

Hardfacing Consumables

Range of wires

IABCO offer a range of hardfacing wires to cover most common hardfacing requirements including hot work tool steel, high speed tool steel, and general purpose 650HV hardfacing:

- HF4** AISI H11 hot work tool steel.
- HF6** AISI M7 high speed tool steel.
- HF350** 350HV nominal hardness for moderate abrasion and high impact applications; producing a machinable deposit.
- HF600** 60HRC/650HV hardness, general purpose, hardfacing wire with good abrasion resistance.
- HF650** AISI H12 hot work tool steel.



Typical applications

The following provides an indication of the properties and typical applications for each of the wires:

- HF4** For the repair of hot work tool steels; and the production of tools by build-up on lower alloy steels. Suitable for operating temperatures up to ~550°C. Weld deposits can only be ground. Typical applications will include: hot shears, continuous casting rolls, die casting moulds, plastic processing screws, forging dies.
- HF6** For the repair of high speed tool steels; and the production of tools by build-up on lower alloy steels. Weld deposits can only be ground. Typical applications will include: cutting tools, gouges, broaches, turning tools.
- HF350** The HF350 wire is for hardfacing applications where significant build-ups are required, possibly prior to finishing with a higher hardness weld deposit (eg. HF600). Also used for surfacing applications where only moderate wear resistance is required but with good impact. The weld deposit can be machined or ground using standard techniques.
- HF600** The HF600 wire is predominantly used for applications requiring good abrasion resistance such as mixers, crushers and earth moving equipment but deposits will withstand moderate impact. With the final deposit hardness being nominally 60HRC (650HV) the weld metal can only be ground. If very thick build-ups are required it is suggested that lower hardness wires (eg. HF350) be used as a buffer layer.
- HF650** For the repair of hot work tool steels; and the production of tools by build-up on lower alloy steels. Suitable for operating temperatures up to ~550°C. Weld deposits can only be ground. Typical applications will include: hot shears, continuous casting rolls, die casting moulds, plastic processing screws, forging dies.

Typical hardness



	Vickers, HV	Brinell, HB	Rockwell C, HRC
HF4	540-630	500-600	52-57
HF6	630-740	590-690	57-62
HF350	350-390	330-370	36-40
HF600	590-700	560-650	55-60
HF650	590-700	560-650	55-60

Availability

All of the wires are copper coated and are supplied either in 5kg plastic tubes for manual TIG/GTAW, or 15kg reels as spooled wire for use with either the MIG/GMAW or mechanised TIG/GTAW process.

HF4	TIG / GTAW	5kg tube	1.2mm, 1.6mm, 2.4mm, 3.2mm
HF6	TIG / GTAW	5kg tube	1.6mm, 2.4mm, 3.2mm
HF350	MIG / GMAW	15kg reel	1.2mm
HF600	MIG / GMAW	15kg reel	1.0mm, 1.2mm, 1.6mm
HF650	MIG / GMAW	15kg reel	1.0mm, 1.2mm
	TIG / GTAW	5kg tube	2.4mm, 3.2mm

Consumable selection and weld procedure

Hardfacing covers a very wide range of applications and different requirements that it is impossible to cover in this brief leaflet. Welding procedures will also vary from one application to another so it is difficult to provide detailed information.

There are individual data sheets available for the five wires listed in this leaflet which provide additional information about each wire and brief guidance on welding procedures.

Please contact us if you require information on your specific application and assistance selecting the correct wire.

