

## Technical data

### Silver brazing filler metal

#### Argo-braze™ 49H – Silver brazing filler metal

#### Product description

Argo-braze™ 49H is a specialised brazing filler metal developed principally for the brazing of tungsten carbide to steel. It was originally developed as a cadmium free alternative to Easy-flo™ No. 3 (EN 1044 AG351). It is now the principal filler metal used for the joining of tungsten carbide to steel around the world.

Argo-braze™ 49H contains additions of nickel and manganese, elements that have been found to aid wetting and bonding to tungsten carbide. These additions are particularly of use when brazing difficult to wet carbides that are low in cobalt and those that contain small additions of titanium and or tantalum carbide. This filler metal will fill joint gaps of between 0.1-0.25mm, and as such can accommodate the stresses (better than the free flowing brazing filler metals such as Silver-flo™ 55) that develop when cooling tungsten carbide to steel joints due to the widely differing expansion coefficients. Argo-braze™ 49H is recommended for use in applications that involve brazing pieces of tungsten carbide where the largest (longest) dimension is not greater than 20 mm. If cracking occurs in the carbide or where carbides with dimensions greater than 20 mm are to be brazed, the use of Argo-braze™ 49LM Tri-foil should be considered. This product can also prove useful for brazing cast iron and in particular untreated grey cast iron, where its manganese content gives it improved wetting over conventional brazing filler metals.

**Composition:** 49%Ag, 16%Cu, 23%Zn, 7.5%Ni, 4.5%Mn

**Conforms to:** EN 1044 1999 AG502, AWS A5.8 BAg-22, ISO 17672:2010 Ag 440

**Melting range:** 680-705 °C.

#### Uses for this product

Most commonly Argo-braze™ 49H is used for brazing tungsten carbide parts to steel components. It can be used when attempting to braze cast iron. Whilst Argo-braze™ 49H can be used to join all the common engineering materials (excluding aluminium), in practice other silver brazing filler metals may be selected instead.

#### Conditions for use

Commonly the alloy is pre-placed in the joint in foil form when being used to braze tungsten carbide to steel. A standard flux such as Easy-flo™ Flux Powder or Easy-Flo™ 100 Flux Paste also sold as Mattiflux™ 100 Flux Paste or special boron modified 'brown' fluxes such as Tenacity™ No. 6 Flux Powder or Paste should be used in conjunction with Argo-braze™ 49H.

#### Product availability

Brazing rods	1.5mm, 2mm, 2.5mm, 3mm
Strips	On request
Wire	0.5mm to 3mm
Foil	Widths from 2mm to 100mm, 0.08mm to 0.5mm thick
Others	Other Rings, preformed shapes, braze-pastes, on request customers.

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