Łukasiewicz
Institute of Non-Ferrous Metals

TECHNICAL OFFER

No. _____

Wire from the Cu-Al-Mn-Ni-Fe system alloy, which is a feedstock material for additive manufacturing (3D printing).

Gliwice, 02.02.2022

1. Subject and scope of the offer

The subject of the offer is a wire from the Cu-Al-Mn-Ni-Fe system alloy, which is a feedstock material for additive manufacturing (3D printing), including WAAM. Along with the offered material, it is possible to provide the Ordering Party with services in the field of scientific and technical assistance.

Information regarding the project:

18072 - 3DMPWIRE. “Material-efficient Cu wire-based 3D printing technology”

2. Tenderer

The offer is dedicated to the following market application segments:

- Production plants specializing in special joining processes using welding technology,
- Companies producing wires, including welding wires,
- Laboratories specializing in materials technology,
- Manufacturers / suppliers of 3D printers based on metal printing,
- Industrial plants where castings of aluminium bronze alloys are used,
- New innovative components engineering,
- Foundry plants in Poland,
- Plants dealing with machining,
- Shipyards.

3. Conditions for performing the works covered by the technical offer

The subject of the offer comprises the development of feedstock materials in the form of a wire based on alloys from the Cu-Al-Mn-Ni-Fe system for applications in additive manufacturing (3D printing). The contractor has the necessary knowledge, experience and technical facilities.

- Production and sale of a feedstock material for applications in additive manufacturing (3D printing), including WAAM,
- Services in the field of scientific and technical assistance,
- Provision of the rights to the production technology of the feedstock material at a market price.

4. Form of applied technology / invention protection

The initial technical offer is an invitation to conclude an agreement for provision of the rights to the invention by a licence or sale of a utility model and does not constitute an offer within the meaning of the Civil Code. The price offer will be made to the licensee / buyer after agreeing on the terms of the licence or sale. In addition, it is possible to undertake R&D cooperation which is the development of a dedicated chemical composition (modification) of alloys from the group of aluminium bronzes.

5. Technical preview

Material preparation for the drawing

Casting of the materials with a specific chemical composition

Continuous casting process

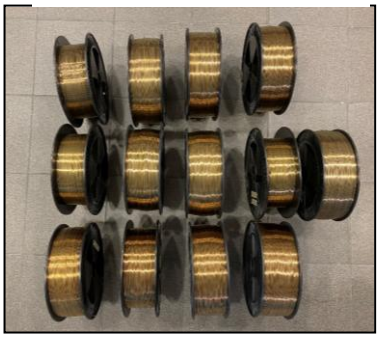
Drawing process

Heat treatment

Precision drawing

Multiple stage drawing process of semi manufactured product with intermediate heat treatment

Final product as wires wound on a spool



Additive manufacturing devices using wires as feedstock materials

6. Technology / invention readiness level

Level 7

Definition: A technology prototype was demonstrated under operational conditions. The prototype is almost at the operating system level. This tier represents a significant advance from tier 6 and requires demonstration that the technology under development is applicable to operational conditions.
The tests at this level include the testing of prototypes on the so-called research platforms.

7. Form of applied protection

- National patent application: P.437304: „Sposób otrzymywania drutu ze stopu Cu-Al-Mn-Ni-Fe, zwłaszcza do stosowania w technologii przyrostowej”
- European patent application: EP21000358 „The method of manufacturing a wire from Cu-Al-Mn-Ni-Fe alloy, especially for the use in additive manufacturing.”

8. Price or commercial conditions

a) <u>Granting a license for the right to use the subject of the invention:</u>

The price offered to the Ordering Party in the event of granting the right to use the invention by licence, considering the potential transaction value based on the calculated value of the fixed fee, as well as the annual licence fee calculated on the level of net income from the sale of products with the use of licensed rights to the invention.

b) <u>Production and delivery of the feedstock material:</u>

The price offered to the Ordering Party in the case of delivery of the feedstock material will be properly calculated depending on the size of the order and the type of material ordered.

9. Payment method

Will be agreed on between the parties, when specifying the commercial conditions listed in point 8.

10. Deadline

a) Granting a license for the right to use the subject of the invention:

If the offer is accepted by the Ordering Party, the Tenderers are obliged to conclude an agreement with the Ordering Party regarding the provision of the licence.

b) Production and delivery of the feedstock material:

The schedule of the works covered by the offer will be agreed on with the Ordering Party, taking into consideration the expectations, size, and type of the ordered material.

11. Validity of the offer

3 months from the date of receiving a potential enquiry

12. Information about the Tenderer

Łukasiewicz Research Network — Institute of Non-Ferrous Metals

Centre of Advanced Material Technologies

ul. Sowińskiego 5

44-100 Gliwice

NIP: **631-020-07-71**

REGON: **000027542**

KRS: **0000853498**

BDO: **000011457**

13. Persons for substantive contacts

The person authorized to contact the Ordering Party and provide explanations regarding the scope of the offer is:

Joanna Kulasa, Phd. Eng.
Director of The Centre of Advanced Material Technologies
email: joanna.kulasa@imn.lukasiewicz.gov.pl
mobile: +48 603 629 376
tel: +48 32 238 07 11

Krzysztof Marszowski, Eng.
Head of Small-Scale Production Section
email: krzysztof.marszowski@imn.lukasiewicz.gov.pl
tel: +48 32 23 80 215

14. Formal and administrative contact persons

The person authorized to contact the Ordering Party and provide explanations regarding the scope of the offer is:

Agnieszka Sierczyńska, Phd. Eng.
Head of Sales and Commercialization Department, Research and Commercialization Department
email: agnieszka.sierczynska@imn.lukasiewicz.gov.pl
mobile: +48 516 068 971
tel: +48 32 238 00 00

---------- the end of the document ----------