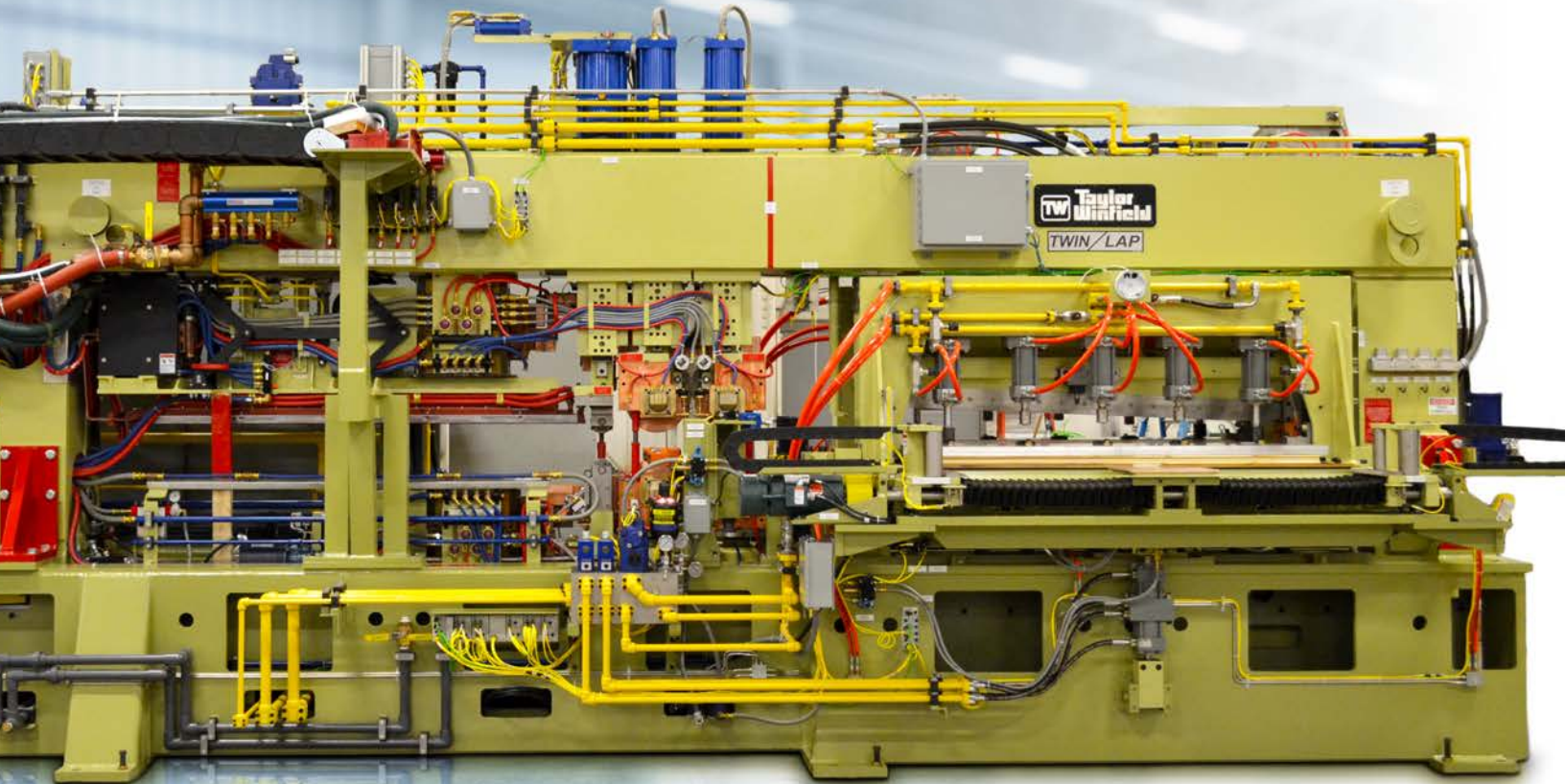




# TWINLAP SEAM WELDER

FOR CONTINUOUS STEEL PROCESSING LINES



- HIGH-SPEED COIL JOINING PROCESS
- SAFE, RELIABLE OPERATION
- QUICK CHANGE WELDING WHEELS
- AUTOMATIC SCRAP REMOVAL
- FULLY AUTOMATIC OPERATION
- CONSISTENT AND REPEATABLE WELDING PROCESS

The **TwinLap Resistance Seam Welder's** patented process is designed for steel producers who need to join full-hard and automotive grade materials in a single pass with a near "O" joint over-thickness. This welder can easily join low carbon equivalent steel grades such as DDQ, EQ, and IF and dominates when it comes to joining full-hard and Advanced/Ultra High Strength Steels (AHSS, UHSS) like Dual Phase, TRIP, HSLA, Silicon, Stainless, and other complex phase and martensitic steels.

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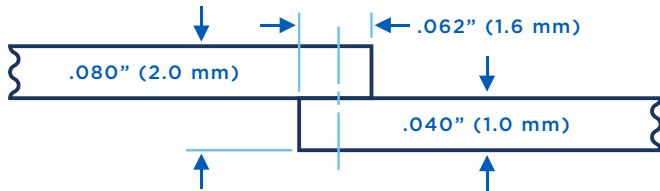
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## Strip Material Specifications:

- Steel Grades: AHSS, Dual Phase, TRIP, Stainless, Silicon, High Carbon Steels, HSLA, and UHSS steels
- Strip Thickness: 0.006" to 0.138" (0.15 mm to 3.5 mm) • Strip Width: 18" to 76" (457 mm to 1930 mm)

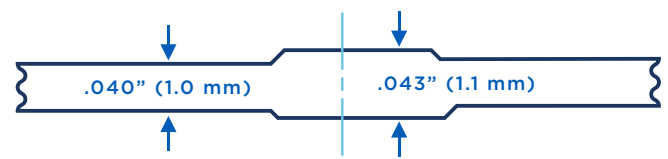
## Seam Welding Sequence and Typical Dimensions:

### (1) Pre-Weld Material Positioning



Strip ends are clamped, sheared square and overlapped, ready for the welding sequence.

### (2) Post-Weld Seam Profile



Upper and lower welding wheels close and travel across the overlapped strip material, followed by hardened planishing rolls to create a welded seam with minimum overthickness.

## Benefits:

- Lower initial investment, operating and maintenance costs than TIG, MIG or Laser welding systems
- Fast cycle times – typically less than 60 seconds for the maximum strip width and thickness
- More forgiving welding process compared to laser and other joining processes
- No specialized skilled training required to operate and/or maintain the welder
- Creates a "Rollable Weld" - no need to release tension in your mill to pass the weld
- Less concern about weld breakage when moving across strip support and tension rolls
- In many applications, the welded joint does not have to be removed before subsequent processing – coating, annealing, or galvanizing the strip

## Mechanical Features:

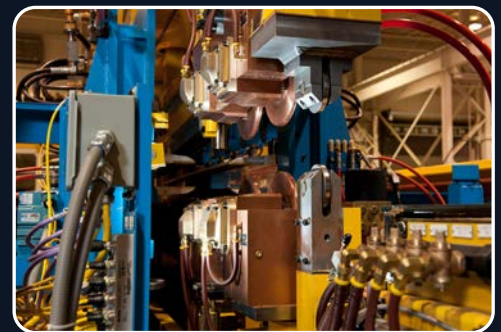
- Rugged "O" frame configuration
- Durable "Oil Bath" welding heads with quick-change weld wheel feature
- High precision pneumatic or hydraulic dual re-squaring shear with four sided cutting blades
- Pneumatic or hydraulic entry and exit clamps with quick change clamp liners
- Precision linear motion control of welding carriage
- Automatic scrap removal

## Electrical Features:

- Single phase AC, DC or MFDC weld control options
- Automatic weld parameter set-up with "Upper Level" computer communication via Profibus, Ethernet, or TCP/IP protocol
- Constant current weld control for consistently high weld quality
- Close-coupled transformer, secondary bus bar and welding electrodes - highest weld current density for any seam welder and lower energy usage

## Optional Machine Features Available:

- Post weld heat treatment (full-width in-line or free-standing)
- Entry/Exit centering tables, with pinch and looper rolls
- Single and dual entry pass-line systems
- Automatic strip cross alignment
- Strip edge notchers
- Weld quality destructive "bulge" tester
- Off-line weld wheel dresser
- Weld seam monitor – machine diagnosis and monitoring system with good/bad weld notification



Clamps & Shearer "Entry and Exit Clamp Arrangement & Dual Resquaring Shear"



Welding Arrangement