

AWS E7018-1 H4R (E4918-1 H4\*)

**Hobart® 418****DESCRIPTION:**

**Hobart 418** is a general purpose electrode that allows you to tackle a wide variety of welding projects with ease. You will get superior weldability from this low hydrogen, mild steel electrode that provides you with excellent start and restart capabilities in addition to a smooth and virtually spatter free arc. Hobart 418 has a very flat bead shape with a fine ripple appearance. The weld puddle smoothly washes into the sidewalls with no undercut. Slag removal is one of the best and in many cases is self-peeling. Hobart 418 also has the ability to operate smoothly even when the welding surface is somewhat dirty or rusty. Hobart 418 is designated as a low moisture absorbing product and can be exposed to higher temperatures and humidity for over 8 hours and meet AWS requirements. Extremely high impact levels are available with Hobart 418 even at -50°F giving the 418 its AWS E7018-1 designation.

**APPLICATIONS:**

Low alloy structurals; alloy and high carbon castings, and enameling steels requiring low hydrogen and weld metals with tensile strength of 70,000 psi; power and petrochemical plants (pressure vessels, fittings, piping and tie-ins); steel structures or field erections (building and bridges); mining equipment (buggies, conveyors, bucket repair, general maintenance, and build-up of idler rolls on dozers); piping and some pipelines; rail car and locomotive construction; heavy equipment fabrication and repair (earthmoving and construction equipment, etc.); shipbuilding, barge offshore drilling rigs; boiler code applications; some truck chassis; infrastructure repair and rebuilding to State and Federal Transportation Codes; general maintenance work, nuclear work, farm machine (manufacture and repair); general fabrication.

**FEATURES:**

- Superior weld appeal
- Effortless starts and restarts
- Low moisture absorption rate
- Low spatter
- Good wetting action
- Very stable arc
- Easy slag removal
- Compatible with Fabshield tubular wires
- Flat bead

**BENEFITS:**

- Promotes arc time for increased productivity; weld easily, reducing welder fatigue
- No starting porosity; ideal for tacking; increases welding productivity
- Reduces worry of moisture pick-up resulting in low hydrogen cracking; required less less trips to the oven for dry electrodes; increase quality and reliability of weld
- Ideal for all positions; produces good looking welds; reduces clean-up time
- Produces a nice flat bead contour; prevents cold laps; eliminates undercutting
- Easy to control; runs smooth in all positions with excellent vertical-up capability
- When used for tacking with Fabshield wires, Fabshield slag over tacks is easy to remove

**TYPICAL WELD METAL PROPERTIES\*\*(Chem Pad):**

Weld Metal Analysis		AWS Spec (max)
Carbon (C)	0.02	0.15
Manganese (Mn)	0.81	1.60
Phosphorus (P)	0.006	0.035
Sulphur (S)	0.012	0.035
Silicon (Si)	0.50	0.75
Chromium (Cr)	0.03	0.08
Nickel (Ni)	0.05	0.30
Molybdenum (Mo)	0.01	0.30
Mn + Ni + Cr + Mo + V	1.91	1.75

**TYPICAL MECHANICAL PROPERTIES\*\*(AW):**

		AWS Spec (min)
Tensile Strength	76,000 psi (527 MPa)	70,000 psi
Yield Strength	64,000 psi (440 MPa)	58,000 psi
Elongation % in 2"	33%	22%
Reduction of Area	72%	not required

**TYPICAL DIFFUSABLE HYDROGEN:**      2.6ml/100gr      **AWS Spec** 4.0ml/100gr

\* CWB classification

NOTE: The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers Company expressly disclaims any liability incurred from any reliance thereon. Typical data are those obtained when welded and tested in accordance with AWS A5.1 specification. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by Hobart Brothers Company.

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## TYPICAL CHARPY-V-NOTCH IMPACT VALUES\*\* (AW):

		AWS Spec (min)
Avg. at -20°F (-29°C)	94 ft•lbs (127 Joules)	20 ft•lbs
Avg. at -50°F (-46°C)	108 ft•lbs (147 Joules)	20 ft•lbs

## CONFORMANCES AND APPROVALS:

- AWS A5.1, E7018 H4R, E7018-1 H4R • ASME SFA5.1, F-4, A-1 E7018
- ABS 3H5, 3Y
- CWB E4918-1-H4
- Lloyd's BF3, 3YH5

**TYPE OF CURRENT:** DCEP or AC

## RECOMMENDED WELDING PROCEDURES:

<b>GENERAL:</b>	Electrode positive, work negative, (DCEP) or AC
<b>ARC:</b>	Very short (less than half the diameter of the electrode)
<b>FLAT:</b>	Angle electrode 10° - 15° from 90°
<b>VERTICAL-UP:</b>	Use weaving technique
<b>VERTICAL-DOWN:</b>	Not recommended
<b>OVERHEAD:</b>	Use slight weaving motion within puddle
<b>STORAGE:</b>	220°F to 350°F, (to ensure a low hydrogen weld deposit, storage in oven is recommended)
<b>RECONDITIONING:</b>	If exposed to atmosphere for extended periods, the electrode should be reconditioned for one hour at 575°F

## RECOMMENDED OPERATING PARAMETERS:

Diameter		Type of Power	Minimum Amps	Optimum* Amps	Maximum Amps
Inches	mm				
3/32	2.4	DCEP or AC	80	90	100
1/8	3.2	DCEP or AC	90	130	150
5/32	4.0	DCEP or AC	110	170	230
3/16	4.8	DCEP or AC	150	220	300
7/32	5.6	DCEP or AC	220	290	350
1/4	6.4	DCEP or AC	270	340	380

\*For out of position welding, reduce amperages shown by 15%.

## TYPICAL DEPOSITION DATA (at optimum):

Diameter		Type of Power	Amps	Volts	Deposition Rate lbs/hr	Deposition Efficiency*%
Inches	mm					
3/32	2.4	DCEP	90	22.0	1.80	62.7
1/8	3.2	DCEP	130	26.5	2.60	73.1
5/32	4.0	DCEP	170	28.0	3.90	62.5
3/16	4.8	DCEP	220	28.5	5.20	69.2
7/32	5.6	DCEP	290	30.0	6.50	68.7
1/4	6.4	DCEP	340	32.0	8.00	70.6

\*Allowance made for 2" stub loss included.

## AVAILABLE DIAMETERS AND PACKAGES:

Diameter		Length		5-Lb. Plastic Pak	10-Lb. Plastic Pak	10-Lb. Can	50-Lb. Can
Inches	mm	Inches	mm				
3/32	2.4	14"	355	S119932-045	S119932-089	S119932-033	S119932-035
1/8	3.2	14"	355	S119944-045	S119944-089	S119944-033	S119944-035
5/32	4.0	14"	355	S119951-045	S119951-089	S119951-033	S119951-035
3/16	4.8	14"	355	--	--	--	S119958-035
7/32	5.6	18"	457	--	--	--	S119970-035
1/4	6.4	18"	457	--	--	--	S119981-035

Material Safety Data Sheets on any Hobart Brothers Company product may be obtained from Hobart Customer Service.

Because Hobart Brothers Company is constantly improving products, Hobart reserves the right to change design and/or specifications without notice.

