

# Fabshield<sup>®</sup> 21B



AWS A5.20: E71T-11

## WELDING POSITIONS:



### FEATURES:

- Excellent operator appeal
- Versatile
- Self-shielded
- Excellent bead appearance
- Excellent slag removal

### BENEFITS:

- Increases productivity
- Ideal for a variety of applications
- Suitable for welding outdoors
- Helps to ensure weld integrity, reduces re-work
- Makes clean-up easy and quick

### APPLICATIONS:

- General fabrication
- Pre-fab construction
- Short assembly welds
- Machine parts
- Non-alloyed and fine grain steels
- Rail car repairs
- Light structurals [under 3/4" (19mm) thick]
- Tanks

**SLAG SYSTEM:** Fast freezing, basic/fluoride type, flux-cored wire

**SHIELDING GAS:** None required

**TYPE OF CURRENT:** Direct Current Electrode Negative (DCEN)

**STANDARD DIAMETERS:** 0.030" (0.8 mm), 0.035" (0.9 mm), 0.045" (1.2 mm), 1/16" (1.6 mm), 5/64" (2.0 mm)

**RE-DRYING:** Not recommended

**STORAGE:** Product should be stored in a dry, enclosed environment, and in its original intact packaging

### TYPICAL WELD METAL CHEMISTRY\* (Chem Pad):

Weld Metal Analysis (%)	Fabshield 21B	AWS Spec
Carbon (C)	0.28	0.30
Manganese (Mn)	0.34	1.75
Silicon (Si)	0.15	0.60
Phosphorus (P)	0.008	0.03
Sulphur (S)	0.003	0.03
Aluminum (Al)	1.72	1.80

**Note:** AWS specification single values are maximums.

### TYPICAL MECHANICAL PROPERTIES\* [Aged 48 Hrs. @ 200°F (93°C)]:

Mechanical Tests	Fabshield 21B	AWS Spec
Tensile Strength	91,000 psi (627 MPa)	70,000-95,000 psi (490-670 MPa)
Yield Strength	62,000 psi (427 MPa)	58,000 psi (390 MPa) Minimum
Elongation % in 2" (50mm)	22%	20% Minimum

**TYPICAL CHARPY V-NOTCH IMPACT VALUES\*:** Not applicable

\*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers LLC expressly disclaims any liability incurred from any reliance thereon. Typical data are those obtained when welded and tested in accordance with the AWS A5.20 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 LLC.

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Diameter Inches (mm)	Weld Position	Amps	Volts	Wire-Feed Speed		Deposition Rate		Contact Tip to Work Distance	
				in/min	(m/min)	lbs/hr	(kg/hr)	Inches	(mm)
0.030 (0.8)	All Position	25	14	55	(1.4)	0.3	(0.1)	1/2	(13)
0.030 (0.8)	All Position	125	16	225	(5.7)	3.8	(1.7)	1/2	(13)
0.035 (0.9)	All Position	55	17	75	(1.9)	1.8	(0.8)	1/2	(13)
0.035 (0.9)	All Position	80	19	110	(2.8)	2.1	(0.9)	1/2	(13)
0.035 (0.9)	All Position	120	20	160	(4.1)	2.5	(1.2)	1/2	(13)
0.045 (1.2)	All Position	115	15	105	(2.7)	1.4	(0.6)	1/2	(13)
0.045 (1.2)	All Position	130	16	125	(3.2)	1.8	(0.8)	1/2	(13)
0.045 (1.2)	All Position	160	17	170	(4.3)	2.8	(1.3)	1/2	(13)
0.045 (1.2)	All Position	200	18	195	(5.0)	3.5	(1.6)	1/2	(13)
1/16 (1.6)	All Position	160	17	70	(1.8)	2.1	(1.0)	3/4	(19)
1/16 (1.6)	All Position	190	18	100	(2.5)	3.2	(1.5)	3/4	(19)
1/16 (1.6)	Flat & Horizontal	210	19	110	(2.8)	3.4	(1.6)	3/4	(19)
1/16 (1.6)	Flat & Horizontal	260	20	145	(3.7)	4.8	(2.2)	3/4	(19)
5/64 (2.0)	All Position	185	16	55	(1.4)	2.6	(1.2)	1	(25)
5/64 (2.0)	All Position	190	18	60	(1.5)	2.8	(1.3)	1	(25)
5/64 (2.0)	All Position	220	19	70	(1.8)	3.5	(1.6)	1	(25)
5/64 (2.0)	Flat & Horizontal	265	21	90	(2.3)	4.7	(2.1)	1	(25)
5/64 (2.0)	Flat & Horizontal	315	22	124	(3.1)	7.1	(3.2)	1	(25)

- Maintaining a proper welding procedure - including pre-heat and interpass temperatures - may be critical depending on the type and thickness of steel being welded.
- All position includes: Flat, Horizontal, Vertical Up, Vertical Down, and Overhead.

**STANDARD DIAMETERS AND PACKAGES:** For a complete list of diameters and packaging, please contact Hobart Brothers at (800) 424-1543, or (937) 332-5188 for International Customer Service.

Diameter Inches (mm)	2-lb. (0.9kg) Spool	10-lb. (4.5kg) Spool	33-lb. (15kg) Spool	600 Lb (272kg) Exacto-Pak
0.030 (0.8)	S222106-019	S222106-022	—	—
0.035 (0.9)	S222108-019	S222108-022	S222108-029	—
0.045 (1.2)	—	S222112-022	S222112-029	—
1/16 (1.6)	—	S222119-022	S222119-029	S222119-056
5/64 (2.0)	—	—	S222125-029	—

#### CONFORMANCES AND APPROVALS:

- AWS A5.20, E71T-11
- AWS A5.20M, E491T-11
- ASME SFA 5.20, E71T-11
- ABS, E71T-11
- CWB, E491T-11-H8

#### CAUTION:

Consumers should be thoroughly familiar with the safety precautions on the warning label posted in each shipment and in the American National Standard Z49.1, "Safety in Welding and Cutting," published by the American Welding Society, 8669 NW 36 St, # 130, Doral, FL 33166-6672 (can also be downloaded online at [www.aws.org](http://www.aws.org)); OSHA Safety and Health Standards 29 CFR 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210

Material Safety Data Sheets on any Hobart Brothers LLC product may be obtained from Hobart Customer Service or at [www.hobartbrothers.com](http://www.hobartbrothers.com).

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

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