2024 UPDATE OF THE ATEX IIC GROUP

To whom it may concern,

EGA Master S.L. hereby informs, in accordance with the results of recent research carried out by BAM (*Federal Institute for Materials Research and Testing),* that the ATEX explosion group IIC (DIN EN ISO/IEC 80079-20-1:2020) has been modified:

'As a federal departmental research institution, BAM has carried out further research in this area in accordance with its statutory mandate to continually adapt the safety Standards of the certifications to the latest scientific research. Currently available research results indicate that the ignition probabilities for mechanical impact processes with material pairings of non-ferrous metal against concrete can be higher in hydrogen/air atmospheres than in acetylene/air atmospheres. There are no changes for impact processes against Steel.'

In accordance with the above, EGA Master S.L. is in the process of recertifying its Copper-Beryllium and Aluminium-Bronze alloys in an air/hydrogen atmosphere in order to adapt to the new conditions specified for the ATEX IIC group.

Signed:

Adrián Mtz. From San Vicente
Quality Manager

Iñaki Garmendia
Industrial CEO

Bundesanstalt für Materialforschung und -prüfung

CERTIFICATE

BAM/ZBF/005/24 1st version

Hereby it is confirmed by the BAM Certification Body, that the material

Copper-Beryllium Alloy of the manufacturer **EGA Master S.L.** **Zorrolleta 11, Jundiz Industrial Estate** **01015 Vitoria** **Spain**			
for impacts against	☐ ☒	**steel** **concrete**	
with a maximal impact energy of	**60**	**Nm**	
in potentially explosive atmospheres with the fuel gases	☒ ☒ ☐	of explosion groups I, IIA, IIB acetylene of explosion group IIC	Explosion groups according to DIN EN ISO/IEC 80079-20-1:2020-09

meets the requirements of **BAM Standard operating procedure StAA-GAS-005 „StAA zur Schlagfunkenprüfung von Werkstoffpaarungen“** approved April 2023 and thus non-sparking tools made of this material are appropriate for use in potentially explosive atmospheres of zone 1 and/or 21 (in accordance with the European Directive 1999/92/EC) for the fuel gases listed above, if the terms and conditions set out in the annex to this certificate are complied with.

The certification is based on certification contract **BAM-ZBF-0005-2024-EGA** dated 6th May 2024 and comprises according to standard DIN EN ISO/IEC 17065:2013 a design-type test with the manufacturer's declaration of conformity (BAM Certification system I).

The materials certified by BAM may be labelled with the certification mark "BAM Design-type tested" and/or "BAM Baumustergeprüft".

The certificate is valid until 1st August 2025.

BAM test report **20017926** dated 19th February 2021 and procedures No. BZS-GS/024/20 and BZS-GS/014/24are a constituent part of this certificate.

Bundesanstalt für Materialforschung und -prüfung (BAM)
Unter den Eichen 87, 12205 Berlin, **June 4th, 2024**

By order

Dr. J. Sunderkötter
BAM Certification Officer

05.06.2024

By order

Dr. M. Schmidt
BAM Assessor

Bundesanstalt für Materialforschung und -prüfung (BAM)

Please check this certificate's validity in our Certification Register:
https://netzwerke.bam.de/Netzwerke/Content/DE/Downloads/Bzs/Zertifizierungsregister.html

This document was created electronically and is valid without a signature. This certificate consists of 1 page and 1 Annex. This certificate may only be published in full wording and without any additions. The revocable written consent shall be obtained from BAM beforehand for changed reproduction and excerpts. The German version is legally binding, except an English version is issued exclusively. Place of jurisdiction is Berlin.

Conditions for use of the certified material

The certification of the material **Copper-Beryllium-Alloy** is only valid if the following terms and conditions are met.

Already smallest modifications of the properties of the material and the impact partner can alter fundamentally the spark pattern and thus the ignition probability. Thus, it is not possible to transfer the test results to other materials.

Certified material pairing

Material: Copper-Beryllium-Alloy

The properties of this material shall comply with the material composition of the tested sample, namely:

- Material composition:
    - ≥ 99,0 % Cu+Be+Co+Ni+Fe
    - 1,8 % to 2,3 % Be
    - ≥ 0,2 % Co+Ni
    - 1,2 % Co+Ni+Fe
- Hardness: 283-365 HB
- Reference: see letter dated January 28th, 2021

Impact Partner: Screed concrete, reinforced

- Material recipe: Cement E290, flux material 5,8 %, gravel 0,1-4 mm; corundum 5 %, steel reinforced wire, recipe according to BAM Certification Scheme BZS-ZP/2.8 and test report dated 19th February 2021

Use of the tools made of the certified material

During a possible impact of the tools on the above-mentioned impact partner the **maximum absorption of mechanical energy must not exceed 60 Nm**.

This corresponds to a falling height of 10 metres of a tool with a maximum weight of approx. **600 g**.