

‘SOLSONS’ Safety Tools (Spark-free)

- For greater safety.
- Strong and long lasting.
- Comprehensive size range.
- Non-magnetic.
- Corrosion resistant.
- Special tools made to customer’s own design.

When conventional steel tools are used in potentially combustible or explosive atmosphere, dangerous sparks may be accidentally created by tools slipping or being struck against hard surface.

The only safe way to eliminate fire and explosion in hazardous environment is to make sure that NO inflammable materials are present when using the metal hand tools. In practice this is really possible and therefore it is insisted to use SPARK RESISTENT tools for low-cost protection. *Always a fire is more costly than the tools, when it is a question of safety.*

‘SOLSONS’ Safety tools can provide a vital extra margin of safety under these conditions. This can be crucial in protecting personnel and installations from disaster.

Welcome to Innovative Safety Tools.....

Where do you need the Safety tools ?

Oil & Gas, off-shore and on-shore

Petro-chemicals

Explosives Manufacturers

Inflammable material Manufacturers

Chemical Industries

Distilleries

Paint Manufacturers

Pipeline Construction

Public Utilities – Gas, Electric

Armed Forces

Shipyards

Tankers

Pharmaceuticals

Aircraft & Missile Factories

Airports

All Non-magnetic applications

...& many others where sparks are a potential fire or explosion hazard.

Why Aluminium Bronze for Safety tools ?

Composition is relevant for the properties of the finished product.

Aluminium Bronze is environmentally safe and friendly alloy.

It is also less expensive alloy.

It is safe and easy to work with when safety information is followed.

It is strong enough, hard and more durable alloy for this use.

Aluminium Bronze is non-magnetic.

What is our Expertise ?

Our efforts help users to enter into a
New Era of modern technology for
better, easy and speedy handling of
Nuts - Bolts – Pipes....

‘SOLSONS’ is able to make
Special Tools according to
Customers’ requirements.

Technology up gradation at ‘SOLSONS’

**‘SOLSONS’ is one of the leading companies
to introduce Innovative Hand Tools.**





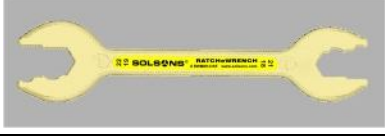


**All the tools are introduced
for the “*First Time in the World*”.**



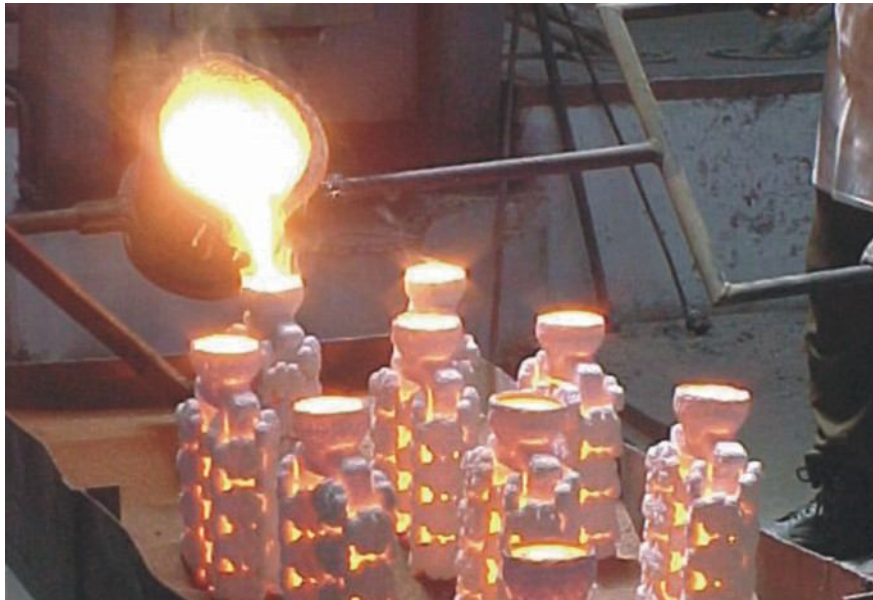
**‘SOLSONS’ is the only company to introduce
Ratchet Technology in the Safety Tools.**

It is for the ‘First Time in the World’

TYPES OF TOOLS AVAILABLE IN 'SOLSONS' BRAND

PRODUCT	DESCRIPTION	MODEL
	SPANNER / WRENCH SMALL (AF 6 TO 22mm & SAE 1/4" TO 7/8")	# SP622SF
	INDUSTRIAL SPANNER / WRENCH BIG (AF 15 TO 41mm & SAE 5/8" TO 1 5/8")	# SP1541SF
	RATCHE-WRENCH-121 (RATCHET-TYPE) (4-in-One in Metric or SAE).	# RWMM121SF or # RWSAE121SF
	RATCHE-WRENCH-122 (RATCHET-TYPE) (4-in-One in Metric or SAE).	# RWMM122SF or # RWSAE122SF
	RATCHE-WRENCH-123 (RATCHET-TYPE) (4-in-One in Metric or SAE).	# RWMM123SF or # RWSAE123SF
	PIPE-WRENCH Heavy Duty (Small – Al. Handle) (Pipe Cap : 1/8" to 3/4") (Opening 10-30mm)	# PW1030SF
	PIPE-WRENCH Heavy Duty (Big – Al. Handle) (Pipe Cap : 1/2" to 2") (Opening 20-60mm)	# PW2060SF

‘SOLSONS’ PRODUCTION



**‘SOLSONS’ Safety Tools are
manufactured
in INDIA using latest technology
of precision Investment Casting & CNC
machining to finished product.**

Certificate of Compliance

TO WHOM SO EVER IT MAY CONCERN

As a manufacturer of '**SOLSONS**' *Safety Tools*, we hereby certify that the tools made from Aluminium Bronze alloy provide non-sparking and tough properties. Utmost care has been taken by the manufacturer for maintaining the desired Chemical composition while making the alloy as certified by **The Central Mining Research Institute, Dhanbad, Jharkhand, India.**

Physical Properties
Hardness 220-300 BHN

Tensile Strength
750-800 MPa

Chemical composition
As per the approved specifications of Aluminium Bronze:
AL: 9-12% Ni: 2-5% Mn: 1.5% (Max)
Fe: 1-3% Cu: Balance

Managing Director
SOLSONS Exports Pvt. Ltd.

Material Safety Information

1	Material:	Aluminium - Bronze Alloy
2	Manufacturer:	Solsons Exports Pvt. Ltd., Varun, 37, Shrimali Socy., Navrangpura, Ahmedabad-380009, INDIA. Tel.: +91-79-2642 3515 / 2643 1429 Fax: +91-79-2642 3729 / 2656 9541 Website: www.solsons.com
3	Composition:	AL: 9-12% Ni: 2-5% Mn: 1.5% (Max) Fe: 1-3% Cu: Balance
4	Risk:	On delivery, the material is in solid form and harmless. If the material is worked up in such a way as to produce airborne particles (through dry grinding, polishing, electrical discharge machining, melting, welding, etc.) there is no possibility of risk of inhalation. The material is completely inactive to any chemical reaction due to weather or water. Ordinary handling, punching, moulding and most type of cutting are harmless. Heat treatment up to 830 degree Celsius is safe.
5	First Aid:	There are no acute risks. <u>Exposure to metal dust or fog:</u> In practice, such exposure is only possible in connection with processing methods such as dry grinding, polishing, electrical discharge machining, melting and welding and the amounts released are likely to be small as not to produce any direct symptoms. In all cases, however, person should be moved out in fresh air and a doctor should be consulted. <u>Cuts and scratches:</u> In the event of accident, such as cutting oneself on the material, normal precautions should be taken – remove any particle in the wound, clean and apply a bandage. <u>Eyes:</u> Wear safety glasses to protect against metal particles. There is no particular risk of eye injury. <u>On swallowing :</u> Observe standard industrial hygiene practices. Swallowing involves no particular risk of health damage.

Material Safety Information (Contd.....)

6	Fire Precautions:	The material is non-inflammable.
7	Leakage:	This is not possible when the material is in solid form.
8	Handling, storage:	No special regulations.
9	Physical properties:	Solid Bronze – coloured material; density 8.4gf/m ³ ; Melting point 1080 degrees Celsius.
10	Stability, reactivity:	The material is stable, non-corrosive, non-soluble and under normal condition, it does not disintegrate.
11	Toxic effects:	In solid form the material is harmless and it has no toxic effects.
12	Ecology:	In any form, Aluminium – bronze alloys are not detrimental to the environment.
13	Waste treatment:	Non-hazardous material for handling of scrap.
14	Transportation:	Transportation of the material in solid form is harmless.
15	Operations:	Any misuse must be avoided, e.g. extending the handle length of wrenches with piping or using a crow bar.

For more details, please contact SOLSONS@SOLSONS.com

के० ख० अ० सं० परीक्षण प्रकोष्ठ - CMRI TESTING CELL

केन्द्रीय खनन अनुसंधान संस्थान

(वैज्ञानिक, औद्योगिक अनुसंधान परिषद)



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CENTRAL MINING RESEARCH INSTITUTE

(Council of Scientific & Industrial Research)

बरवा रोड, धनबाद - 826 001 (INDIA) BARWA ROAD, DHANBAD-826 001 (INDIA)

परीक्षण प्रमाण पत्र - **TEST CERTIFICATE**

(FORM NO. CMRI: DQM: FLP: F-04: REV-02)

ID NO.: 473/04

Code No. FLP/194/2004

REPORT OF NON-SPARK TEST

[Accompanies this Office Letter No. CMRI/TC/P/11359 dated 15th March, 2005 and pertains to the report of testing on the sample of Non Sparking material as per IS: 4595-1969.]

NAME & ADDRESS OF THE APPLICANT & MANUFACTURER:

M/s. SOLSONS EXPORTS PVT. LTD.,
Varun 37, Shrimali Socy.,
Navrangpura, Ahmedabad-380009
Gujarat.

NAME OF THE SAMPLE & COMPOSITION DECLARED BY THE MANUFACTURER: Non-Sparking sample made of different composition in Size of 6mm dia. & 50mm length as per the composition given below. (No sample of the alloy was drawn from the non-sparking material for verifying its chemical composition declared)

Aluminium	-	9-12%
Nickel	-	2-5%
Manganese	-	1.5% (Max.)
Iron	-	1-3%
Copper	-	Balance

Date of Test: 02.03.2005

TEST CARRIED OUT: The test for non-sparking sample is carried out as per clause 9.1 of IS: 4595-1969.

TEST RESULT: The sample did not produce the incendive spark during the test and no explosion was occurred in the explosion chamber. Thus the alloy sample is characterized to be Non-Sparking as defined in IS: 4595-1969.

EQUIPMENT USED & THEIR CALIBRATION STATUS:

- (i) A Fabricated unit for Non-Sparking Tools test apparatus.
- (ii) Oxygen analyzer

Note: Calibration were performed as per in house procedure and are within permissible range.

STANDARD USED FOR TESTING: IS: 4595-1969 (General requirements for Non-Sparking tools)

CONDITION OF TESTING: The environment inside the chamber consists of 20cm³ gasoline and air mixture containing 50% oxygen.

TEMPERATURE: Ambient temperature of 30 degree C.

COMMENTS IF ANY: NIL



के० ख० अ० सं० परीक्षण प्रकोष्ठ - CMRI TESTING CELL



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(FORM NO. CMRI/DM: FLP/F-04: REV-02)

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CONCLUSION:

Non-Sparking sample made of Aluminium-Copper-Nickel-Manganese-Iron meets the test requirements of clause 9.1 of IS: 4595-1969 and above mentioned material may be termed as "Non-Sparking" material.

RECOMMENDATIONS TO THE STATUTORY BODIES/ENTRY USERS ETC.:

The sample falls under Non-Sparking Category.

Reported by

(B. AHIRWAL)
Scientist

Dated: 11th March, 2005
Flame & Explosion Laboratory,
Central Mining Research Institute, (CSIR)
Barwa Road, Dhanbad -826001,
Jharkhand, (India).

Approved by

(A. K. SINGH)
Head Of The Department

विन:माध्यम
परीक्षण प्रकोष्ठ
H.O.D.
Testing Cell