



Certificate of Conformance

Material: **CARLTSOE SAFETY TOOLS® BeCu Alloy.**

Date: **October 2014**

As manufacturer of **CARLTSOE SAFETY TOOLS®**, we hereby certify our tools provide Non-Sparking, Non-Magnetic and Non-Corrosive properties.

CARLTSOE SAFETY TOOLS®, made from the Beryllium Copper alloy (BeCu), have the following typical nominal properties:

Chemical Composition (BeCu alloy):

Beryllium	1.8%
Cobalt	0.2%
Others	0.5% max
Copper	balance

Mechanical Properties (BeCu alloy) :

Tensile Strength	1300 Nmm ²
Yield Strength	800 Nmm ²
Elongation	3%
Hardness	350 HBW

CARLTSOE SAFETY TOOLS® Beryllium Copper (BeCu) alloy helps fulfill the recommendation in the European ATEX directive for working in Zones 0 and/or 20 of all explosion groups, and M1 , M2 for Mining.

The properties described meet the requirements of BAM Standard operating procedure "QMH-NEG-005": "StAA zur Schlagfunkenprüfung von Werkstoffpaarungen" dated 2012-03-01 and thus the non-sparking tools made of these materials are appropriate for use in potentially explosive atmospheres of zone 0, 1, 2 and 20, 21, 22 according to directive 1999/92/EC of all explosion groups according to IEC 60079-20-1:2010.

Risk assessments must be made by the employer for the safety of workers using hand tools (see EN 1127-1 and EN 13463-1)

Disclaimer: Final responsibility remains with the employer for the safety of workers using hand tools based on his risk assessment (EN 1127-1 / EN 13463-1).

The above text is not binding and reference must always be made to the original documents.

We reserve the rights to change above specifications when necessary. If changes are made, we will make all efforts to inform our authorized distributors immediately.



Rick Waddell
Quality Manager

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Certificate of Conformance

Material: CARLTSOE SAFETY TOOLS® AIBz Alloy.

Date: October 2014

As manufacturer of **CARLTSOE SAFETY TOOLS®**, we hereby certify our tools provide Non-Sparking, Non-Magnetic and Non-Corrosive properties.

CARLTSOE SAFETY TOOLS®, made from the Aluminum-Bronze alloy (AIBz), have the following typical nominal properties:

Chemical Composition (AIBz):

Aluminum	11.0%
Iron	4 %
Nickel	4.5%
Manganese	3.5% max
Others max.	0.5% max
Copper	balance

Mechanical Properties (AIBz) :

Tensile Strength	680 Nmm ²
Yield Strength	350 Nmm ²
Elongation	14%
Hardness Brinell	228 HBW

CARLTSOE SAFETY TOOLS® Aluminum Bronze(AIBz) alloy helps fulfill the recommendation in the European ATEX directive for working in Zones 0 and/or 20 of all explosion groups

The properties described meet the requirements of BAM Standard operating procedure "QMH-NEG-005": "StAA zur Schlagfunkenprüfung von Werkstoffpaarungen" dated 2012-03-01 and thus the non-sparking tools made of these materials are appropriate for use in potentially explosive atmospheres of zone 0, 1, 2 and 20, 21, 22 according to directive 1999/92/EC of all explosion groups according to IEC 60079-20-1:2010.

Risk assessments must be made by the employer for the safety of workers using hand tools (see EN 1127-1 and EN 13463-1)

Disclaimer: Final responsibility remains with the employer for the safety of workers using hand tools based on his risk assessment (EN 1127-1 / EN 13463-1).

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