

NON-SPARKING 1" SOCKET WRENCH SET - 18 PCS

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NON-SPARKING TOOLS

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

1" 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.

COPPER-BERYLLIUM ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1" - 30mm	11A75842	Socket wrench 1" - 50mm	11A74581	8,5 kg	11A74279
Socket wrench 1" - 31mm	11A75844	Socket wrench 1" - 55mm	11A74582		
Socket wrench 1" - 32mm	11A75846	Socket wrench 1" - 60mm	11A74583		
Socket wrench 1" - 34mm	11A75848	Socket wrench 1" - 65mm	11A74584		
Socket wrench 1" - 36mm	11A75850	Socket wrench 1" - 70mm	11A74585		
Socket wrench 1" - 38mm	11A75852	Socket wrench 1" - 75mm	11A74586		
Socket wrench 1" - 41mm	11A74578	Socket wrench 1" - 80mm	11A74587		
Socket wrench 1" - 46mm	11A74580				
Flexible joint 120mm			11A72396	8,5 kg	11A35818
Extension 200mm			11A70387		
Sliding T handle 400mm					
Socket wrench 1" - 1.1/8"	11A75856	Socket wrench 1" - 2"	11A75874		
Socket wrench 1" - 1.3/16"	11A75858	Socket wrench 1" - 2.1/4"	11A75876		
Socket wrench 1" - 1.1/4"	11A75860	Socket wrench 1" - 2.3/8"	11A77844		
Socket wrench 1" - 1.3/8"	11A75864	Socket wrench 1" - 2.9/16"	11A77846		
Socket wrench 1" - 1.7/16"	11A75866	Socket wrench 1" - 2.3/4"	11A75880		
Socket wrench 1" - 1.1/2"	11A75868	Socket wrench 1" - 2.15/16"	11A77848		
Socket wrench 1" - 1.5/8"	11A75870	Socket wrench 1" - 3.1/8"	11A77850		
Socket wrench 1" - 1.13/16"	11A77840				
Flexible joint 120mm			11A72396		
Extension 200mm			11A70387		
Sliding T handle 400mm					

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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.

ALUMINIUM-BRONZE ALLOY					
Designation:	Item No.:	Designation:	Item No.:	Weight:	Item No.:
Socket wrench 1" - 30mm	11A75843	Socket wrench 1" - 50mm	11A74596	8,5 kg	11A74280
Socket wrench 1" - 31mm	11A75845	Socket wrench 1" - 55mm	11A74597		
Socket wrench 1" - 32mm	11A75847	Socket wrench 1" - 60mm	11A74598		
Socket wrench 1" - 34mm	11A75849	Socket wrench 1" - 65mm	11A74599		
Socket wrench 1" - 36mm	11A75851	Socket wrench 1" - 70mm	11A74600		
Socket wrench 1" - 38mm	11A75853	Socket wrench 1" - 75mm	11A74601		
Socket wrench 1" - 41mm	11A74593	Socket wrench 1" - 80mm	11A74602		
Socket wrench 1" - 46mm	11A74595				
Flexible joint 120mm			11A72397		
Extension 200mm			11A71283		
Sliding T handle 400mm					
Socket wrench 1" - 1.1/8"	11A75857	Socket wrench 1" - 2"	11A75875	8,5 kg	11A35827
Socket wrench 1" - 1.3/16"	11A75859	Socket wrench 1" - 2.1/4"	11A75877		
Socket wrench 1" - 1.1/4"	11A75861	Socket wrench 1" - 2.3/8"	11A77845		
Socket wrench 1" - 1.3/8"	11A75865	Socket wrench 1" - 2.9/16"	11A77847		
Socket wrench 1" - 1.7/16"	11A75867	Socket wrench 1" - 2.3/4"	11A75881		
Socket wrench 1" - 1.1/2"	11A75869	Socket wrench 1" - 2.15/16"	11A77849		
Socket wrench 1" - 1.5/8"	11A75871	Socket wrench 1" - 3.1/8"	11A77851		
Socket wrench 1" - 1.13/16"	11A77841				
Flexible joint 120mm			11A72397		
Extension 200mm			11A71283		
Sliding T handle 400mm					

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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15



NON-SPARKING TOOLS

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.