THE HARRIS PRODUCTS GROUP
A LINCOLN ELECTRIC COMPANY
4501 Quality Place • Mason, OH 45040 U.S.A Tel: 513-754-2000 Fax: 513-754-6015

TECHNICAL SPECIFICATION SHEET

630 (17-4) STAINLESS STEEL WELDING WIRE

STATEMENT OF LIABILITY- DISCLAIMER

NOMINAL COMPOSITION:

Carbon	.05% max.	Chromium	16.0-16.75%
Nickel	4.50-5.00%	Manganese	.25-.75%
Copper	3.25-4.00%	Silicon	.75% max.
Phosphorus	.03% max.	Sulfur	.03% max.
Molybdenum	.75% max.	Iron	Balance
Columbium/Tantalum	.15-.30%		

TYPICAL MECHANICAL PROPERTIES AS WELDED:

Yield Strength (psi)	145,000	Elongation	5.0%
Tensile Strength (psi)	160,000	Brinell Hardness	327 HB
Rockwell B Hardness	108 HRB		

APPLICATION:

17-4 PH is a martensitic precipitation-hardening stainless steel that provides an outstanding combination of high strength, good corrosion resistance, good mechanical properties at temperatures up to 600°F (316C), good strength in both base metal and welds, and short-time, low-temperature heat treatments that minimize warpage and scaling. Application for 17-4 PH include chemical processing equipment, aircraft components, continuous extrusion equipment, tubular structures, duplication machine components, pressure vessels, small bellows, and diaphragm assemblies. 17-4 PH is an outstanding choice for applications requiring high strength and hardness, as well as corrosion resistance, and is more cost effective than many high nickel non-ferrous alloys.17/4 PH plate under 4 " can be welded without preheating but interpass up to 300f are commonly used.

RECOMMENDED WELDING PARAMETERS:

*GMAW (MIG) Parameters (DC Reverse Polarity) Electrode Positive Short-Circuiting transfer

Wire Diameter	Amps	Volts	90% Helium + 7.5% Argon + 2.5% CO_2 (cfh)	Wire Feed (ipm)
.030	60-125	17-22	20-25	150-430
.035	75-160	17-22	20-25	120-400
.045	100-200	17-22	20-25	100-240

Additional information available at our web site: www.harrisproductsgroup.com

12/99 DC

*GMAW (MIG) Parameters (DC Reverse Polarity) Electrode Positive Spray transfer

Wire Diameter	Amps	Volts	Argon / 1-2% O_2	Wire Feed (ipm)
.030	160-225	24-28	25	440-650
.035	180-300	24-29	30	430-500
.045	200-450	24-30	30-35	220-400
1/16	225-500	24-32	40	110-210
3/32	250-600	24-32	50	50-80

*GTAW (Tig) Parameters (DCSP) Electrode negative

Material	2% Thoriated	Filler Wire Size	Amps	Gas Cup	Argon(cfh)
1/16”	1/16”	1/16”	80-120	3/8	20
3/32”	1/16”	1/16”	100-130	3/8	20
1/8”	3/32”	1/16”	120-150	7/16	20
3/16”	3/32”	3/32”	150-250	7/16	25
1/4”	1/8”	1/8”	200-350	1/2	25
1/2"	1/8”	1/8”	235-375	1/2	25

* All parameters are suggested as basic guidelines and will vary depending on joint design, number of passes and other factors.

SPECIFICATION COMPLIANCE: ANSI/AWS A5.9 & ASME SFA 5.9 ER 630, AMS 5825

WARNING: PROTECT yourself and others. Read and understand this information.
FUMES AND GASES can be hazardous to your health.
ARC RAYS can injure eyes and burn skin.
ELECTRIC SHOCK can KILL.

- Before use, read and understand the manufacturer's instructions, Material Safety Data Sheets (MSDSs), and your employer's safety practices.
- Keep your head out of fumes.
- Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone and the general area.
- Wear correct eye, ear, and body protection.
- Do not touch live electrical parts.
- See American National Standard Z49.1, *Safety in Welding, Cutting, and Allied Processes,* published by the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida 33126; OSHA Safety and Health Standards, available from the U.S. Government Office, Washington, DC 20402

12/99 DC