



CERTIFICATE

BAM/ZBF/003/25 1st version

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

Aluminum-bronze alloy of the manufacturer SNA Europe Industries Iberia S.A. Antigua Carretera De Altube, Km 5.5 01196 Vitoria Spain			
for impacts against	☐	steel	
	☒	concrete	
with a maximal impact energy of	31	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 December 2024) 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-0006-2024-SNA** dated May 6th, 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 December 31st, 2028.

BAM test report **25030307 I** dated November 26th, 2025 and procedure No. BZS-GS/006/25 are a constituent part of this certificate.

Bundesanstalt für Materialforschung und -prüfung (BAM)

Unter den Eichen 87, 12205 Berlin, December 1st, 2025

By order 01.12.2025

Dr. J. Sunderkötter
BAM Certification Officer



By order

D. Grasse
BAM Assessor



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

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Conditions for use of the certified material

The certification of the material **Aluminum-bronze 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: Aluminum-bronze alloy

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

- Material composition:
 - o Cu: 79,18 %,
 - o Al: 10,815 %
 - o Ni: 5,41 %
 - o Fe: 4,45 %
 - o Mn: 0,0575 %
 - o Zn: 0,0341 %
 - o Pb: 0,0022 %
 - o Si: 0,03 %
 - o Sb: 0,0135 %
 - o Bi: 0,0073 %
 - o P: 0,00526 %
 - o Sn + As + Cd < 0,003 %
- Hardness: 240 to 262 HB
- Reference: Material Test Report as well as Mechanical Performance Test Report dated August 10th, 2025, received via e-mail on August 27th, 2025

Impact Partner: Screed concrete, reinforced

- Material recipe: cement E290, superplasticizer 5.8 %, sands 0,1 to 2,0 mm, aggregates 2,0 to 8,0 mm, corundum 5.0 %. reinforcement made of steel wire, recipe according to BAM Certification Scheme BZS-ZP/2.8 and test report **25030307 I** dated November 26th, 2025

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 31 Nm**.

This corresponds to a falling height of 10 metres of a tool with a maximum weight of approx. **300 g.**