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PRECISION GRINDING MACHINES

ADVANTAGE THROUGH KNOWLEDGE

VOLUME 63

ITM holds over 30 patented machine designs

ITM Uses Super Abrasive Wheel On Peel Grinding Machines (PPG-500)

ITM “Peel” grinding utilizes a super-abrasive CBN and/or diamond wheel dressed with both SiC and diamond roll spindles in a single setup. The wheel has a thickness of 5mm and the applicable grinding contact area is ~2.5-3mm. The “peel” grinding process is very closely matching that of a high productive hard-turning center. A maximum of 500 micron (~0.02”) can be removed with single pass or with multiple passes instead of a plunge or standard traverse grinding operation. CBN wheel can be used for grinding hard and soft HSS blanks, Titanium, Stainless, and Aluminum materials. For nonferrous like carbide, diamond wheels can be used. Peel grinding eliminates many intermediate processes before and after heat treatment and carburization. The one step peel grinding process removes any requirement for rough hard turning, finishing turning and improves accuracy and surface quality many folds.

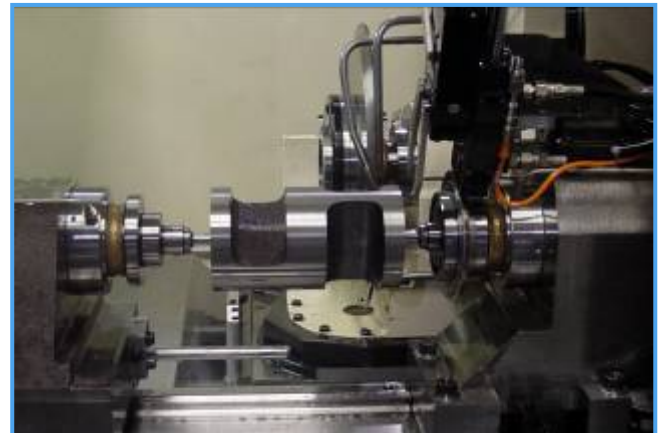
Case Study – Old vs. New Process

Outstanding Economical Advantages: Old process using conventional resin wheel requires wheel changes and very tedious set-up. The Peel grinding wheel can grind all of the 77 different parts with the same set-up and the same wheel. (max.75,000 parts per wheel).

At a customer, the traditional O.D grinding process was not meeting Cmk requirements and the new process is many times improved. Customers with the new PPG-500 reduced production time, require less human intervention and provide better accuracy than ever before.



Inside PPG – grinding between centers



Inside PPG – capable of grinding large parts



For more information on ITM machines, please visit us at www.itmfl.com



Peel & Plunge Grinder – Case Study (cont.)

Customer Problem:	Super Finish On Step Drill Blank. Blank diameter varies from 10-20mm with overall length 150mm. Peel grinding 80mm section with three diameters ranging from 8mm to 15mm.
Geometric Tolerances:	Roundness +/-0.0005 micron at 2.78 Cmk
Material Specification:	HSS Hi-Carbon Steel 58 - 62 Rc
Wheel Specification:	375mm x 5mm x5mm wheel type 14V1 Vitrified CBN, Made in Germany
Wheel Speed:	110 M/S , Work-piece rotates at 1800 RPM
Piece Per dress:	42
Wheel Optimization:	Marposs Automatic Balancing System with Acoustic Emission Sensing and crash protection
Online Probe & Gauging:	Marposs Online Probe & Gauging System with a repeatability of 0.1 micron
Coolant System:	ITM AFS8-200 with High Flow (85GPM) and High Pressure (1000PSI)
Cycle Time:	41 Second

SALES & MARKETING MR. JIM ALLEN JOINS ITM!



International Tool Machines (ITM) is proud to introduce Mr. Jim Allen who recently joined **ITM** and extends our foundation of outstanding customer service and grinding expertise to your region. Mr. Allen brings over 25 years of combined experience in Business Finance and Mechanical Engineering. Mr. Allen began his career as a machine operator and then went on into engineering as a Tool and Die Maker, from there Mr. Allen furthered his career in the Business Financial Sector.

Mr. Allen is ready to get started on reaching out to prospects to “Understand their current tool manufacturing needs as well as their direction moving forward and to provide information on how utilizing **ITM** grinding machines can improve production and profitability to help achieve their company goals.”

APPLICATION ENGINEER

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If you have any additional comments or questions please contact us!

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PRECISION CNC GRINDING MACHINES



➤ *PEEL/OD* ➤ *FLUTE* ➤ *CHAMFER GRINDING* ➤ *FILTER SYSTEMS*

Mass Production of:

* Annular Cutters * Countersinks * Crankshafts *
* Endmills * Reamers * Step Drills * Taps *

Cycle Times:

3 Flute 1/2" Spiral Tap: 47s	4 Flutes 3/8" Endmill: 59s
3 Flute 3/8" Centerdrill: 41s	1/2" Tap w/ Gunnose: 54s



Look for our Ad soon in
Cutting Tool Engineering

**For Over 30 Years ITM Has Been
Serving Over 400 Customers Worldwide**

For references visit us at www.itmfl.com
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