

**Certificate****N°: BAM/ZBF/007/13****1st Revised version**12200 Berlin, Germany
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Hereby it is confirmed by the BAM Certification Body, that the

Material copper-beryllium

of the manufacturer

BETA UTENSILI S.p.A.
Via A. Volta 18
20845 SOVICO (MB)
Italy

meets the requirements of **BAM Standard operating procedure „StAA-NEG-005“: „StAA zur Schlagfunkenprüfung von Werkstoffpaarungen“** dated **2017-03-01** and thus the non-sparking tools made of this material are appropriate for use in potentially explosive atmospheres of zones 1 and/or 21 according to Directive 1999/92/EC for all reference fuel gases in all explosion groups according to IEC 60079:2004 Part 0, if the terms and conditions set out in the annex to this certificate are met.

The certification is based on certification contract N° **BAM-ZBF-0014-2012-BETA** and comprises according to standard ISO/IEC 17065:2012 a design-type test with the manufacturer's declaration of conformity (BAM Certification system I).
The products certified by BAM may be labelled with the certification mark "BAM design-type tested" / "BAM Baumustergeprüft".

The certificate is valid until July 18, 2023.

BAM test report **BZS-GS/082/12; 2-1201/2012** dated **July 12, 2013** as well as **procedure number BZS-GS/038/18** form the basis of this certificate.

for Bundesanstalt für Materialforschung und -prüfung (BAM)
Unter den Eichen 87,12205 Berlin, **2018-07-19**

Dr. R. Schmidt
BAM Certification Body



Dr. R. Grätz
BAM Assessor

Distribution list: 1st Certificate holder2nd BAM Certification Body

This certificate may only be published in full wording and without any additions. A revocable written consent shall be obtained from BAM beforehand for any amended reproduction or the publication of any 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 non-sparking tools made of the certified material copper-beryllium are appropriate for use in potentially explosive atmospheres of zones 1 and/or 21 for all reference fuel gases in all explosion groups according to IEC 60079:2004 Part 0, if the following terms and conditions are met:

- The material composition of this material shall comply with the material composition of the tested samples, namely:

Copper-beryllium:

Material grade: 97.7 % Cu, 1.85 % Be, 0.24 % Ni, 0.06 % Fe and < 0.005 % Co (according to the documentation from Beta Utensili S.p.A., dated October 17, 2012, receipt in BAM on May 13, 2013, BAM Tgb.-No. 2-1428/2013).

- The intended use of the tools made of the certified material shall be described by the certificate holder in such a manner that the max. absorption of mechanical energy during a possible impact of the tools on the ground does not exceed 61 Nm. This corresponds to a falling height of 10 metres of a tool with a weight of for example 6.1 N (approx. 600 g). This statement is valid only for a concrete quality of the following composition, used for testing in our laboratory:

Concrete quality (sand: d/D 0/4mm, no gravel) according to the documentation from Beta Utensili S.p.A., receipt in BAM on May 13, 2013, BAM Tgb.-No. 2-1428/2013

Composition of the concrete: 60 % sand, 30 % concrete, 10 % water, BAM Tgb.-No. 2-2001/2013.

Berlin, 2018-07-19

Place, Date





Signature BZS