

Wire₄AM

Wire₄AM - Novel Manufacturing Technology for Wires from Titanium alloys for use in
Additive Manufacturing applications

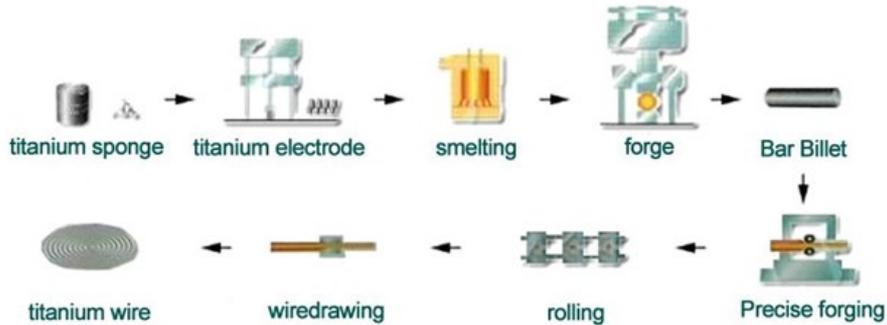
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Wien, 16.03.2023

Overview of Consortium partner

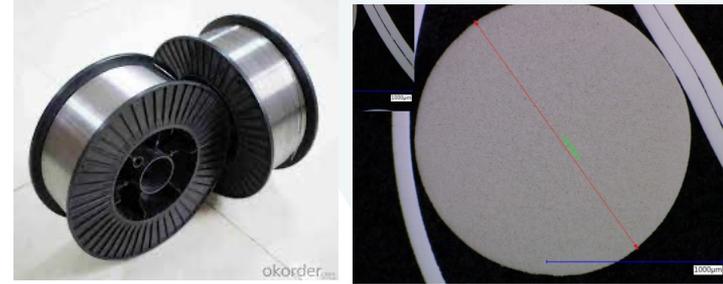


- RHP Technology is a solution provider for the manufacturing of customized material solutions
- We use additive and powder technological processing methods in order to enable innovations in various industries
- RHP combines material and processing know-how in many areas: metals, metal matrix composites as well as ceramics

Concept



- Complex process chain for manufacturing of Titanium wires
- Mainly non-European suppliers for Titanium wires on the market
- Assessment of new Titanium alloys moreless impossible due to high costs of experimental wires (typically >1 ton needs to be ordered)



- Use commercial wire which can be sourced from many suppliers
- Modify the surface using vacuum based technologies (plasma treatment/coating) in order to modify the composition and handling performance

Goals of the project

Goal 1: Improvement of material properties and wire performance

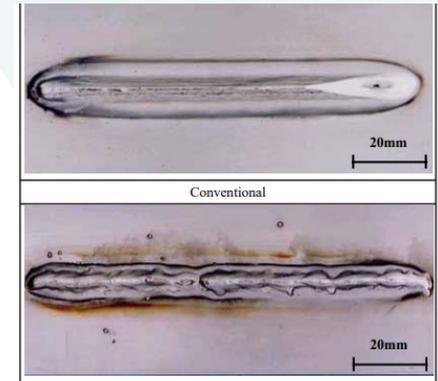
- Coating of alloying elements within the limits of the standards
- Produce modified alloys irrespective to restrictions of the standard composition;

Goal 2: Improvement of wire processability

- Use vacuum processing technology to modify the wire to:
 - reduce conveying resistance for a higher throughput;
 - General improvement of weldability
 - Sealing against oxygen uptake.

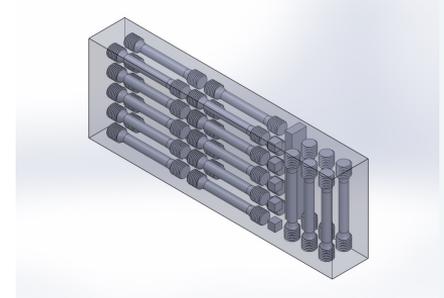
Goal 3: Improvement of production capability in Europe

- Demonstrate the production of wires for AM and other welding processes
- Evaluation of market introduction



Targeted Exploitation

- Demonstrate within the project the proof of concept for coating of wires
- Use wires for the deposition of test walls and analyse properties
- Application of a patent
- Initiate a follow up activity for the setup of a dedicated production coatings system for the continuous wire coating



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*Titanium Standard alloys processed by
Plasma Metal Deposition (PMD)*

