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Technical Data

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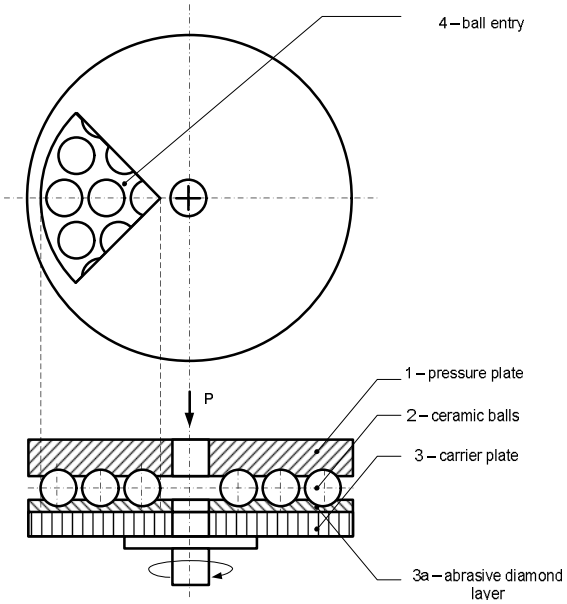
Patent Application Patent Application Patent Applicaiton

Ceramic Ball Grinding With Bonded Diamond Grain

Ball grinding and ball fine grinding operations are carried out using the following production principle:



Process Advantages:

- The diamond grains are firmly held inside a bonding matrix
- Use of honing oils as coolant
- High Process Stability
- Low quality variations within a batch
- Stock removal rate up to 160µm/h (dependant on ball material)
- Reduced pressure plate wear
- Minimised environmental impact through the use of filter technology
- Large batch sizes possible when used in conjunction with ball grinding machines with magazines

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Work piece materials:

Ball Material: Si_3N_4, ZrO_2, Al_2O_3, WC, SiC
Initial ball state: All initial ball geometry that results from the manufacturing process can be ground.

Product Range :

Abrasive Grain: Synthetic Diamond (65D)
Grain Size FEPA: D46 to D91
Structure: 00
Bonding: XA

Available Product Dimensions :

(ISO-Form: 2A2, Abrasive layer mounted on carrier plate)

Outer Diameter (D)[mm]	**Abrasive Layer Depth (X)** [mm]	**Internal Diameter(H)** [mm]
100	5, 10, 15, 20	30
200		30; 50
300		30; 50
400		30; 50; 150

Application Example:

Ball grinding wheel 200 x 25 x 30, X=5, W=50, 5 Grooves

Ball Grinding:

65D 91 V00 B XA 100

Si_3N_4 Balls, shape: round
Batch Size: 300 pieces
Inital dia.: 5,34 mm
Final dia.: 5,16 mm
Stock removal: 180 µm
Grinding time: 3,5 hours
Stock removal rate: 51 µm/h
Pressure plate: Steel
Coolant: Honing Oil EMOL®-O-HON 920 NV
Roundness: < 0,5 µm

Si_3N_4 – Ball before and after grinding

Should you require any further information please contact:

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