

# Hardface 55

## PRODUCT DESCRIPTION:

**Hardface 55** is a metal-cored, gas-shielded wire which deposits a sound hot work tool steel alloy of the AISI H-12 type. It is extremely resistant to thermal shock and erosion at working temperatures. The alloy has good dimensional stability and uniform heat-treatment response, making it ideally suited for fabrication, modification, and repair of dies and other tool steel parts. Conforms to EN 14700 T Fe2.

## OPERATIONAL CHARACTERISTICS:

Hardface 55 has very smooth arc action, low fume levels, low spatter, and virtually slag-free welds. The weld deposit should be crack free provided the cooling rate is properly controlled.

The as welded metal provides moderate resistance to abrasion with good impact resistance. In the As-welded condition the weld metal is considered to be non-machinable. The weld metal is heat treatable with good dimensional stability.

## TYPICAL CHEMICAL COMPOSITION AND HARDNESS\*:

C	Mn	Si	Cr	Mo	W	V	Fe	Hardness
0.5	1.00	0.6	5.0	1.5	1.25	0.4	Balance	52 – 56 HRC

\*All weld metal (5 layer) – Weight percentage (w%)

## RECOMMENDED OPERATING PARAMETERS:

Diameter (mm)	Current	Stick-Out (mm)	Optimum Amps	Volts	Deposition Rate Amps	kg/hr
1.2	DCEP	15 - 25	120 - 160	19 - 23	130	2
			<b>160 - 190</b>	<b>24 - 25</b>	180	3.5
			190 - 230	26 - 27	220	5
1.6	DCEP	25 - 35	225 - 275	23 - 25	200	3
			<b>275 - 350</b>	<b>24 - 27</b>	250	5
			350 - 400	26 - 29	300	7

Use with 80/20 (M21) Gas Mixture. Start with **middle ranges** and adjust accordingly. Higher amperages will increase deposition rate, dilution, and heat input to base metal, increasing voltage will widen and flatten bead profile, but excessive voltage will result in porosity. Too much electrical stick-out may result in increased spatter, too little may result in internal porosity.

## AVAILABLE DIAMETERS AND PACKAGES:

Diameter (mm)	15kg Spool
1.2 & 1.6	BS300 Wire basket

## APPLICATIONS:

- Clean Out Rings
- Die Holders
- Dummy Blocks
- Extrusion Dies
- Forming Dies
- Forging Dies
- Header Dies
- Hot Forming Dies
- Gripper Dies
- Guide Rolls
- Mandrels

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- Swaging Dies