



WIBA-PECM Contract Production

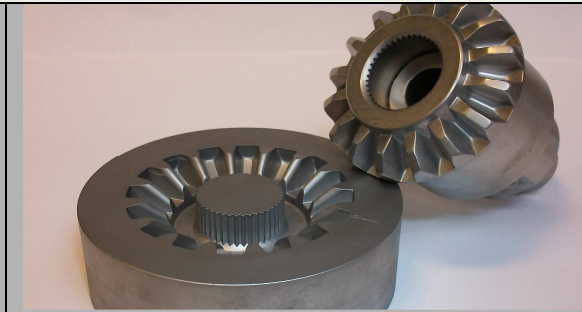
Precision electrochemical machining of small- and large scales

- Burr-free, non-contact „cold processing“,
 - Surface accuracy up to Ra 0,02 μm
 - Process-reliability with a repeatability up to < 1 μm ,
 - No structural change of the material
- No tool-electrode wear

PECM-Production Samples



ASP 23



Powder metallurgic steel with only one electrode - tolerance 10 μm



1.4031 - Ra 0,026 μm



M-390



Vanadis 60



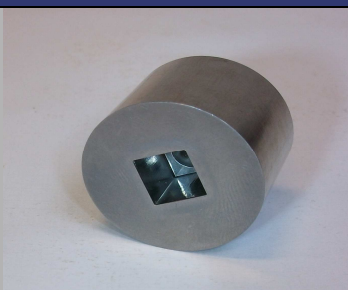
Ferrotitan



1.4301



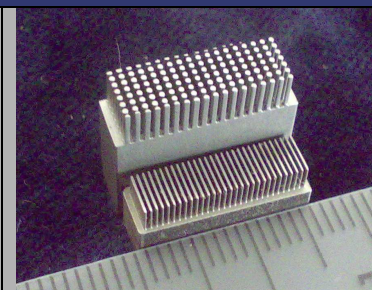
1.3343




1.4923



Caldie



S - 290

Why PECM-machining could be important to you and what you should know about it, is explained on the next page... 

PECM = Precision-Electro-Chemical-Machining

Die sinking EDM, well known and proven:

This Technology is used in many applications and belongs to the standard equipment today.

As so far there was no alternative machining process, complex reworking and micro cracking were accepted as the norm!?

With EDM the electrode approaches the workpiece at hairbreadth and electric voltage discharges, sparks jump. Where the sparks struck, the metal is heated to such an extent that it melts!!

The new WIBA-PECM technology...

specialised power generators and control systems enable the removal of material with a "cold-machining-process". The electrolyte passing between anode and cathode to remove the iron oxide has a maximum temperature of only 45°C. No sparks are generated during the process, it takes place without inflow of heat to the material! **Conciderable advantages:**

- no structural change
- burr free
- no thermal surface damage

This is particularly important for use in aircraft construction and in cold-former machines. With the latter doubled tool life is possible! (based on experience values)

But that is not all:

- **With our PECM-process no electrode wear takes place**
- **Another major advantage beyond this is the integrated polishing process**
- **Extensive rework is a thing of the past!**
- **Use of multi electrode systems**

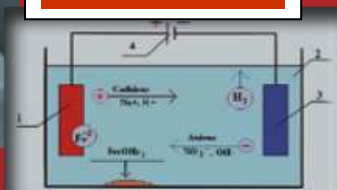
The technological edge:

WIBA-PECM has developed specialised generators and control systems and uses ultrashort pulsed current with specific moulds and only a one-component electrolyte. This has made it possible for the first time to process different metals, like tool steel, hardened steel, PM steel, stainless steel and many more with unprecedented surface reproduction of up to 1 µm and minimum degree of roughness of Ra 0,02 µm.

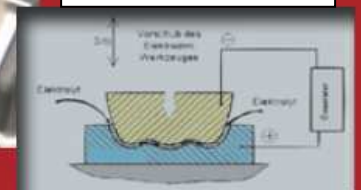
Specific applications where the use of multi electrode systems is possible lead especially at larger scale productions to a significant cost reduction of individual workpieces.



First quality Surfaces and radii



Removal and polishing in one process



ECM



EDM

Die von WIBA im linken Bild durchgeführte Bearbeitung zeigt

The by WIBA executed processing in the left picture shows no structural change (no micro-cracking)

Test all the discribed advantages for yourself in a sample demonstration.




Is contract production worth it, and how does the cooperation work

For you as user only one thing counts:


"Which advantage do I have, if I decide to produce my parts with the PECM-technology?"

When we write all sorts about the economic and qualitative advantages, it would be interesting, but it won't yet convince you, there is still a lack of proof! **That evidence can only be provided with a sample, which we hereby offer to you for free.**

Here you can find out everything important about PECM-contract production:

<p>It should first be noted that limited series or one-off pieces are only worthwhile if these parts can not be produced with traditional machining processes. When we visit your company we will show you some of our free samples.</p> <p></p> <p>We will inform you about all aspects of PECM, and how this new technology can reduce processing costs and at the same time improve the quality.</p>	<h3>What costs will you be facing?</h3> <p>On the basis of our experience we are able to evaluate the feasibility (dependent on material), and the possibility of a multi electrode system.</p> <p></p> <p>That means in effect: You receive a sample quotation.</p>	<p>The sampling can be broken down as follows:</p> <ol style="list-style-type: none">1. Construction and production of the electrode, the rinsing chamber and the workpiece fixture.2. Process parameterization3. Process optimization <p>If you are interested, please contact us.</p> <p>Phone: + (049) 4263-98 539 10 Email: info@wiba-ecb.de</p> <p></p>
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It's always worth to produce your parts with the WIBA-PECM-Process, if:

1. CNC-Machining no longer matches the specific requirements,
 2. EDM-Processing requires extensive rework,
 3. Continually new electrodes have to be produced,
 4. Micro-cracking reduces quality or tool life,
 5. Surface roughness $R_a > 10 \mu m$ or $R_a > 10 \mu m$, which are impossible to achieve with traditional machining processes or can only be achieved with a great deal of effort.
- 

Experience shows that often technical problems result from traditional machining processes! But using the slogan, **"we've always done it that way"** money is lost. And that is how it is, until someone is interested in a new processing technology. The companies which for example cooperate with us as processors have received more orders from their customers in the meantime, since they provide a far better quality, now. Nowadays they accept orders, which indeed can only be produced with the WIBA-PECM-Technology.

Conclusion: "You are sure to win" - without having to pay in advance!



Research | Development | Contract Production

Major industry sectors for PECM:

**Automotive sector • Medical industries • Aerospace industry
Mould making and tool production • Fuel cells**

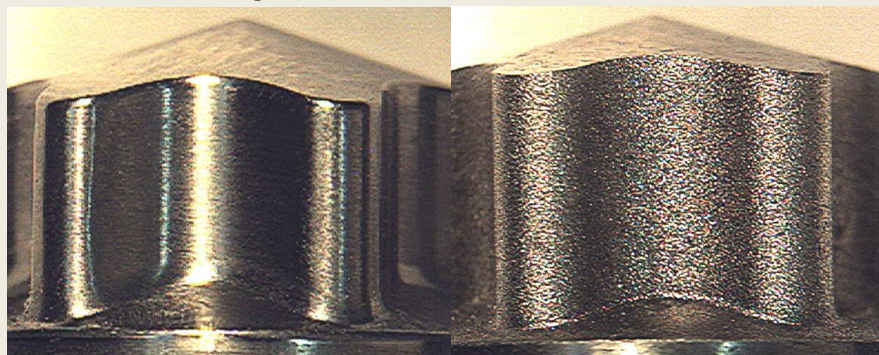
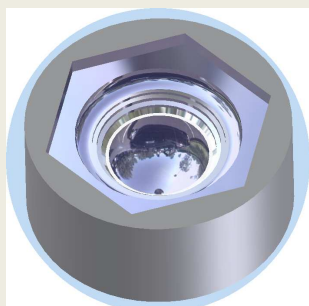


*The EX..AG writes us:
...please find attached the test report,
for the most recently received workpieces. In
conclusion I was positively surprised by the high
level of quality of the XX. We decided internally
for the diameter X and have placed the
remaining good parts in stock. This development
order is therefore completed for us.
For the additional size of XX I have already
opened an order, wherefore Mr. X will contact you
soon. I would like to thank you again for the
pleasant cooperation. ...
(anonymized and translated from german)*

We want you to take full advantage of the new PECM-Technology!
Give us a call or send us a short e-mail to receive more information...

PECM

EDM



**Surface after
PECM-Processing**

**Surface after
EDM-Processing**

