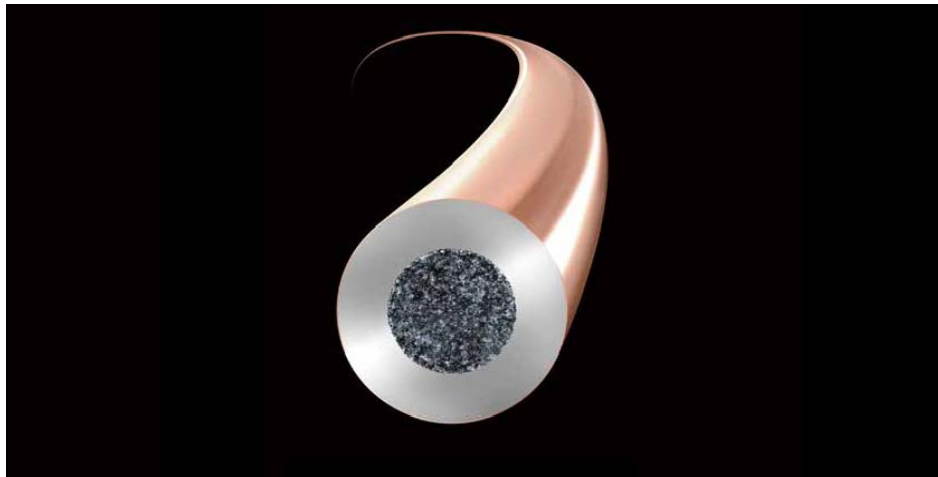


MALLOY

CERAMIC

Perfect welding



**SEAMLESS Cored Wires for
Hardfacing of Mould &
Punches for Ceramic Tiles**

THE HARDFACING OF MOULD & PUNCHES FOR CERAMIC TILES

Moulds & Punches for ceramic tiles forming wear out quickly due to the strong abrasive-erosive action caused by the fine ceramic particles (powder) at each pressing cycle. Particularly they wear out on the edges both of the mould and the punches. For this reason it is necessary to prolong their service life through a wear-resistant hard coating made by welding.

This hard coating, once applied on the edges of the punches by robotized welding, must then be machined by milling and grinding to obtain the final shape and dimension desired.

The characteristics of these hard coatings must be:

- High resistance to abrasion and erosion.
- Good machinability.
- Good weldability.
- Uniform, round, porosities and cracks free deposits.

Considering all these features, MALLOY has developed a series of special SEAMLESS Flux-Cored Wires for robotized welding of punches for ceramic tiles, to meet all technical-commercial needs:

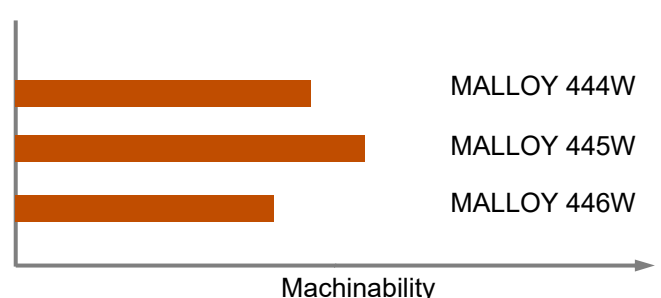
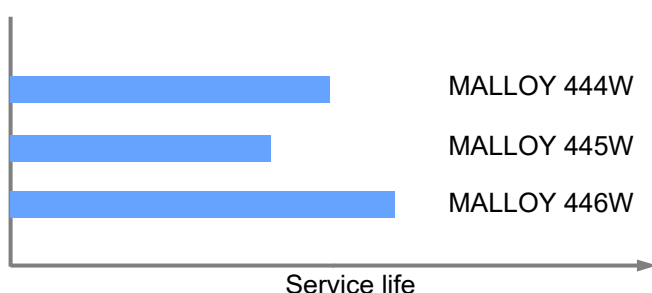
MALLOY 444W MALLOY 445W e MALLOY 446W

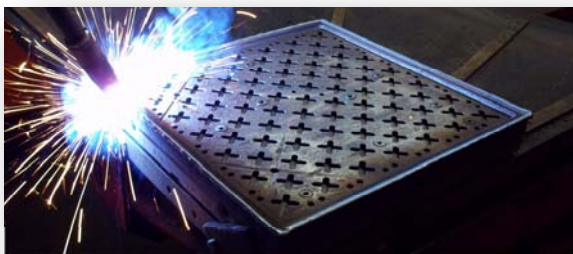
All them offer:

- **Extraordinary weldability**, either on new or worn punches to be refurbished.
- **Low heat input** to reduce dilution and to prevent distortion of thin punches.
- **Uniform well rounded smooth deposits**, without any slag, cracks, porosities and spatters, even on dirty punches.
- **SAVING ON PRODUCTION COSTS**, thanks to high wire efficiency and high productivity.

The difference between them lies in durability and machinability.

Wire	Punches service life	Machinability
MALLOY 444W Ø 1.2 mm	VERY GOOD (similar to wire STELLITE 6)	GOOD
MALLOY 445W Ø 1.2 mm	GOOD	VERY GOOD
MALLOY 446W Ø 1.2 mm	EXCELLENT (exceeding wire STELLITE 6)	BIT DIFFICULT





MALLOY 444W

**Diam 1.2 mm
16 Kg Spool
300 Kg DRUM**

Gas 82/18 Ar/CO₂

Up to 40% more service life of the punches compared to ordinary hardfacing solid wires. Similar to wire STELLITE 6, but at 1/5 of the cost.

Hardness 57-60 HRC.

Microstructures containing very hard complex carbides finely distributed, to combat wearing caused by highly abrasive-erosive fine ceramic particles.

MALLOY 445W

**Diam 1.2 mm
16 Kg Spool
300 Kg DRUM**

Gas 82/18 Ar/CO₂

Up to 25% more service life of the punches compared to ordinary hardfacing solid wires.

Hardness 57-60 HRC.

Microstructures containing hard carbides finely distributed, to combat wearing caused by highly abrasive-erosive fine ceramic particles.

MALLOY 446W

**Diam 1.2 mm
16 Kg Spool
250 Kg DRUM**

Gas 92/8-82/18 Ar/CO₂

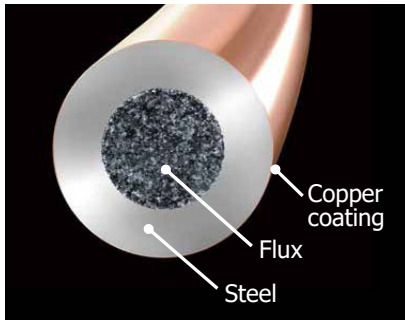
Service life of the punches EXCEEDING STELLITE 6 mig wire, but at 1/4 of the cost.

Hardness 53-55 HRC.

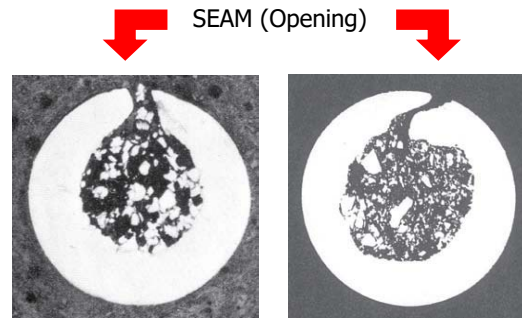
Microstructures containing very hard complex carbides finely distributed, to combat wearing caused by highly abrasive-erosive fine ceramic particles.

Excellence of MALLOY SEAMLESS wires

Difference between SEAMLESS and Conventional folded FCW Flux Cored Wire



SEAMLESS wire has NO SEAM
This means NO MOISTURE ABSORPTION



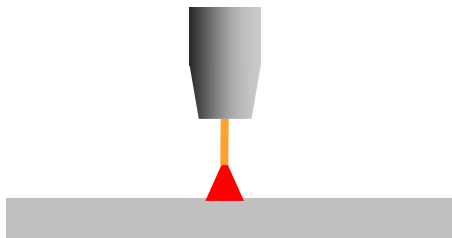
Conventional FOLDED wire has a SEAM
This causes MOISTURE ABSORPTION



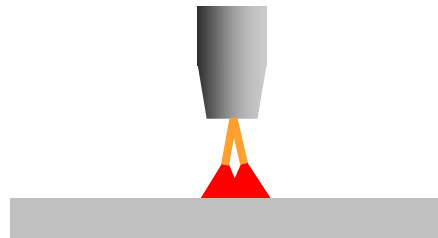
SEAMLESS is Copper Coated– No RUST



Conventional FOLDED is not Copper Coated– RUST on the surface



SEAMLESS wire offers High Precision Wire Positioning



Conventional FOLDED wire positioning is Erratic-Irregular

Copper coating

Copper coating optimizes the current transfer from torch contact tip to wire, improving Arc Stability even at very low current. Provides a protective surface for an excellent resistance to rust. Copper also reduce friction therefore the wire slides more easily reducing wear, both on contact tip and liner.

Perfect Circular wire shape and high twisting rigidity

MALLOY SEAMLESS wires have a Perfect Circular shape and a high twisting rigidity, which, added to the Copper coating, results in an excellent wire feeding and a High Precision Wire Positioning from the tip. Ideal for robotic welding!

