

NON-SPARKING 1/2" SOCKET WRENCH SET - 16 PCS

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NON-SPARKING TOOLS

1ZONES 1, 2 (gas) & 21, 22 (dust)

1/2" Non-sparking Socket Wrench Set (12 points), made of Copper-Beryllium (Cu-Be) or Aluminium-Bronze (Al-Bron) alloys, suitable for use in hazardous areas.

The Non-sparking tools that compose this set are certified by the BAM Certification Body, stating that the materials from which they are made are suitable for use in potentially explosive atmospheres, in zones 1 and/or 21 of all explosion groups (I, IIA, IIB and IIC).



- Non-sparking tools cannot reach the hardness of conventional tools. For this reason the use of non-sparking tools has to be carried out with special care, avoiding overstraining, heating, etc.

- To avoid damage being caused to both tool and fastener, it is necessary to always ensure that the correctly sized spanner/wrench/screwdriver is selected. Due to the reduced strength and wear resistance of non-sparking Alloys selecting the correctly sized tool becomes essential to avoid premature wear and early deterioration of the tool.

- The use of non-sparking tools must not be the only preventive measure in areas which the items are designed for. Other items, clothes or present material must also be adequate for non-sparking purposes.

COPPER-BERYLLIUM ALLOY

Non ferrous substance in the composition makes it safer when non-magnetic applications are required.

ALUMINIUM-BRONZE ALLOY

Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropriate for non critical non-magnetic applications.

COPPER-BERYLLIUM ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2" - 10mm	11A74452	Socket wrench 1/2" - 22mm	11A74464	4,5 kg	11A74267
Socket wrench 1/2" - 11mm	11A74453	Socket wrench 1/2" - 24mm	11A74466		
Socket wrench 1/2" - 12mm	11A74454	Socket wrench 1/2" - 27mm	11A74469		
Socket wrench 1/2" - 14mm	11A74456	Socket wrench 1/2" - 30mm	11A74472		
Socket wrench 1/2" - 17mm	11A74459	Socket wrench 1/2" - 32mm	11A74473		
Socket wrench 1/2" - 19mm	11A74461				
Extension 125mm			11A76490		
Extension 250mm			11A70385		
Speeder handle 390mm			11A72416		
Sliding T handle 250mm			11A70378		
Ratchet 250mm			11A70375		
Socket wrench 1/2" - 3/8"	11A74504	Socket wrench 1/2" - 7/8"	11A74514	4,5 kg	11A35812
Socket wrench 1/2" - 7/16"	11A74505	Socket wrench 1/2" - 15/16"	11A74515		
Socket wrench 1/2" - 1/2"	11A74506	Socket wrench 1/2" - 1.1/16"	11A74517		
Socket wrench 1/2" - 5/8"	11A74509	Socket wrench 1/2" - 1.3/16"	11A77790		
Socket wrench 1/2" - 11/16"	11A74510	Socket wrench 1/2" - 1.1/4"	11A74519		
Socket wrench 1/2" - 3/4"	11A74511				
Extension 125mm			11A76490		
Extension 250mm			11A70385		
Speeder handle 390mm			11A72416		
Sliding T handle 250mm			11A70378		
Ratchet 250mm			11A70375		

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ALUMINIUM-BRONZE ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1/2" - 10mm	11A74479	Socket wrench 1/2" - 22mm	11A74491	4,5 kg	11A74268
Socket wrench 1/2" - 11mm	11A74480	Socket wrench 1/2" - 24mm	11A74493		
Socket wrench 1/2" - 12mm	11A74481	Socket wrench 1/2" - 27mm	11A74496		
Socket wrench 1/2" - 14mm	11A74483	Socket wrench 1/2" - 30mm	11A74499		
Socket wrench 1/2" - 17mm	11A74486	Socket wrench 1/2" - 32mm	11A74500		
Socket wrench 1/2" - 19mm	11A74488				
Extension 125mm			11A76491		
Extension 250mm			11A71281		
Speeder handle 390mm			11A72417		
Sliding T handle 250mm			11A71274		
Ratchet 250mm			11A71272		
Socket wrench 1/2" - 3/8"	11A74522	Socket wrench 1/2" - 7/8"	11A74532	4,5 kg	11A35821
Socket wrench 1/2" - 7/16"	11A74523	Socket wrench 1/2" - 15/16"	11A74533		
Socket wrench 1/2" - 1/2"	11A74524	Socket wrench 1/2" - 1.1/16"	11A74535		
Socket wrench 1/2" - 5/8"	11A74527	Socket wrench 1/2" - 1.3/16"	11A77791		
Socket wrench 1/2" - 11/16"	11A74528	Socket wrench 1/2" - 1.1/4"	11A74537		
Socket wrench 1/2" - 3/4"	11A74529				
Extension 125mm			11A76491		
Extension 250mm			11A71281		
Speeder handle 390mm			11A72417		
Sliding T handle 250mm			11A71274		
Ratchet 250mm			11A71272		

MATERIALS		
Copper-Beryllium Alloy		
Composition:	Be	1.8 % - 2 %
	Ni+Co	0.2 % - 1.2 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	283-365 Brinell	
Tensile Strength:	1250 N/mm²	
Aluminium-Bronze Alloy		
Composition:	Al	10 % - 12 %
	Ni	4 % - 6 %
	Fe+Mn	<5.8 %
	Otros	<0.5 %
	Resto	Cu
Hardness:	229-291 Brinell	
Tensile Strength:	800 N/mm²	

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PROPERTIES AND FEATURES

Property:	Application or benefits:
Non-sparking	Appropriate for explosive potential environments.
Non-magnetic safety	Essential for equipments that require complete non-magnetic safety.
Corrosion resistant	Specially well suited for applications in corrosive environments like encountered in marine works or fire-fighting applications.
Forged after casting	Provide higher mechanical properties and better finishing.
Ergonomic designs	The use of bi-material anti-slippery handles, dipping anti-slippery handles, totally ergonomic designs make operations easier, more comfortable and master.

CAUTION:

These tools are not classified as anti-static because they do conduct electricity. Do not use high copper content tools (>65%) in direct contact with acetylene due to the possible formation of explosive acetylide, specially in the presence of moisture.

DIFFERENCES AND HOW TO MAKE THE CORRECT CHOICE

Concept:	COPPER-BERYLLIUM Cu-Be	ALUMINIUM-BRONZE Al-Bron
Hardness:	283-365 Brinell.	229-291 Brinell.
Magnetism:	Non ferrous substance in the composition makes it safer when non-magnetic applications are required.	Minimum ferrous component makes them not 100% non-magnetic, although its low magnetism make it appropriate for non critical non-magnetic applications.
Durability:	Much higher due to the higher hardness and tensile strength. Higher efforts can be made.	Not as much as Cu-Be
Price:	Higher price due to the special raw material used.	Significantly lower price.

MAIN APPLICATION FIELDS

Petrochemicals	Plastic manufacturing	Breweries	Air Forces
Refineries	Pharmaceutical Industry	Alcohol processing industries	Navy
Oil Companies	Fireworks Industry	Distilleries	Weapon & ammunition fabrication
Gas & oil pipe lines	Chemical Industry	Fire-fighters	Aerospace industry
Power Stations	Paper making Industries	Mines	Automobile Industry
Paint Manufacturing	Flour silos and mills	Defence	Etc.