

# HN-521



EN ISO 14174: S A FB 1 55 AC H5

## FEATURES:

- Agglomerated neutral flux
- High-basicity flux
- Supplied in plastic/foil packaging
- Formulated to meet the demands of thick narrow-groove welds in critical applications
- Formulated for use with both Direct and Alternating Current

## BENEFITS:

- Well suited for thick, multi-pass welds
- Provides excellent low-temperature impact toughness required in critical applications
- Provides good package durability and protection from moisture
- Offers good slag release and bead contour for reduced interpass cleaning time
- Provides process flexibility (allowing for tandem SAW) for maximum productivity

## APPLICATIONS:

- Fine-Grain Structural Steels
- Structural & bridge fabrication
- Single & multi-pass welding
- Heavy equipment
- Offshore applications
- Oil & Gas

**FLUX TYPE:** Agglomerated fluoride-basic neutral

**BASICITY INDEX:** ~3.1 (Boniszewski)

**ALLOY TRANSFER:** None  
Typical AWS Wall Neutrality Number: 6.5 (Neutral)

**DENSITY:** ~1.1 kg/L

**MESH SIZE:** 0.25 - 2.0 mm/10 - 60 mesh

**CURRENT:** Direct Current Electrode Positive (DCEP), Direct Current Electrode Negative (DCEN), Alternating Current (AC)

**STORAGE:** Flux should be re-dried before use. Re-dried flux must be stored at 150±25°C (300±45°F) to prevent need for further re-drying

**RE-DRYING:** If the flux packaging has been opened and the flux has been exposed to moist conditions, re-drying is recommended. The flux should be re-dried at a temperature of 300-350°C (570-660°F) for a minimum of 2 hours. Re-drying should be made a maximum of three times.

**RECYCLING:** The flux recycling system must be free from moisture and oil. Slag and mill scale must be removed from the recycled flux. At least one part of new flux must be added to three parts of recycled flux.

## TYPICAL FLUX COMPOSITION\*:

SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub> + TiO <sub>2</sub>	MnO+FeO	CaO + MgO + CaF <sub>2</sub>
~12%	~17%	~<1%	~71%

## AWS CLASSIFICATIONS:

With Wire	Condition	Specifications	Classification (US Customary Units)	Classification (SI Units)
SDX EM14K	As-Welded	A5.17/A5.17M	F7A8-EM14K H8	F49A6-EM14K H8
	PWHT*	A5.17/A5.17M	F7P8-EM14K H8	F49P6-EM14K H8
SubCOR 100F3-S	As-Welded	A5.23/A5.23M	F9A6-ECF3-F3 H8	F62A5-EF3-F3 H8

**Note:** Stress-Relieved 1 Hr. @ 1150°F (620°C)

\*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 A5.17, AWS A5.23, and EN ISO 14171 specifications. 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.

# HN-521

## TYPICAL WELD DEPOSIT COMPOSITION\*:

With Wire	% C	% Mn	% Si	% P	% S	% Cu	% Cr	% Ni	% Mo	% Ti
SDX EM14K	0.07	1.21	0.51	0.011	0.004	0.060	—	—	—	0.015
SubCOR 100F3-S	0.08	1.54	0.47	0.009	0.005	0.04	0.04	0.90	0.47	—

## TYPICAL MECHANICAL PROPERTIES\*:

With Wire	Condition	Tensile Strength	Yield Strength	Elongation % in 2" (50 mm)
SDX EM14K	As-Welded	80 ksi (551 MPa)	68 ksi (468 MPa)	30%
	PWHT*	78 ksi (537 MPa)	63 ksi (434 MPa)	32%
SubCOR 100F3-S	As-Welded	102 ksi (703 MPa)	91 ksi (626 MPa)	23%

Note: Stress-Relieved 1 Hr. @ 1150°F (620°C)

## TYPICAL CHARPY V-NOTCH IMPACT VALUES\*:

With Wire	Condition	Avg. at -40°F (-40°C)	Avg. at -60°F (-50°C)	Avg. at -80°F (-60°C)	Avg. at -100°F (-70°C)
SDX EM14K	As-Welded	—	145 ft-lbs (196J)	124 ft-lbs (168 J)	—
	PWHT*	—	218 ft-lbs (295 J)	127 ft-lbs (172 J)	—
SubCOR 100F3-S	As-Welded	—	46 ft-lbs (63 J)	—	—

Note: Stress-Relieved 1 Hr. @ 1150°F (620°C)

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

<b>50 lb. (23 kg) Bag</b>
<b>Net Pallet Weight: 2000 lb. (907 kg)</b>
S669110-055

## CONFORMANCES AND APPROVALS\*:

With Wire	CWB
SDX EM14K	F49A6-EM14K-H8
	F49P6-EM14K-H8

\*Limitations (diameter, position, etc.) may exist. Please refer to product approval certificates for more information.

**TECHNICAL QUESTIONS?** For technical support of Hobart Filler Metals products, contact the Applications Engineering department by phone toll-free at 1-800-532-2618 or by e-mail at [Applications.Engineering@hobartbrothers.com](mailto:Applications.Engineering@hobartbrothers.com)

### 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 36th St., Miami, FL 33166 (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

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.

Revision Date: 250121 (Replaces 250110)

