



T H E H A R R I S P R O D U C T S G R O U P
 A L I N C O L N E L E C T R I C C O M P A N Y
 4501 Quality Place • Mason, OH 45040 U.S.A Tel: 513-754-2000 Fax: 513-754-6015

TECHNICAL SPECIFICATION SHEET

DYNACORE® 309LT1-1 FLUX CORED STAINLESS STEEL WELDING WIRE

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APPLICATION: Used to join dissimilar steels and materials of AISI 309 composition. It is also recommended for use as a first layer in a single or multilayer surfacing of non-alloy and low alloy steels to give a 304L deposit. By specifying low carbon content in this alloy, it's impossible to obtain resistance to inter granular corrosion due to carbide precipitation without the use of stabilizers such as Columbium or Titanium. This material is generally used with 100% CO₂ or mixture of Argon and CO₂, typically 75%-25% mixtures. Recommended wire stick out is 5/8"-3/4".

NOMINAL COMPOSITION:

| | | | |
|------------|----------|-----------|----------|
| Carbon | .04% max | Chromium | 22-25% |
| Nickel | 12-14% | Manganese | .50-2.5 |
| Copper | 50% max. | Silicon | 1% |
| Phosphorus | .04% max | Sulfur | .03% max |
| Molybdenum | .50% max | Iron | Balance |

Typical MECHANICAL PROPERTIES AS WELDED:

| | |
|------------------|------------|
| Yield Strength | 57,000 psi |
| Elongation | 30% min |
| Tensile Strength | 87,000 psi |

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**RECOMMENDED WELDING PARAMETERS:
FCAW Parameters (DC Reverse Polarity) Electrode Positive**

| <u>Wire Diameter</u> | <u>Welding Position</u> | <u>Joint Type</u> | <u>Plate Thickness</u> | <u>Amps</u> | <u>Volts</u> | <u>Deposition ipm</u> |
|----------------------|-------------------------|-------------------|------------------------|-------------|--------------|-----------------------|
| .035 | Flat | Butt | 1/8" | 70-90 | 25-27 | 12-16 |
| .035 | Flat | Butt | 1/4" | 120-130 | 26-29 | 10-14 |
| .035 | Flat | Fillet | 1/4" | 110-130 | 26-29 | 12-16 |
| .035 | Vertical up | Butt& Fillet | 3/8" | 70-90 | 22-25 | 6-10 |
| .035 | Horizontal | Butt | 3/32" | 100-120 | 24-27 | 12-16 |
| .035 | Overhead | Fillet | 3/8" | 150-200 | 26-28 | 8-12 |
| .45 | Flat | Butt | 1/4" | 180-200 | 29-32 | 12-16 |
| .45 | Flat | Fillet | 3/8" | 170-200 | 28-32 | 10-16 |
| .45 | Vertical up | Butt& Fillet | 3/8" | 110-140 | 21-24 | 4-8 |
| .45 | Horizontal | Butt | 1/4" | 150-180 | 26-30 | 10-16 |
| .45 | Overhead | Fillet | 3/8" | 150-200 | 26-28 | 10-14 |
| 1/16 | Flat | Butt | 1/4" | 210-220 | 27-30 | 14-16 |
| 1/16 | Flat | Fillet | 3/8" | 220-250 | 27-31 | 12-18 |
| 1/16 | Vertical up | Butt& Fillet | 3/8" | 130-160 | 21-24 | 6-8 |
| 1/16 | Horizontal | Butt | 1/4" | 150-200 | 26-30 | 10-16 |
| 1/16 | Overhead | Fillet | 3/8" | 150-200 | 27-30 | 12-14 |

*** All parameters are suggested as basic guidelines and will vary depending on joint design, number of passes and other factors.
SPECIFICATION COMPLIANCE: ANSI/AWS A5.22 & ASME SFA 5.22 E 309LT1-1**

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 (MSDS), 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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