mm
チョッピング速度-
Z軸方向上下送り
1,000mm/min

*チョッピング

①であいた穴に対し高速で
Z軸を往復させながらX-Y
の切り込みで加工する方法

■結果

- ・面粗度・真円度(0.5μm)が
ずば抜けて良好。
- ・加工機：高精度高速小径微細
加工機 MEGA III-400
碌々産業株式会社提供
<http://www.roku-roku.co.jp/>
- ・測定器：Smart Scope ZIP
米OGP社製
YKT株式会社提供
<http://www.ykt.co.jp/>

Work Material : Zirconia

①The rough processing of through
hole(the size is φ0.115) by
special cutting tool "JIT0.1D1000"
(Helical interpolation)

■ Processing conditions

Mist
The number of rotation-35,000min⁻¹
Cutting feed-1.5mm/min
(Z axially)
Grain depth of cut-0.002mm
(Z axially)
Processing depth-0.5mm

* Helical interpolation

It cuts in the incision of Z axis, while
making the circular arc move of radius
φ0.0075

②The finish processing of through
hole (the size is φ0.12) by
special cutting tool "JIT0.1D4000"
(chopping)

■ Processing conditions

Mist
The number of rotation-35,000min⁻¹
Cutting feed-1.0mm/min
(X-Y axially)
Grain depth of cut-0.001mm
(X-Y axially)
Processing depth-0.5mm
Speed of chopping-upper and lower
sending to Z axially
1,000mm/min

* Chopping

Method to process by incision of X-Y,while
making Z axis huttle at high speed against
the hole that throughed by processing①

■ Result

The side roughness and the roundness
(0.5μm)are excellent by far.
Processing machine :
Highly accurate, high-speed small diameter
microfabrication machine MEGA III-400
Pictures furnished by
ROKU-ROKU SANGYO Co.Ltd.
<http://www.roku-roku.co.jp/>
Measuring instrument : Smart Scope Zip
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