THE HARRIS PRODUCTS GROUP
A LINCOLN ELECTRIC COMPANY
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TECHNICAL SPECIFICATION SHEET

316 STAINLESS STEEL WELDING WIRE

NOMINAL COMPOSITION:

Carbon	.08% max.	Chromium	18.0-20.0%
Nickel	11.0-14.0%	Manganese	1.0-2.5%
Copper	.75% max.	Silicon	.30-.65% max.
Phosphorus	.03% max.	Sulfur	.03% max.
Molybdenum	2.0-3.0%	Iron	Balance
Normal Ferrite Range	5-12		

TYPICAL MECHANICAL PROPERTIES AS WELDED:

Yield Strength (psi)	59,000	Elongation	40%
Tensile Strength (psi)	88,000	Reduction of Area	60%
Charpy V	45 ft./lb. room temp.	Brinell Hardness	180 HRB
Rockwell B Hardness	89 HRB		

APPLICATION:

This alloy is used to weld type 316 and similar alloys, it has also been used successfully in high temperature applications.

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

*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

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

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*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 CLASS ER 316

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

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