MZW SAFETY TOOLS (ISO 9002)

MZW Safety Tools are non-sparking, non-magnetic and non-corrosive. All of MZW alloy and Beryllium Copper Alloy (Cu Be_2) use to produce these tools were tested by : Italian Institution for Prevention of Accidents (Certificate No. 1.385 of 28.01.64) and Italian Military Navy (Certificate No. 116294 of 07.03.56)

(A) RESULTS OF THE TESTING UNDER CERTIFICATE NO. 1.385 OF 28.01.64 (ITALIAN INSTITUTION FOR PREVENTION OF ACCIDENTS)

1. COMPOSITION OF ALLOY FOR (MZW), (CU BE_2) :

Components	MZW Alloy (MZW) HRD 36.9	Beryllium Copper Alloy (Cu Be_2) HRD 57.9
Copper (CU)	82.13	96.97
Aluminium (AL)	10.76	trails
Iron (FE)	3.89	0.07
Nickel (NI)	1.87	0.56
Maganese (MN)	1.32	absent
Zinc (ZN)	trails	trails
Beryllium (BE)	absent	2.3

2. MAGNETIC PERMEABILITY :

"MZW" alloy ur = 1.09
Beryllium Copper Alloy ur = 1.00
This checking has been perfomed through < SIEMENS MAGNETOSCOPE > for values of magnetic force included between 10.000 and 6.000 A sp/m.

3. ROCKWELL HARDNESS :

The estimations have been performed according to UNI standards (tab. UNI 562-563) through < HARDNESS TESTER "GALILEO" > provided with a conic diamond, as penetration tester.
The performed load has been 100 kgs (scale D). On each of the two alloys No.5 tests have been performed and here are the respective results :
"MZW" alloy HRD 36.9
Beryllium Copper Alloy HRD 57.6

4. CHECKING OF SPARK-FREE PROPERTIES :

The testings have been performed in a dark room, by pressing bars of the material first, and then the tools themselves, against grinding-wheels of different grain size and different hardness, spinning at 2.900 r.p.m. The touch-pressure of the bars against the grinding wheel varied from 1 to 10 kg/cm². With high pressures and long touching times some little sparks of poor brightness and quick extintion-time have been remarked. During the whole cycle of the testing at all the mentioned pressures, we have remarked rare and isolated sparks of extremely short lighting-time. The sparkling has been slightly more frequent for the tools out of MZW Alloy. Besides, always in a dark-room the tools have been submitted to percussion and chipping tests on a silicon stone, on a plaster conglomerate and on a rough carbon-steel surface. The sparkling has been slight and the lighting hardly remarkable.

5. CONCLUSIONS :

In compliance to the results of the testings and to the composition of the tested materials, we hereby declare that the tools out of MZW Alloy and out of Beryllium Copper Alloy, manufactured by SOCIETA' METALLURGICA MINOTTI - Milan, can be considered as SAFETY, SPARK-FREE TOOLS.

(B) TESTING UNDER CERTIFICATE NO. 116294 OF 07.03.56 (ITALIAN MILITARY NAVY)

MZW AMAGNETIC ALLOY FOR THE FABRICATION OF AMAGNETIC HAND-TOOLS :

Upon request of the said Company (Soc.Metall.Minotti) we confirm that the technological and practical tests performed on the samples of wrenches made out of a magnetic alloy MZW have given favourable results. The above mentioned alloy is therefore considered as suitable for the fabrication of a magnetic hand-tools in general.

Applications of MZW tools:
Petroleum Refining
Chemical Industry
Aircraft Plants
Electronic Industry
Gas Works
Tankers and Shipyards

MSP MACHINE TOOL