



ELBOR SPA – WELDING WIRES



- **BACKGROUND**
- **PRODUCTION PROCESS**
- **COATING PROCESS**
- **PRODUCT RANGE**
- **KEY DIFFERENTIATING FACTORS**
- **NEW INVESTMENT PROJECTS**

1) BACKGROUND ON MANUFACTURING FACILITIES

PART OF THE PETITTO GROUP, PRIVATE GROUP, COMPOSED OF NR. 3 COMPANIES

- CTP SRL dedicated to production of Aluminum Welding and electrical cables
- DONNACHIARA WINERY
- ELBOR Spa Welding Wires

Elbor figures:

- Assets: € 806.000
- 2300 TONS/MONTH welding wires (copper coated, copper free, bronze, low alloyed wires)
- 75 WORKERS ON 3 SHIFTS – 6 days a week.
- TURNOVER: € 30 mln / year circa

Elbor Growth:

- ✓ **Year 2015: turn. € 15.6 Mln**
- ✓ **Year 2016: turn. € 17.2 Mln**
- ✓ **Year 2017: turn. € 21,5 Mln**
- ✓ **Year 2018: turn. € 25,5 Mln**
- ✓ **Year 2019 : turn. € 28,3 Mln**
- ✓ **Year 2020 : turn. € 23.4 Mln (due to covid pandemic and lockdown)**
- ✓ **Year 2021 : turn. € 33.5 Mln**
- ✓ **Year 2022 : turn. € 44,3 Mln**

More than 100% growth over last 4 years!

Whole Group:

About 120 workers

3700 tons month of wires and cables

50 tons month of aluminium alloys

100 tons month of copper flats

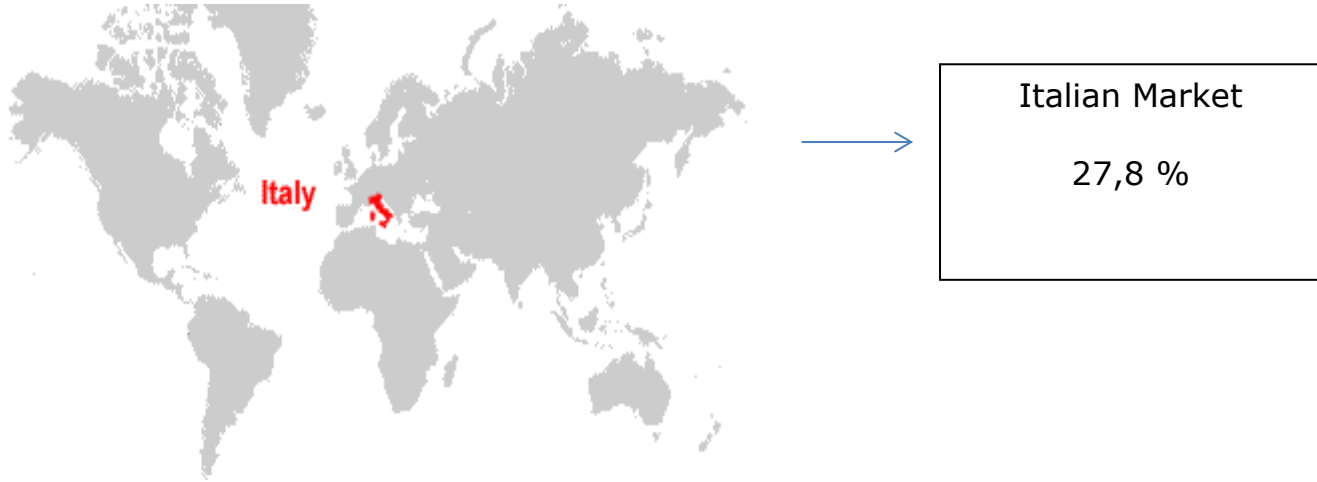
150 tons month of aluminium flats

60 tons month of aluminium for spraying

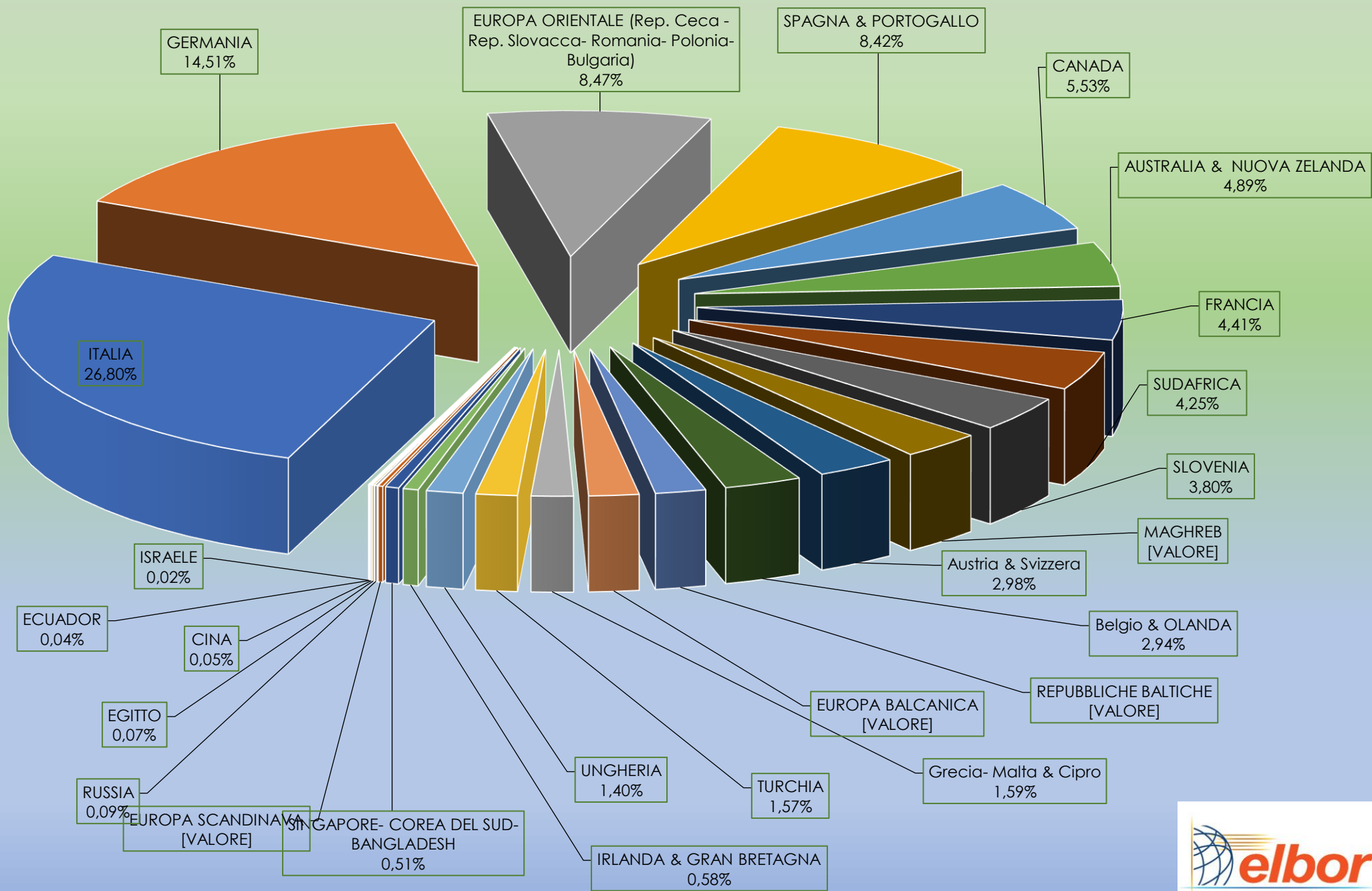
250.000 wine bottles / year

> € 80 million annual turnover

Elbor nowadays market is :



FATTURATO ANNO 2022 : INCIDENZA PER AREA GEOGRAFICA



ANNO 2022

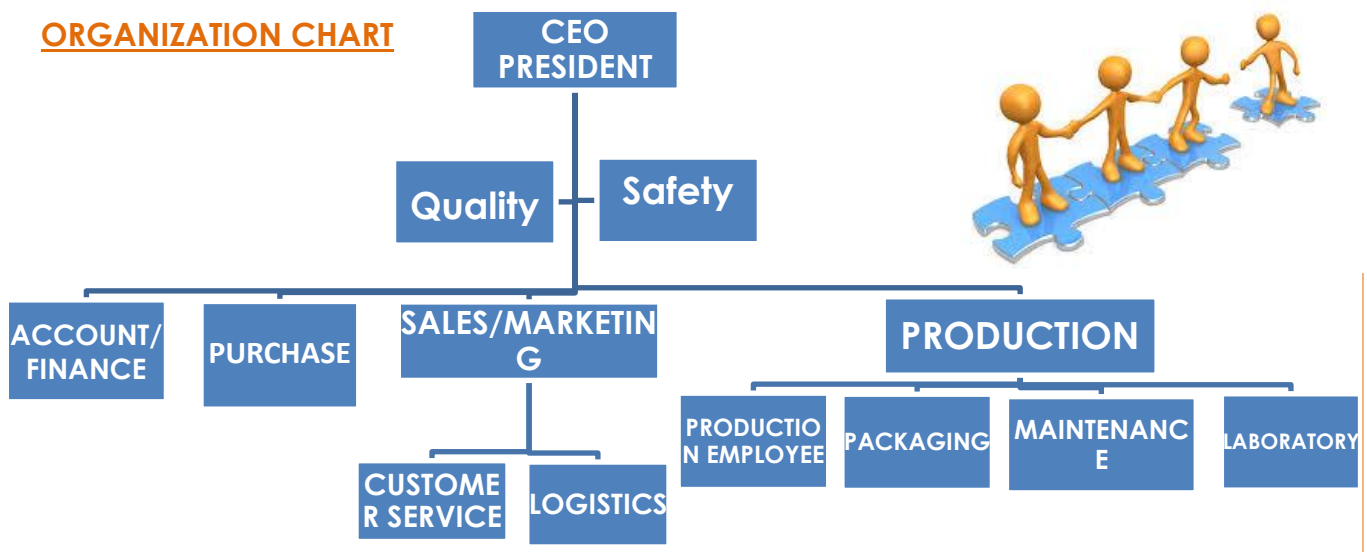
#	AREA GOGRAFICA DI RIFERIMENTO	INCIDENZA
1	ITALIA	26,80%
2	GERMANIA	14,51%
3	EUROPA ORIENTALE (Rep. Ceca - Rep. Slovacca- Romania- Polonia- Bulgaria)	8,47%
4	SPAGNA & PORTOGALLO	8,42%
5	CANADA	5,53%
6	AUSTRALIA & NUOVA ZELANDA	4,89%
7	FRANCIA	4,41%
8	SUDAFRICA	4,25%
9	SLOVENIA	3,80%
10	MAGHREB (Algeria, Marocco, Tunisia)	3,07%
11	Austria & Svizzera	2,98%
12	Belgio & OLANDA	2,94%
13	Rep. Baltiche ESTONIA-LITUANIA-LETTONIA	1,92%
14	EUROPA BALCANICA (Serbia, Bosnia, Albania, Macedonia, Croazia)	1,90%
15	Grecia- Malta & Cipro	1,59%
16	TURCHIA	1,57%
17	UNGHERIA	1,40%
18	IRLANDA & GRAN BRETAGNA	0,58%
19	SINGAPORE- COREA DEL SUD- BANGLADESH	0,51%
20	Europa Scandinava (Danimarca & Norvegia)	0,18%
21	RUSSIA	0,09%
22	EGITTO	0,07%
23	CINA	0,05%
24	ECUADOR	0,04%
25	ISRAELE	0,02%
		100%

Elbor has a BOARD composed by the whole family: Mr Umberto Petitto (President and Founder of The Group), Mrs Katia Petitto (Managing Director) Mr. Angelo Petitto and Mrs. Ilaria Petitto (members of the Board)

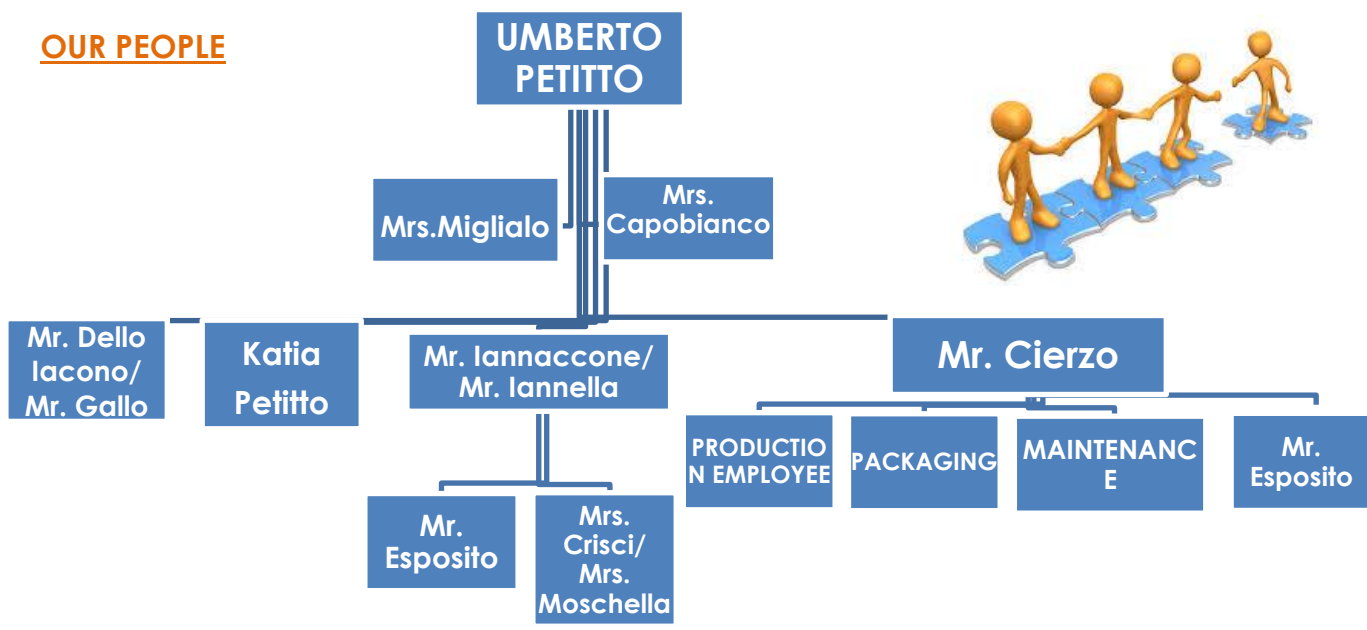
There is a total communication and info sharing among the functions / people involved who are directly reporting to Katia. Umberto has delegated most of his management activities reserving the Right of final decisions in investment and/or new projects development.

Our production is supervised by experts operating in Welding World since more than 40 years also trained and experienced in larger organizations such as Lincoln Electric.

ORGANIZATION CHART



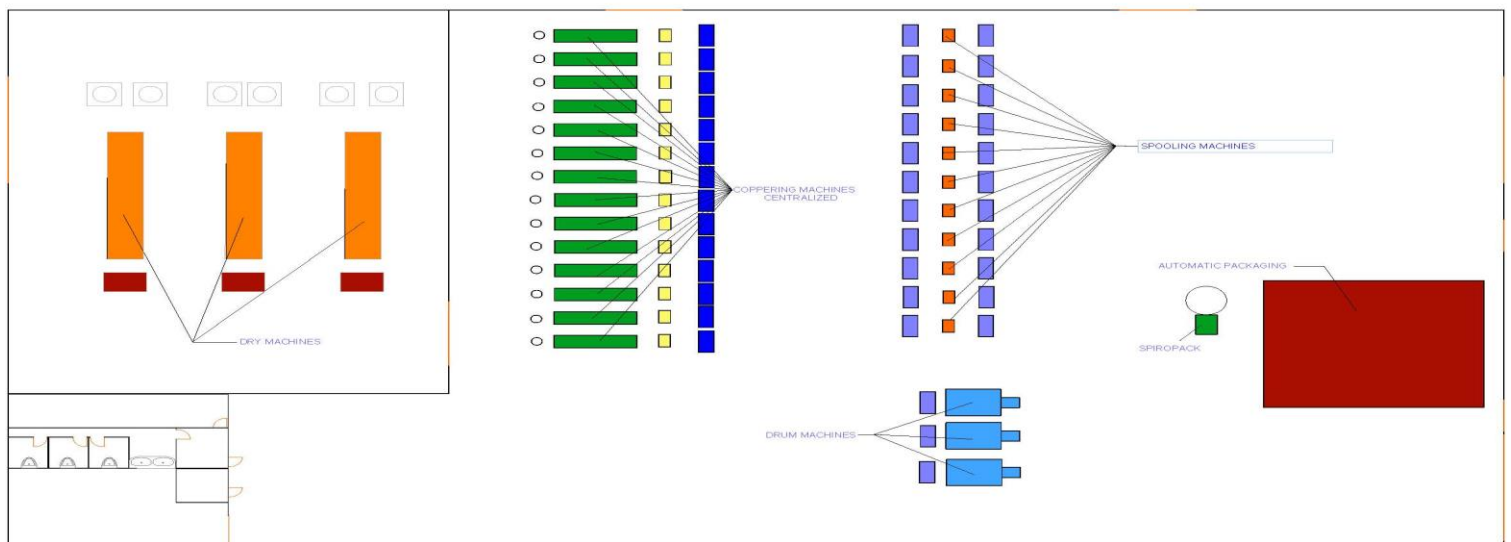
OUR PEOPLE





• *PRODUCTION PROCESS*

The production plant is consisting in four different Macro-Areas / production steps



A) Hot Rolled Coil of raw material

The raw material suppliers are standardised : MITTAL Steel Germany/Poland, Voestalpine Austria (low alloy wires), Gerdau Acominas (Brasil)

The very limited quantity of high quality raw material available on the market is continuously pushing us to test and evaluate new potential suppliers to add as back supplier. All these suppliers are providing Steel rods made by Mineral (not purely by scrap).



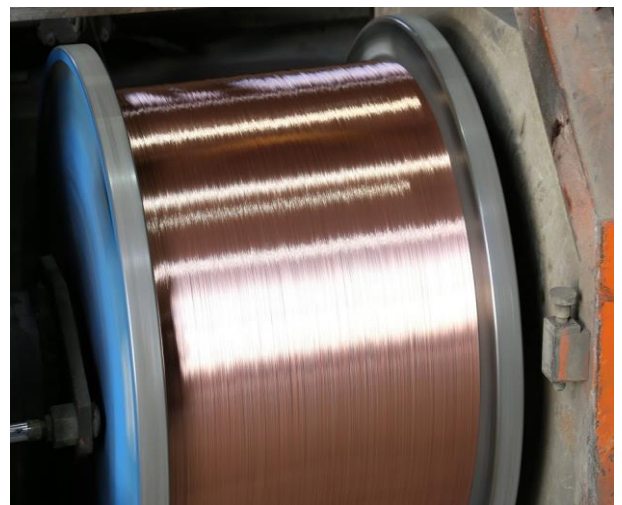
B) DRY. DRAWING process

Each coil of raw material after about 7 days of “maturing” process at open air space is moved in the first part of the warehouse to dry (for a couple of days on average). Once dry, the coils are drawn from initial size 5.5mm to 2.00 /2.18 mm. In the process the steel is elongated , purified by steirates and given more strength as requested by the final welding wire. For traceability each coil of raw material and semi-manufactured wire is marked to identify the batch number, the hour of production and the name of the operator in charge at that time.



C) WET DRAWING process

Each coil of semi-manufactured wire (2.00 / 2.18 mm) produced in previous step is moved to the wet drawing process. Average weight per coil is 2 tons circa. Here the wire is subjected to a new drawing which brings the size to the final diameter of the wire (0.60-1,60 mm) and also treated chemically with a specific bath to become
Copper coated, copper free or bronze coated.



In this production step the attention of the qualified operators is critical. The wire produced after this process is sent to spooling . Any imperfections here such as lack of copping, tolerances in diameters of the wire must be noted by the operators which have the responsibility to isolate the “lower standard” material from the “quality” one.

The wire-size is checked at the initial and at the end of each coil to evaluate if any deviation is in tolerance to what requested by the AWS / EN ISO Norms.

Checked coils are then market with a sticker and labeled with name of the operator / controller

D) SPOOLING PROCESS

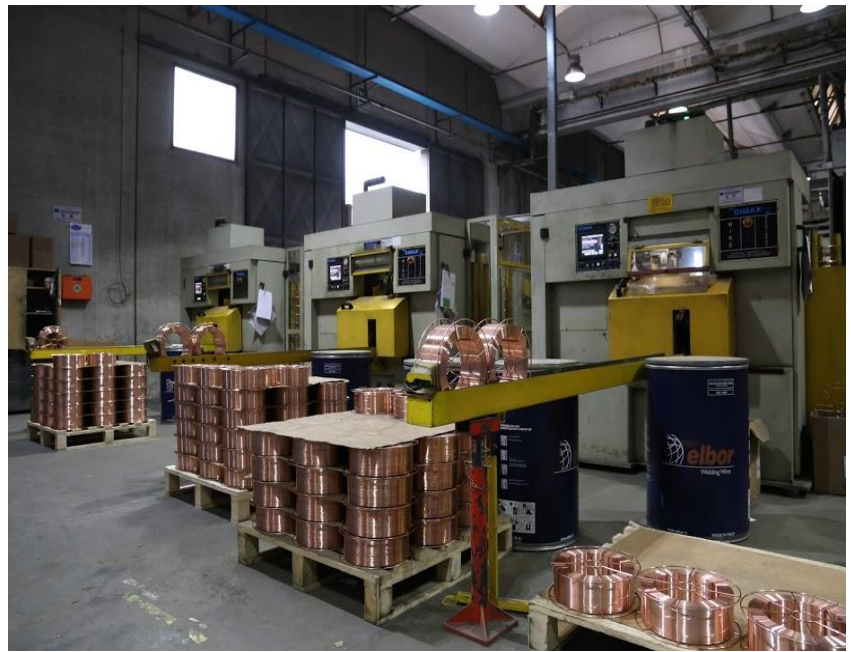
The wire on 500kgs circa coils is moved to Drums and Spools machines according to the customers requirements.

That's the last step where the operator are giving a further inspection to the wire. In fact the drums and the spools are controlled and approved by the operator first and QM then.

Main checks are the consistency of Cast and the Helix of the wires.

Again, there are strict parameters to be fulfilled before the wire is sold to the market.





D= PACKAGING

In this last step , the spools and the drums are packed into vacuum sealed plastic bags and cartons while the drums are sealed and labeled as per customers specifications :



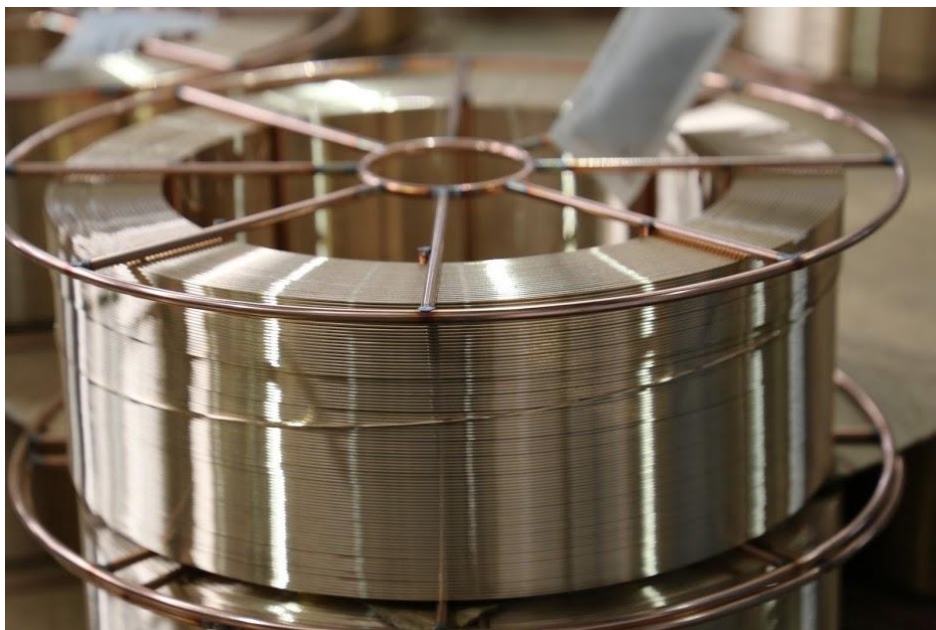




COATING PROCESS:

CONTINUOUS IMPROVEMENT IN THE QUALITY OF THE WELDING WIRES

Strengths:



- Skinpass process
- Centralized copper/bronze bath system
- Twice daily bath refilling
- External monitoring of coating thickness
- Continuous info sharing with chemical supplier



The wire once drawn to the “semi-manufactured” size of 2.00mm is chemically treated to be copper (or bronze or eco) coated.

This step is critical in the process as basing to the efficiency of the coating we influence many features of the final product :

- the feed ability
- the fume level
- the weld ability

The copping process is fully integrated in one machine including a final drawee (by which the size of the wire is reduced to the required diameter: 0.80 / 0.90 / 1.00 / 1.20 / 1.40 / 1.60 mm) and two baths.

First of all the 2.00mm semi-manufactured wire is washed (liquid soap with a special lubricant) which is cleaning the surface and reducing the temperature while the drawee are doing their job.



During the same process, once the set up wire size is reached, the wire pass through the copping solution (or bronze solution) to be coated. The copping solution is made by a proper mix of copper sulphate, solphoric acid and water.



The % composing the mix is an industrial secret and of course is changing among the producers.

Once coated the wire goes through a skin-pass bath containing again water and soda for the final cleaning process before being re-spoiled on 400-450kg coils of final product

Those coils are then sent to the spooling machines or drums machines

The coppering process is centralized therefore the % of copper on wire is same independently from the machine which has produced the wire. That's a critical point because customers will all have same quality of wire , same features on each pallet of wire composing his purchase order.

A further but not minor continuous coppering quality is ensured by a filter-press machine which is continuously 24 hours a day cleaning the entire batch and recycle the water in baths after being cleaned. Thanks to that machine / process the wire looks shiny and powder and impurities are definitely reduced to the min. levels.

There is an active co-operation with the chemicals supplier in terms of sharing info and tests finalized to point out the best product suitable for our production process also to schedule the timing of refilling (which is changing by seasons and by hardness of raw material)

Ciro Iannaccone

On behalf of Technical Department

ELBOR SPA WELDING WIRES



product range :

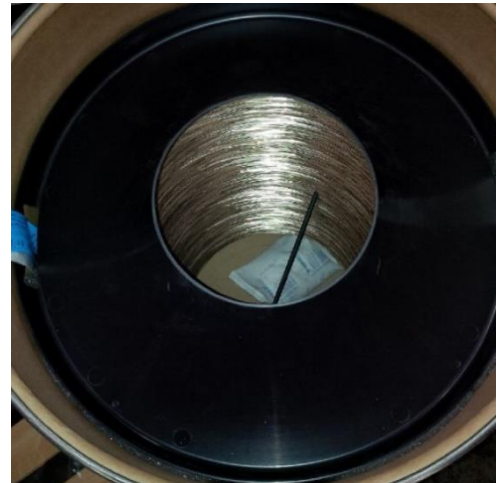
MILD STEEL WIRE : ER 70 S-6 / G3 Si 1 – G4 Si 1 – G2 Si 1 COPPER COATED, UNCOPPERED, BRONZE

Spools 1kg – 10kg- 15kg – 16 kg – 18kg – 20kg

Spools: Plastic D-100, D-200 , D-300

Metal: K-300, BS-300

Drums: 80 kg – 250 kg – 450 kg – **500kg ECO (new)**



BRONZE:





Approvals: TUV-DB-ABS-NAKS-ISO 9001-ISO 14001-CE-DNV-GL,BV, CWB

B - LOW ALLOY WIRES

Corten wire ER 80 S-G AWS A5.28-96 : ER 80 S-G
EN 12534-99: G55 2 M Mn 3 Ni

- Spools 1kg – 10kg- 15kg – 16 kg – 18kg – 20kg
- Spools: Plastic D-100, D-200 , D-300
- Metal: K-300, BS-300
- Drums: 80 kg – 250 kg – 450 kg

High Tensile Wires ER 100/110 /120 S-G AWS A5.28-96: **ER 100/ 110 / 120 SG**
EN ISO16834-A G69 4 M Mn 3 Ni 1 Cr Mo

- Spools 1kg – 10kg- 15kg – 16 kg – 18kg – 20kg
- Spools: Plastic D-100, D-200 , D-300
- Metal: K-300, BS-300
- Drums: 80 kg – 250 kg – 450 kg

Classifications: AWS A5.28-96: ER 70S-A1 - ER SGMo 0.5%
EN ISO 21952-A-G/W Mo Si

Spools 1kg – 10kg- 15kg – 16 kg – 18kg – 20kg

- Spools: Plastic D-100, D-200 , D-300
- Metal: K-300, BS-300
- Drums: 80 kg – 250 kg – 450 kg

Classifications: AWS A5.28-96: ER 80 SD-2
EN 14341-A : G 50 5 M 4 Mo

Spools 1kg – 10kg- 15kg – 16 kg – 18kg – 20kg

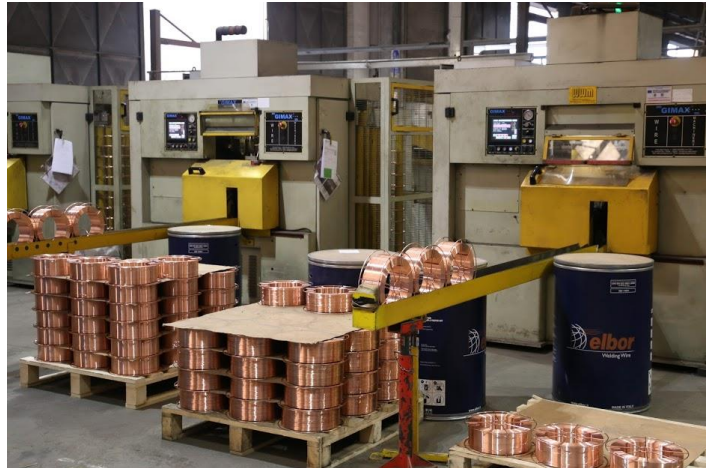
- Spools: Plastic D-100, D-200 , D-300
- Metal: K-300, BS-300
- Drums: 80 kg – 250 kg – 450 kg



Classifications: AWS A5.28-96: ER 80 S-Ni 1
EN 14341-A : G3 Ni 1
EN ISO 636 – A- W3Ni1

Spools 1kg – 10kg- 15kg – 16 kg – 18kg – 20kg

- Spools: Plastic D-100, D-200 , D-300
- Metal: K-300, BS-300
- Drums: 80 kg – 250 kg – 450 kg -500kg
-



C- ALUMINIUM WIRES MIG & TIG RODS

ALMG 5% - 5356 - Al Mg 4,5%Mn Zr – 5087

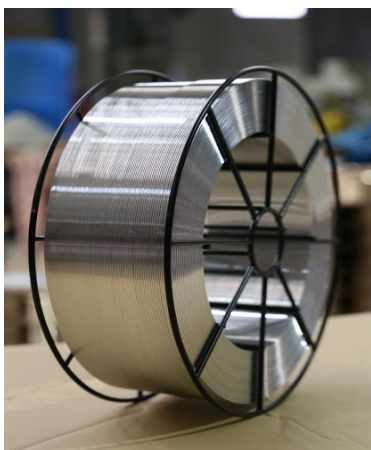
AL SI 5% - 4043 - Al Mg 0.7% Mn – 5554

AL MG 4,5% MN – 5183

AL 99,800% - AL 1080

AL MG 4,5% Mn ZR (ER 5087) FOR RAIL APPLICATIONS

- Spools 0.5kg – 2kg- 7kg
- Spools: Plastic D-100, D-200 , BS-300
- RODS: 2.5- 5-10KG carton boxes



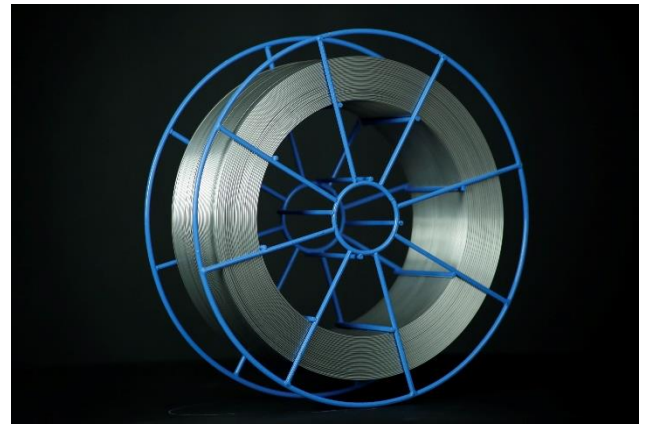
D- Stainless Steel wires MIG & TIG

ER 316 LSI

ER 308 LSI

ER 307 SI

ER 347 SI





- **KEY DIFFERENTIATING FACTORS :**

- FLAT ORGANIZATION
- IMPLEMENTATION OF CUSTOMER / MARKET REQUIREMENT
- CONTINUOUS IMPROVEMENT IN PRODUCTION PROCESS
- PRODUCT CUSTOMIZATION WITH ACTIVE CO-OPERATION WITH CUSTOMER
- PRICE / CONDITIONS ARE FLEXIBLE
- LEADING TIME ADJUSTABLE UPON URGENCIES
- KEY ACCOUNT MANAGER FOR SPECIFIC GROUP OF CUSTOMERS/PARTNERS



• **INVESTMENTS , NEW PROJETS :**

In year 2018, the Board has approved a total investment of 6 € /mln for next 5 years addressed to the construction of new warehouses, offices and production expansion in two different steps.

a) **First part of investment , 3 €UR/mln (completed in Q4-19)**

Construction of nr. 2 new warehouses 2.500 sqm each dedicated respectively to raw material drawing (welding wires) and dedicated to Aluminium electrical cables and wires for welding and Automotive (electrical cars project) – CTP Srl.

This new Elborr warehouse has been completed in Q3-2019 and consisted in moving 5 dry-drawing lines (a 6th line has been already purchased this year and we wait to get delivered). With current 5 lines (and later 6), Elbor brings daily production capacity to approx 105tons/day . (with the 6th line production is hitting 115 tons x day!)

Refurbishment of “old” Elbor warehouse

With the move of dry drawing lines in the new building, the Elbor older plant has been refurbished with additional machines and a total change of coating process control .

B) SECOND INVESTMENT OF 3.5 MLN € (to be implemented within next 4 years)

Elbor will start the construction of total new warehouse, here the entire production and office is going to be transferred. The new warehouse will be equipped by latest technologies, machines will be renewed, solar power panels will be installed to autoproduce the enormous quantity of power demanded by such production process. This investment is going to be totally ECO friendly and sustainable and despite the

“tonnage” produced are not going to change, there will be a sensible improvement of the working environment

The pandemic has unfortunately delayed this new investment set however it's already decided that the construction of a brand new «Elbor» will be done .

The large investments decided at Elbor will be 50% internally financed and only its half is being done with loans . that's an important point our President has expressly deliberated at investment plan because the Company must be capable to auto-produce financial resources to be Commercially valid and long term existing.

Starting with Q3-2019 Elbor will also evaluate the introduction of new products (still welding products) because the next production increase will disclose many opportunities to approach new market and execute customers requests.

Such growth for a Private Group of Companies is representing a very important challenge in a Global Market and once completed is going to position Elbor and its partners to a leading market position for capacity and diversification.

GRUPPO PETITTO – ELBOR SPA, CTP SRL







