



TECHNICAL INFORMATION SHEET

630 (17-4) STAINLESS STEEL WELDING WIRE

NOMINAL COMPOSITION:

Carbon	0.05% max.	Chromium	16.0-16.75%
Nickel	4.50-5.00%	Manganese	0.25-0.75%
Copper	3.25-4.00%	Silicon	0.75% max.
Phosphorus	0.03% max.	Sulfur	0.03% max.
Molybdenum	0.75% max.	Iron	Balance
		Other	0.15-0.30

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

<u>Wire Diameter</u>	<u>Amps</u>	<u>Volts</u>	<u>90% Helium + 7.5% Argon + 2.5% CO₂ (cfh)</u>	<u>Wire Feed (ipm)</u>
.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

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

<u>Wire Diameter</u>	<u>Amps</u>	<u>Volts</u>	<u>Argon / 1-2% O₂</u>	<u>Wire Feed (ipm.)</u>
.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

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
Additional information available at our web site: www.harrisproductsgroup.com MK/23



TECHNICAL INFORMATION SHEET

630 (17-4) STAINLESS STEEL WELDING WIRE

*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,

SAFETY INFORMATION:

WARNING: PROTECT yourself and others. Read and understand this information.

FUMES AND GASES can be hazardous to your health.

HEAT RAYS, (infrared radiation) from flame or hot metal can injure eyes.

- Before use, read and understand the manufacturer's instructions, Safety Data Sheets (SDS), and your employer's safety practices.
- Keep your head out of fumes.
- Use enough ventilation, exhaust at the flame, or heat source, to keep fumes and gases from your breathing zone and the general area.
- Wear correct eye, ear, and body protection.
- See American National Standard Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society, 8669 Doral Blvd., Doral, Florida 33166; OSHA Safety and Health Standards, available from the U.S. Government Office, Washington, DC 20402.

STATEMENT OF LIABILITY- DISCLAIMER:

Any suggestion of product applications or results is given without representation or warranty, either expressed or implied. Without exception or limitation, there are no warranties of merchantability or of fitness for particular purpose or application. The user must fully evaluate every process and application in all aspects, including suitability, compliance with applicable law and non-infringement of the rights of others. The Harris Products Group and its affiliates shall have no liability in respect thereof.

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
Additional information available at our web site: www.harrisproductsgroup.com MK/23