Laser Welders for cold-rolling plants

The highest reliability
The easiest to use

CLECIM
FRANCE

Your production tool deserves the best Machine.

Key supplier since 1970, more than 220 references.

PIONEER ON ADVANCED TECHNOLOGY
FIRST ON SOLID-STATE

As a globally active full-line supplier, we offer you unique expertise in the steelmaking industry. Based on our experience, our product solutions ensure that every aspect of your production process is optimized. Not only do we provide state-of-the-art technology, we also offer first-class services. In everything we do, our goal is to improve the performance of your plant.

LASER WELDING MACHINES
TOP QUALITY WITH MINIMUM MAINTENANCE

Laser welding machines are the perfect answer to increased market demands for high-strength steels, ultra large production range and top-quality processing and weld geometry. The laser cutting technology allows to cut with a perfect and constant quality a wide range of product from ductile steels to the highest strength.

The right product for your application.

LW21H

LW21M

LW21L

	Heavy	Medium	Light
	LW21H Laser	LW21M Laser	LW21L Laser
Type of Lines	Continuous Pickling Lines, Tandem Cold Mill, Continuous Tandem Cold Mill	Galvanizing Lines / Annealing Lines, Recoiling Lines	Recoiling Lines, Slitting Lines, Inspection Lines
Process steel	IF, CQ, DP, TRIP, Gen3, Stainless, Silicon GO/ NGO	IF, CQ, DP, TRIP, Gen3, Stainless, Silicon GO/ NGO	IF, CQ, DP, TRIP, Gen3, Stainless, Silicon GO/ NGO
Strip thickness (mm)	0.7 to 8.0	0.25 to 4.50	0.15 to 1.70
Maximum tensile strength (MPa)	No limitation	No limitation	No limitation
Process	Solid-state laser source	Solid State Laser source	Solid State Laser source

ENTRY/EXIT EQUIPMENT

- Markless clamp system
- Contactless sensor
- Ultra fast notching
- High strip speed positioning
- Powerful notcher

Laser welder LW21H/M/L performances and benefits.

GOOD CUT
GOOD WELD

The laser cutting of the strip head and tail offers a straight, square face without vertical deformation of the strip to ensure a perfect weld quality. This is achieved without any tool wear and regardless of the product characteristics, unlike older mechanical cutting processes. The cutting and welding processes are carried out in the same way, so there are no problems caused by the blades or misalignment of the weld axis.

BENEFITS OF THE SOLID-STATE LASER
TECHNOLOGY SOURCE

Solid-state laser source technology provides significant benefits reducing the operating costs:

- Ultra low maintenance by using optical fibers to transmit laser beam instead of mirrors, open beam path…
- No laser path adjustment
- Maintenance of the solid-state laser system is very basic and frequency is low (1 year). Less wear parts in stock

HIGH LEVEL
OF PERFORMANCE

With a higher efficiency level and a higher beam quality, solid-state technology allows you to weld at higher speeds thanks to our in-house dedicated cutting and welding models. The technology is well mastered and the setpoints intelligently defined.

SAFETY
OUR PRIORITY

Machines are delivered with a high safety level system for protecting your team. The safety Programmable Logic Controller, PLC, allows easy and safe adjustment without any bypass.

HIGHLIGHTS

- Constant cut quality
- No limitation of grade change with laser welding
- Safe production with online weld quality control
- Filler wire
- Postheating and preheating for processing high-strength steels (LW21H)
- Planishing
- Fully integrated safety system
- Safe and easy operation of the machine thanks to a class I laser (full containment cabin)

Excellence from Experience

SELECTED SUCCESS STORIES WITH WELDING MACHINES FOR COLD ROLLING PLANTS WITH CONDITION MONITORING.

ArcelorMittal Nippon Steel India

Line type: Continuous Tandem Cold Mill

Clecim solution: LW21H laser welder with preheating, postheating, filler wire, planishing

Your benefit: High cutting speed and superior welding qualidy

Welded product range: CQ, DQ, IF, HSLA, Boron Steel

Technical data: 650 - 1650 mm wide; 1.0 - 5.0 mm thick

US Steel Pro-Tec Coating Co., United States

Line type: Continuous Galvanizing Line

Clecim solution: LW21M with postheating, filler wire, planishing

Your benefit: Gen3 Steel, MS1700

Technical data: 870 - 1670 mm wide; 0.6 - 2.7 mm thick

Posco Gwangyang Steelworks, Korea

Line type: Continuous Annealing Line

Clecim solution: LW21M with postheating, filler wire, planishing

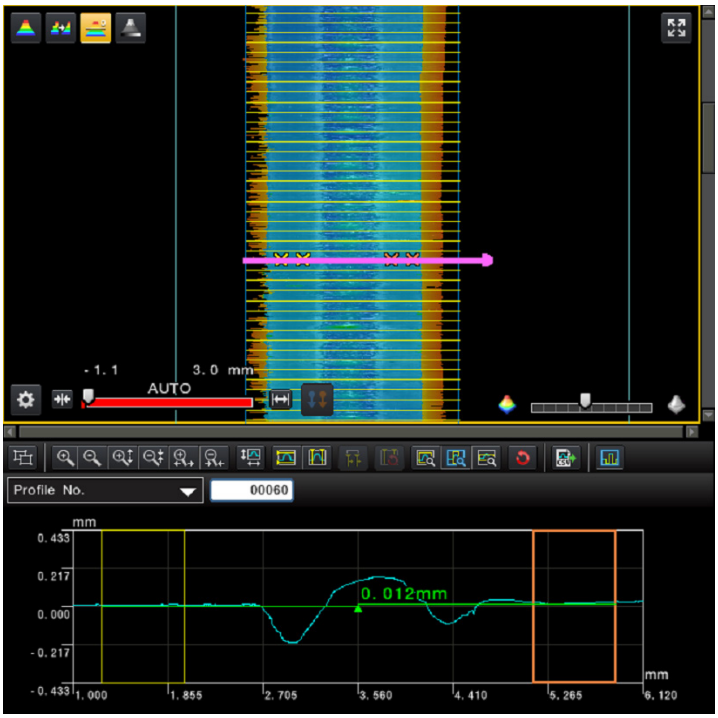
Your benefit: DP1200, TRIP1200, TWIP

Technical data: 800 - 1880 mm wide; 0.4 - 2.5 mm thick

Secured production weld quality control.

SAFE PRODUCTION POWERFUL WELDING QUALIFICATION SYSTEM

An advanced automatic weld quality control system is offered on each machine and the weld is qualified immediately after the welding process to reduce downtime. A clear statement of the weld quality is displayed, allowing for a quick decision and ensuring a safe weld passing through the line.



Weld analysis

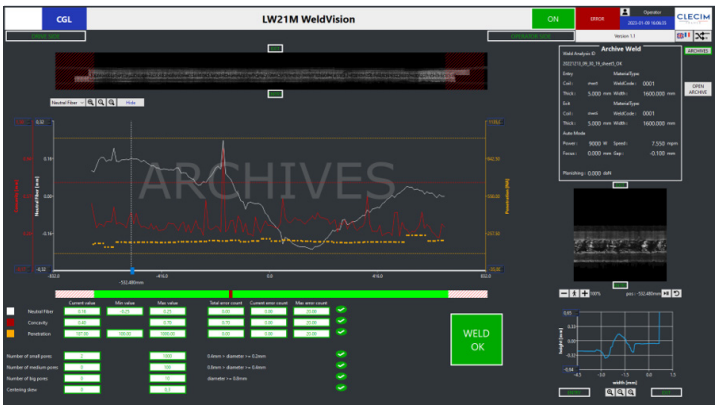
LASER BUTT WELDING QUALIFICATION

The laser triangulation technology allows to evaluate the main weld defects accurately, even at high welding speeds. In case the quality criteria are not fulfilled, the weld defects are highlighted along the weld.
A high definition image of the entire weld can also be provided to give users a very accurate view.

Welding quality system high accuracy and performance are achieved thanks to the multifunctional aspect analysis:

- Metal fusion/consolidation quality by monitoring non-homogeneity, porosities, cracks, holes...
- Geometrical quality aspects such as Convexity/Concavity, 2D alignment on height variation
- Gap check and gap parallelism

Identified quality defects if any are clearly highlighted along the weld



Weldvision view

Lifecycle management

Before, During and After.

As a partner, we support you all along the lifecycle of your equipment through our BDA (Before, During and After) way of working:

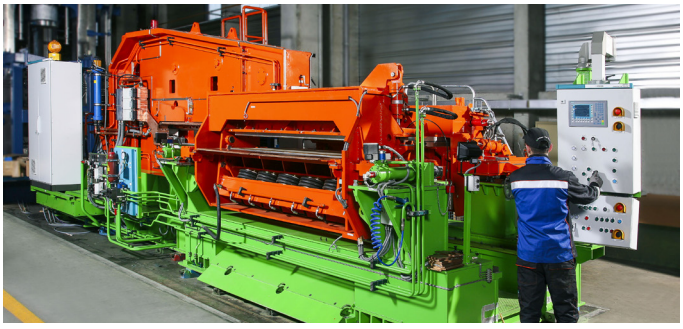
- Before: define improvements and optimization solutions through Consulting Services
- During: deliver on our commitments with premium quality equipment and services to enable our customers reaching their targets
- After: support the operations and maintenance activities with on-site assistance and spare parts

LIFECYCLE SERVICES

We are commited to our customers for the long term.

Our goal is rather to prevent issues in advance and to advise our customer on spare parts management and maintenance tasks. Of course in case of emergencies we are also able to react quickly.

From Europe, America to Asia our high qualified service engineers are ready to assist you from installation, commissioning, production to maintenance and repair activities. They can be physically on site or available through a dedicated remote support.



HIGH VALUE SERVICES:

- Hotline / remote support
- Preventive maintenance visit, expertise and training
- Safety level check
- Optical heads quality level insurance and test

HIGH COST-EFFECTIVE UPGRADES:

Clecim SAS "Clecim" does not forget its Mashlap clients and offers high profitability upgrades for their specific needs:

- Full E&A revamp (Siemens TIA)
- Contactless centering (no strip edge damage)
- Mashseam welding circuit replacement
- Automatic weld quality analysis (2D/3D)
- Postheating (High-strength steels)

CLECIM
FRANCE

VISIT US

CLECIM SAS
41 Rue de Feurs, CS 50099
42600 Savigneux Cedex, France
T +33 4 77 96 63 00
contact@clecim.com

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