

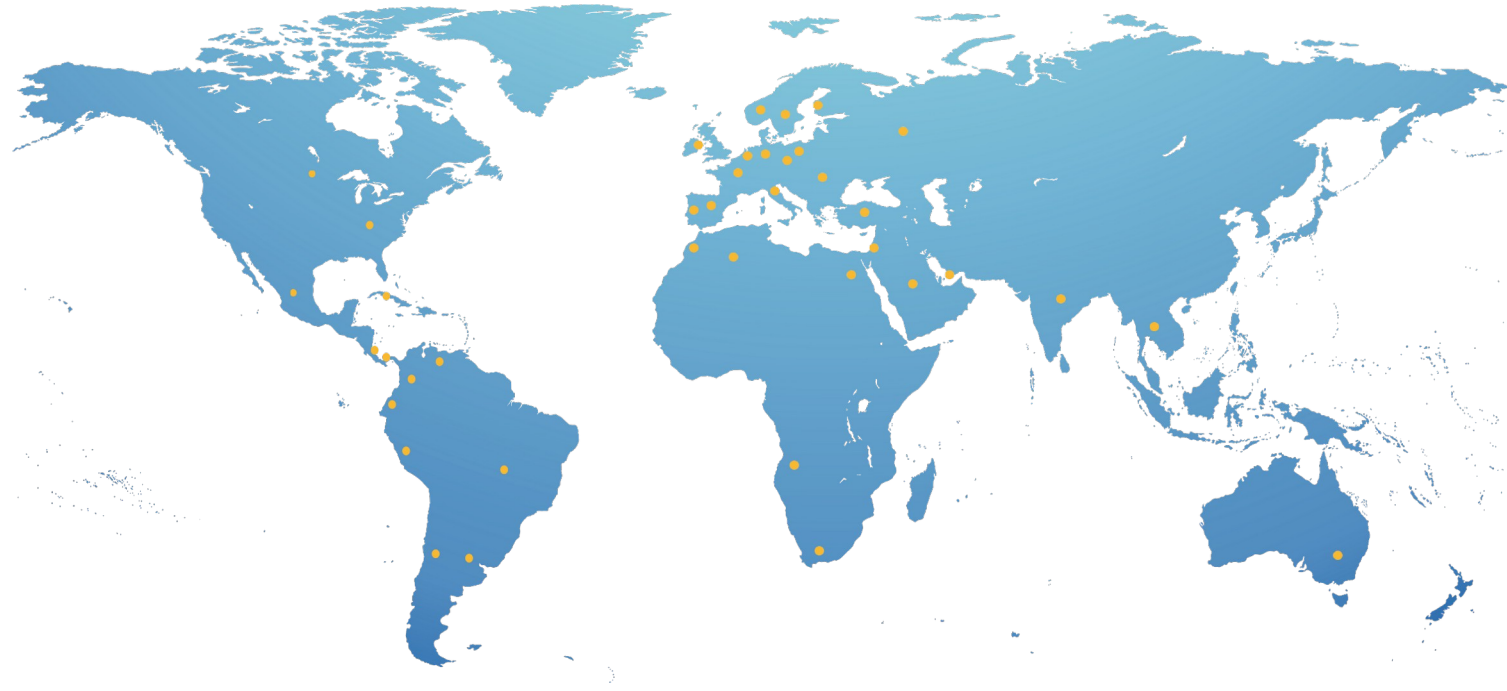


Sistemas Avanzados de Procesamiento de Chapa
Advanced Plate Processing Systems



We are a **spanish** Company that **designs, manufactures, installs, develops** and **maintains** metal processing stations, with technologies such as **laser, plasma, oxy-cutting, plate machining** and edge preparation for **welding**.

Our Company, established in **1995** has experienced a **continuous growth** since the beginning, always betting on **research and development**. The result is an **end product leader in innovation and quality**, thanks to a perfect combination between **highly skilled professionals** and the integration of the most advanced components in the market, always maintaining high standards for ourselves and **excellence** with respect to our clients.



We have **28,000 m2 in our headquarters in Spain** dedicated to design, production, assembly, development, training, test and showroom. To this are added branches in Europe, the United States, Australia, Brazil, Mexico and Panama that cover the five continents and guarantee the current presence in more than 25 countries.

Currently **we export 85% of our production** and we have highly relevant facilities such as the most modern wind tower production center on the market with exclusive CBM technology, implementation of 4.0 technology in the most relevant shipyards in the sector or the world's largest laser cutting station.



15%
yearly growht since 2008



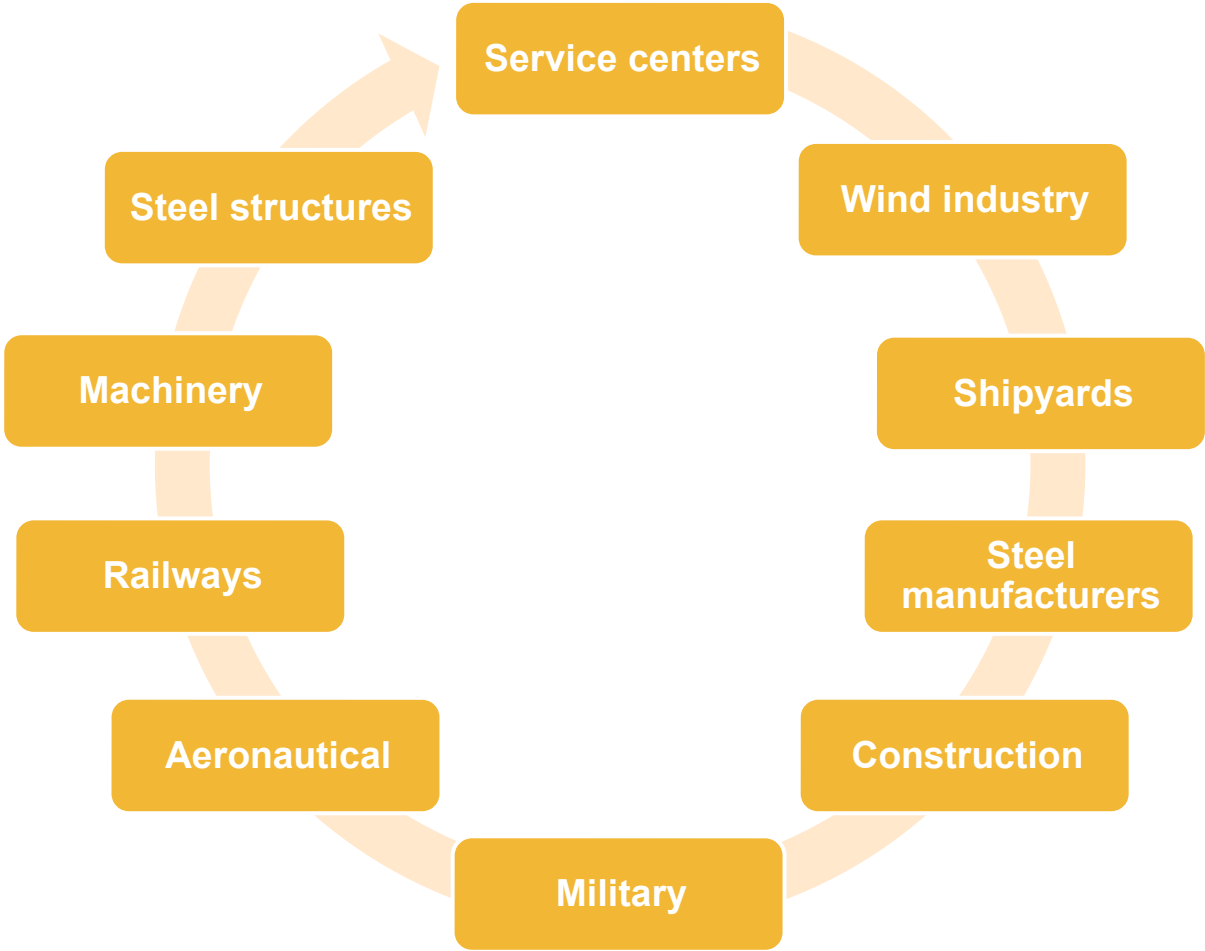
250
TECOI employees worldwide



60 M€
yearly aggregate turnover



+8.000
trained people in the use and maintenance
of TECOI machines worldwide



OUR MACHINES



LASER

Large formats and thicknesses



Maximum productivity in the smallest space



Cutting of pipes and profiles

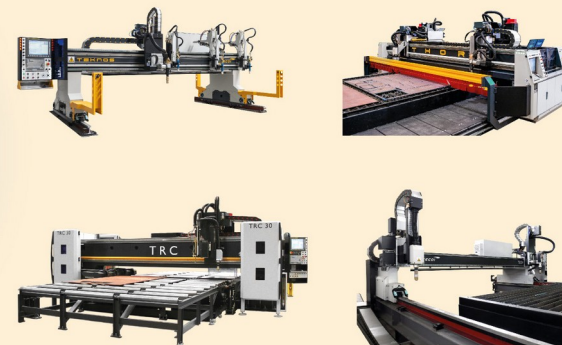


Marking



PLASMA AND OXYFUEL

Multifunction combined plasma, oxyfuel and machining



High speed plasma



Pipes and profiles cutting



Marking



Compact models





MILLING

High machining capacity



Machining combined with thermal cutting



Intensive use



EQUIPMENT

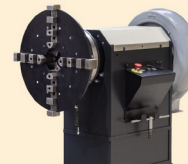
STOCKTEC
Plate storage in smart industries environment



EXTRACTION
Waste evacuation



Lathes and elevators



Cutting tables



EXTRACTION
Fumes and dust extraction and noise reduction





Complex projects

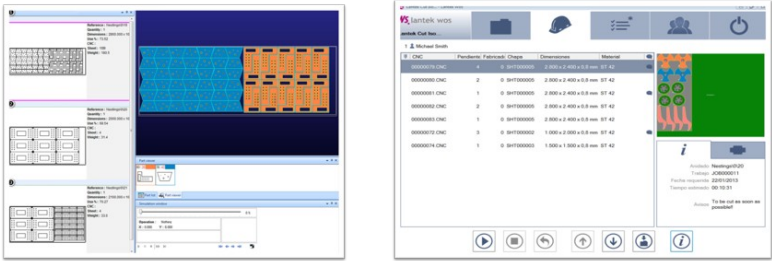
Project management for the integration of production lines and work cells, including coordination with other equipment manufacturers and high-level management systems.

Consultancy works for optimization of production processes

Total cutting centers



❖ Tecoi machines are prepared to work within this type of environment and are capable of communicating with management systems such as **MES** or a company's **ERP**, if chosen in the configuration process.



❖ The system is able to interact with the technical office and give in **real time** the general condition of the machine, a job or the **workload** that it has at all times; in addition to recording all the events, alarms, stops or **maintenance** notices established in each plant. This information can be managed from the customer's software, or through a **SCADA** that can be implemented by Tecoi.





TECOI has developed a specific product portfolio for plate processing within the wind industry, both on- and off-shore

One of TECOI's biggest achievements is the development of a system called CBM® - Cold Bevel Milling, that is capable of obtaining bevelled edges ready for welding with zero thermal affection.

TECOI is a specialist in equipping the top sector industries, and our machines have already produced thousands of wind towers, knots, jackets and all sorts of elements for the wind industry.

Main equipment

TECOI has mainly two ranges of machines for the wind industry, one for **thermal cutting (TEKNOS)**, with plasma or oxyfuel technologies, and a second one for **edge bevelling (TRF)**

We cover all the plate processing required for the industry, and our technology developments contribute to achieve different plate geometries and all sorts of bevels, since we also design and supply our own milling tools, specific for each bevel shape.

For the off shore, TECOI has also equipment available in the pipe processing of big diameters and bevelling of ties for knots and jackets.

TECOI is capable of providing a comprehensive solution, starting with a process and performance analysis, supply and installation of equipment, and ending with the integration in MES systems and all sort of **4.0 industry** environments.



TEKNOS – Thermal cutting

It is designed for high definition quality requirement cutting, high capacity and large dimensions. Its mechanics are based on the use of mixed guiding systems equipped with rollers and recirculating balls.

It is TECOI's multi-function machine with plasma, beveling, oxyfuel, drilling, marking and pipe cutting as options.

To ensure the positioning accuracy of the entire machine, the motor measurement system is absolute, so that the machine needs never to return to its original position for referencing.



TEKNOS – Thermal cutting

Technical specifications

Maximum working width up to 16 meters. (630")

- Positioning speed 40 m/min. (130 ft/min.)
- Exclusive DRILTEC® system for high capacity accurate drilling up to 40 mm. (1,5") with an 11 Kw motor.
- The IMZ® (Intelligent Movement Z-axis) system reduces the cutting process time up to 30% by allowing for faster and more accurate positioning of the head in the Z-axis. Increase the productivity up to 70% between piercings.
- Automatic lubrication in order to extend the life time of the guidance system.
- Independent benches to isolate the cutting table from the machine movement axis, avoiding the transmission of impacts and vibrations.
- Equipped with FANUC™ activating and controlling systems, including touch screen, absolute encoders and fiber optic transmission.
- Features S.P.C.® system for total piercing control and S.A.C.® system to minimize collision effects.



TRF – Edge bevel milling

This machine is designed for edge preparation jobs for welding and for drilling jobs for applications with high machining capability requirements in medium to large thickness fabrication activities.

It is specifically appropriate for industries such as: wind power tower fabrication, civil construction, shipbuilding, large steel structures, large vessels and petrochemical infrastructure..

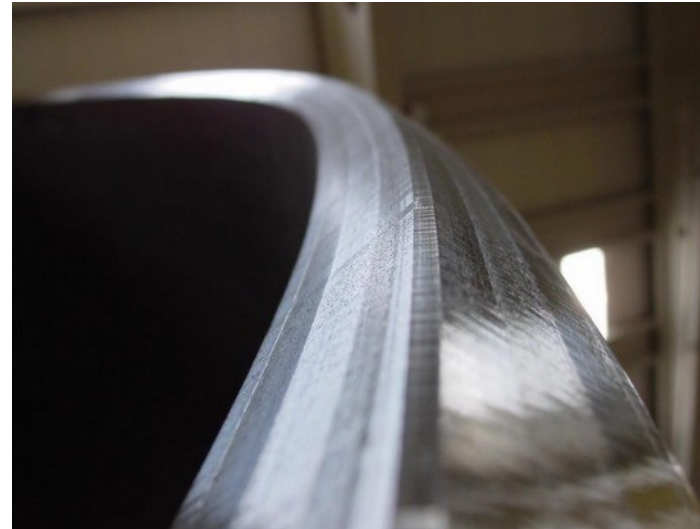


TRF – Edge bevel milling

Cold Bevel Milling



- **Complex bevels for critical joints**
- Save **time and costs** in welding



- Can make **different bevels** on the same part simultaneously
- **Covers thicknesses** between 6 and 250 mm. (0.23" to 10")

- **No coolant or oil** is necessary since the thermal input is practically zero
- The bevelling is done **in a single pass** and with a polished and immaculate finish

TURNKEY PROJECTS - INDUSTRIALIZATION

THE "OBJECT" TO BE BUILT

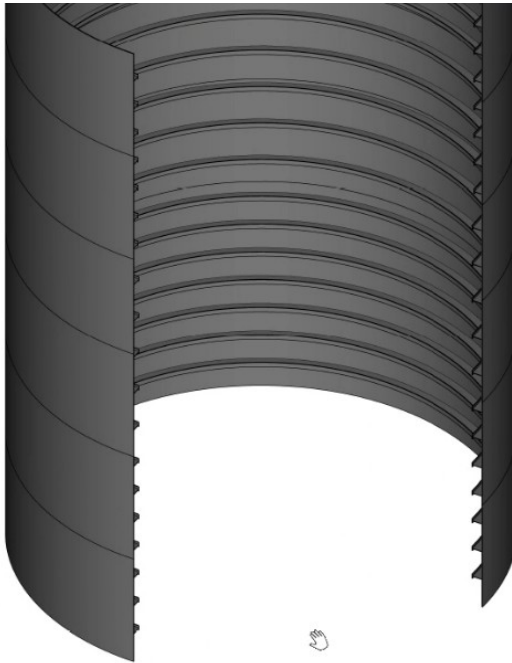


SOME DETAILS



TURNKEY PROJECTS - INDUSTRIALIZATION

SOME DETAILS



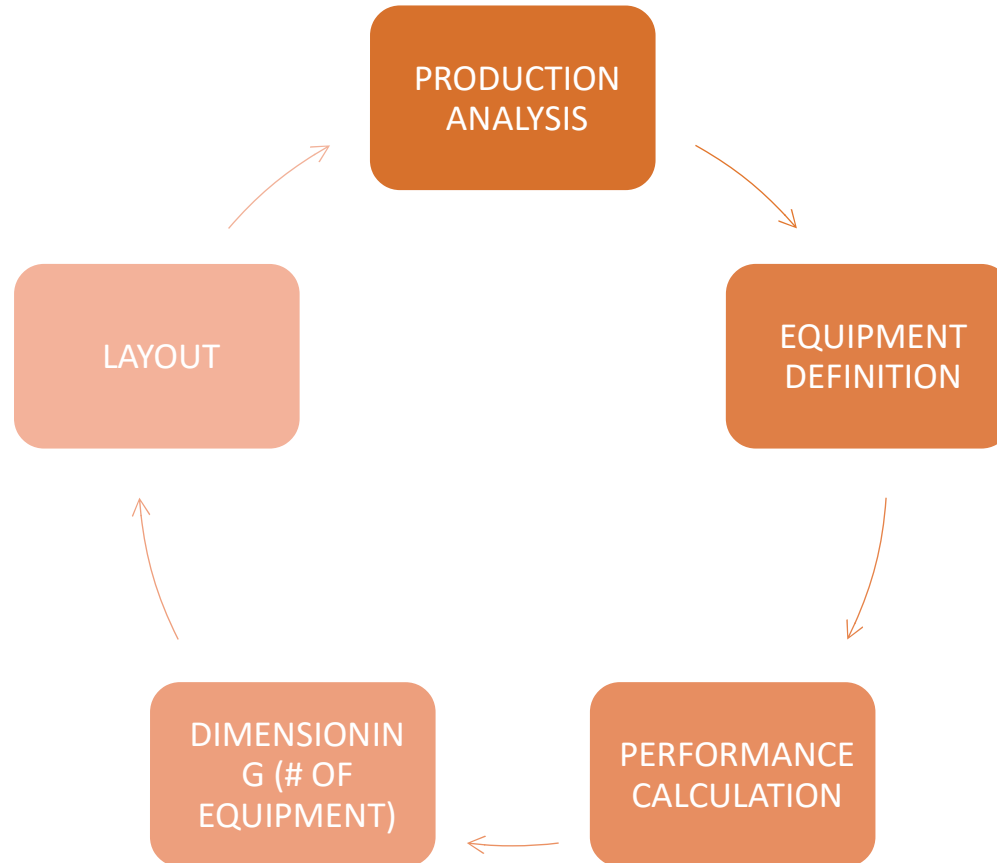
ctrl	ELEMENT	DIAMETER (INNER) (MM)	RING	CIRCUMFERENCE (MM)	PLATES	LENGTH (MM)	WIDTH (MM)	THICKNESS (MM)	MILLING LENGTH (MM)	WEIGHT (KG)	WELDING LENGTH PLATE (MM)	WELDING LENGTH CLOSE RING (MM)	INTERNAL CIRCUMFERE NCIAL WELDING	EXTERNAL CIRCUMFERE NCIAL WELDING
1	EXTERNAL COLUMN 01	12400	1	38956	3	12985	1300	25	85711	9888	2600	1300	38956	38956
2	EXTERNAL COLUMN 01	12400	2	38956	3	12985	5000	60	107911	91273	10000	5000	38956	38956
3	EXTERNAL COLUMN 01	12400	3	38956	3	12985	2900	27	95311	23822	5800	2900	38956	38956
4	EXTERNAL COLUMN 01	12400	4	38956	3	12985	2300	27	91711	18894	4600	2300	38956	38956
5	EXTERNAL COLUMN 01	12400	5	38956	3	12985	2500	28	92911	21297	5000	2500	38956	38956
6	EXTERNAL COLUMN 01	12400	6	38956	3	12985	2200	27	91111	18072	4400	2200	38956	38956
7	EXTERNAL COLUMN 01	12400	7	38956	3	12985	2700	27	94111	22179	5400	2700	38956	38956
8	EXTERNAL COLUMN 01	12400	8	38956	3	12985	2700	25	94111	20536	5400	2700	38956	38956
9	EXTERNAL COLUMN 01	12400	9	38956	3	12985	2600	23	93511	18194	5200	2600	38956	38956
10	EXTERNAL COLUMN 01	12400	10	38956	3	12985	2600	18	93511	14239	5200	2600	38956	38956
11	EXTERNAL COLUMN 01	12400	11	38956	3	12985	2800	15	94711	12778	5600	2800	38956	38956
12	EXTERNAL COLUMN 01	12400	12	38956	3	12985	1950	15	89611	8899	3900	1950	38956	38956
13	EXTERNAL COLUMN 01	12400	13	38956	3	12985	1950	15	89611	8899	3900	1950	38956	38956
14	EXTERNAL COLUMN 02	12400	1	38956	3	12985	1300	25	85711	9888	2600	1300	38956	38956
15	EXTERNAL COLUMN 02	12400	2	38956	3	12985	5000	60	107911	91273	10000	5000	38956	38956
16	EXTERNAL COLUMN 02	12400	3	38956	3	12985	2900	27	95311	23822	5800	2900	38956	38956
17	EXTERNAL COLUMN 02	12400	4	38956	3	12985	2300	27	91711	18894	4600	2300	38956	38956
18	EXTERNAL COLUMN 02	12400	5	38956	3	12985	2500	28	92911	21297	5000	2500	38956	38956
19	EXTERNAL COLUMN 02	12400	6	38956	3	12985	2200	27	91111	18072	4400	2200	38956	38956
20	EXTERNAL COLUMN 02	12400	7	38956	3	12985	2700	27	94111	22179	5400	2700	38956	38956
21	EXTERNAL COLUMN 02	12400	8	38956	3	12985	2700	25	94111	20536	5400	2700	38956	38956
22	EXTERNAL COLUMN 02	12400	9	38956	3	12985	2600	23	93511	18194	5200	2600	38956	38956
23	EXTERNAL COLUMN 02	12400	10	38956	3	12985	2600	18	93511	14239	5200	2600	38956	38956
24	EXTERNAL COLUMN 02	12400	11	38956	3	12985	2800	15	94711	12778	5600	2800	38956	38956
25	EXTERNAL COLUMN 02	12400	12	38956	3	12985	1950	15	89611	8899	3900	1950	38956	38956
26	EXTERNAL COLUMN 02	12400	13	38956	3	12985	1950	15	89611	8899	3900	1950	38956	38956
27	EXTERNAL COLUMN 03	12400	1	38956	3	12985	1300	25	85711	9888	2600	1300	38956	38956
28	EXTERNAL COLUMN 03	12400	2	38956	3	12985	5000	60	107911	91273	10000	5000	38956	38956

BASE DATA

Technical specifications

- Can height (min-max)
- Can diameter
- Can shell thickness
- Maximum conicity of transition pieces
- Shell plates dimensions
- Maximum individual can weight with reinforcements
- Type of longitudinal reinforcements and spacing
- Type of ring beam profiles for reinforcement and spacing
- Material type
- Welding requirements
- Production targets
- Maximum assembled element weight and dimensions
- Location
- Working shifts
-

MANUFACTURING ANALYSIS



PRODUCTION ANALYSIS

PER PRODUCTION STEP

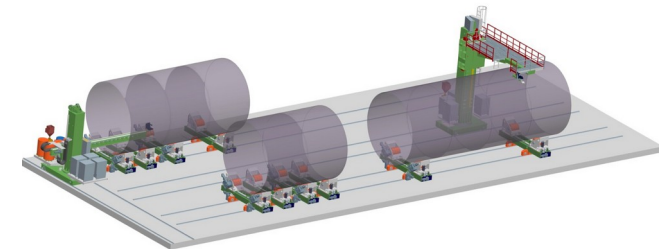
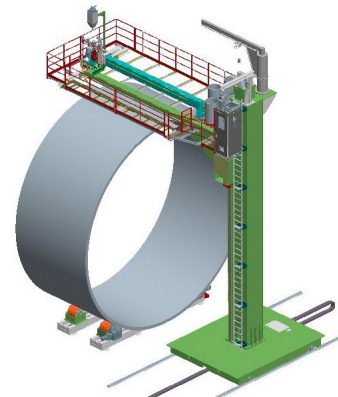
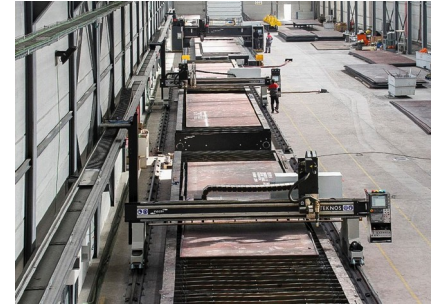
- Plate cutting
- Plate milling
- Butt welding
- Rolling
- Calibration
- Stiffener welding
- External longitudinal welding
- Internal circumferential welding
- External circumferential welding
- Lifting
- Handling
-

STIFFENER WELDING				2 units	
70% OEE to be applied	WELD	T WELD 40 MM	PA FILLET WELD 25 MM THROA		
	MM	301593,6	300000		
	KG/M	5	6,25		
CAN 16.000 MM	KG	1507,968	1875		
	KG/H	22 SAW	22 SAW		
	HR	11,42	28,41		
	MIN	685,44	1704,55		
	KG/H	6 GMAW	6 GMAW		
	HR	251,328	312,5		
REAL (WEB 12 MM THICKNESS)	KG/M	0,224	0,28		
	KG	67,5569664	84		
	KG/H	6	6		
	HR	3,75	4,67		
	MIN	225,19	280,00		
INNER CIRCUMFERENCIAL WELDING		1 column per growing line		2 units	
		50	50-xint20	X - 50	X - 25 mm
CAN 16.000 MM	THICKNESS	50	20	50	50
SEAM LENGTH	MM	50265,6	50265,6	50265,6	50265,6
X AXIS WELDING	KG/M	4,92	2,18	3,42	3,42
WELDING RATIO	KG/H	22	22	22	22
TOTAL SEAM WELDING TIME	H	11,241	4,981	7,814	7,814
	MIN	674,47296	298,85184	468,84096	468,84096
CAN 8.000 MM	THICKNESS	60	60 - xint20	X - 60	X - 30 mm
SEAM LENGTH	MM	25132,8	25132,8	25132,8	25132,8
X AXIS WELDING	KG/M	8,75	2,18	4,92	4,92
WELDING RATIO	KG/H	22	22	22	22
TOTAL SEAM WELDING TIME	H	9,996	2,490	5,621	5,621
	MIN	599,76	149,42592	337,23648	337,23648

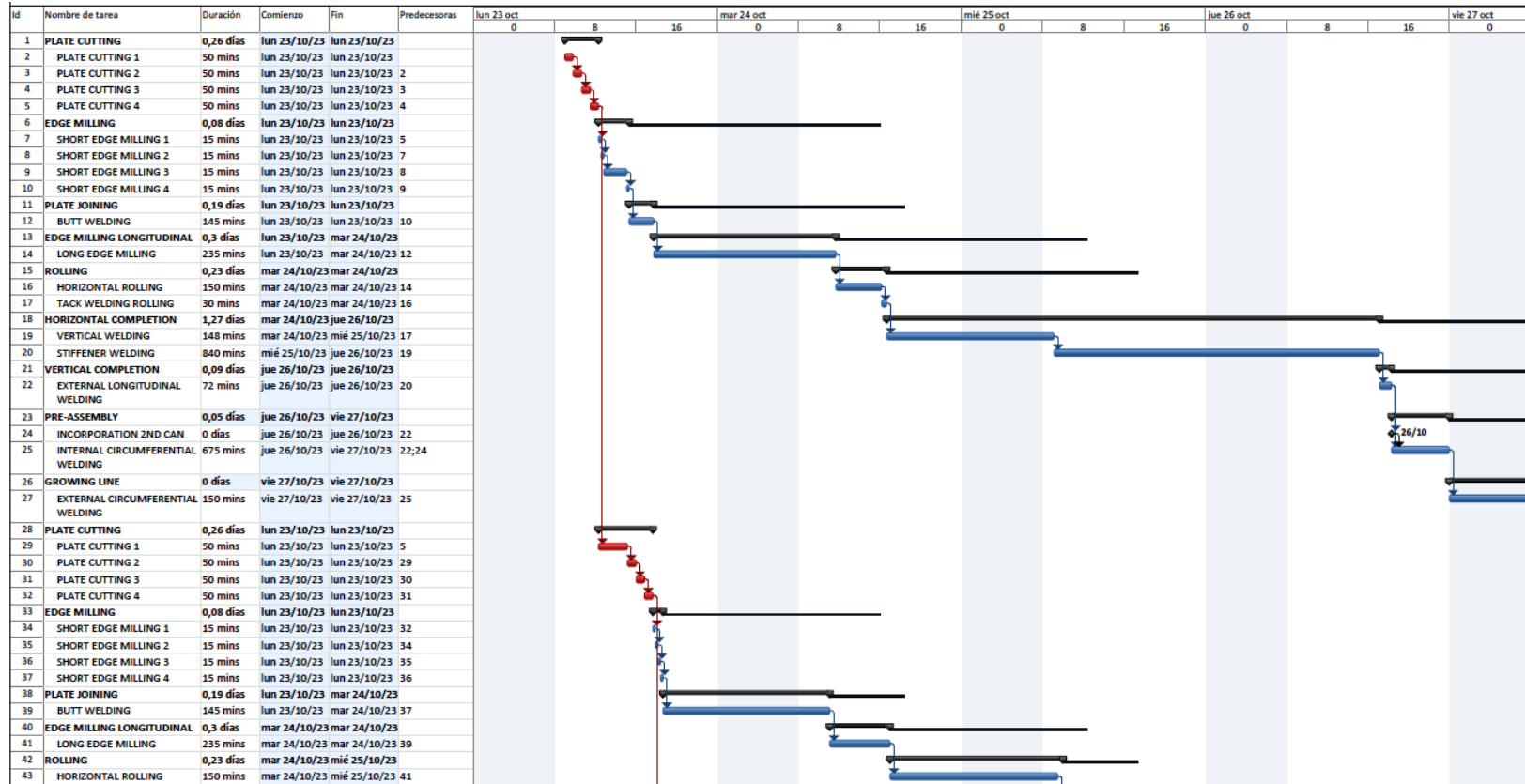
EQUIPMENT DEFINITION

PER PRODUCTION STEP

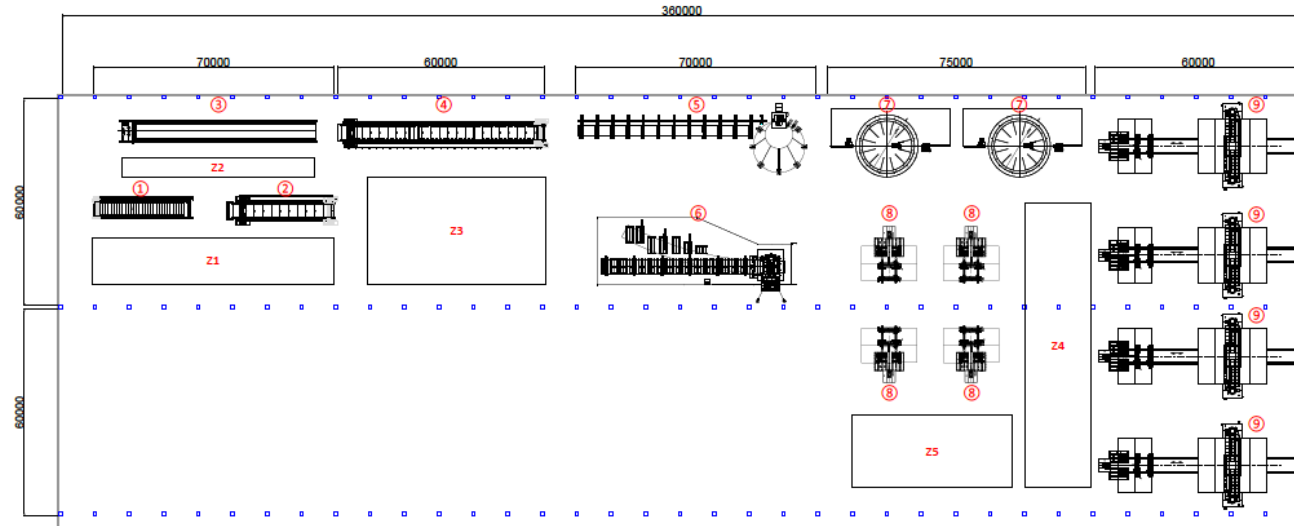
- Thermal cutting
- Edge milling
- Butt welding
- Rollers
- Positioners
- Welding columns
- Welding booms
- Turning rollers
- SPMTs
- Lifting means
- ...



PERFORMANCE CALCULATION



DIMENSIONING OF EQUIPMENT AND LAYOUT



- ① Plate cutting
- ② Plate short edge milling
- ③ Plate joining
- ④ Plate long edge milling
- ⑤ Roller vertical rolls
- ⑥ Roller horizontal rolls
- ⑦ Stiffener mounting and can completion horizontal
- ⑧ Stiffener mounting and can completion vertical
- ⑨ Growing line

- Z1 Raw plate storage
- Z2 Pre-processed plates storage
- Z3 Joint plates storage
- Z4 Transfer area
- Z5 Handling zone

A joint work between developers,
manufacturers, suppliers and
engineering companies...

SOME OF OUR REFERENCES IN THE WIND INDUSTRY





Sistemas Avanzados de Procesamiento de Chapa
Advanced Plate Processing Systems



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tecoi.com

