



COMPANY PROFILE



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# The **steel** specialist

Caleotto is the Feralpi Group's company specialised in the **production of wire rod for value-added special steel**.

Our commitment is to achieve tailor-made solutions thanks to an **active listening** of the customer's needs.

Starting from the careful selection of raw material and research of the best quality for our final product, we cooperate on a daily basis with our partners to define every detail of the requested steel. By means of the **talent of our people**, we combine dynamism, flexibility, perseverance and intuition.

The **recipe** of our steel is special because it is made of the precious contribution of every steel specialist.



# Who we Are

## The strength of the group

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### We are part of Feralpi Group

Together we share a future-oriented vision and the founding values of **respect for the people and the environment** around us. We share a Group identity, which we enhance by being **unique**.

We integrate the ESG goals of Feralpi Group in our business: a concrete contribution for the transition towards more **inclusive, efficient and with a lower environmental impact development models**.

The close internal synergy creates a special **combination of people**, specific and diversified **skills** and qualities. This is our strength and an added value for our production and our partners.

We have the experience of over a century and the stimulus driven to a continuous improvement of our processes and products. We **change and innovate** to face all the future challenges with determination.

In Lecco since **1896**



GRUPPO  
ACCIAIERIA E FERRIERA DEL CALEOTTO  
LECCO

# Our story

Our story begins in Lecco, in 1896. Caleotto was born as **specialized factory in the wire rod manufacturing**, the first one in Italy.

It was established by Lecco entrepreneurs: brought together by a passion for the business, and the desire to produce quality steel they fed the numerous drawing mills and the identity of this territory.

The heart of Caleotto has always been people, a real driving force. The ability to be a community together with the typicality of the production led Caleotto to become a **reference point of the social and economic fabric** of the area.

The original name of "Acciaieria & Ferriera del Caleotto" became over the years a pillar of Lecco steelmaking.

The striving to adopt innovating technologies keeps changing the industrial complex.

Caleotto, even today, demonstrates the ability to renew itself over time maintaining its wealth of knowledge and evolving on the **technological and plant engineering** front.

**A never-ending path for over 125 years.**





# A special synergy

Guaranteeing the higher standards in terms of product, process, service and assistance.


This is one of the most important goals of Caleotto and of our partner in the production of special steels, Acciaierie di Calvisano, which supplies the billets that we roll in our steel mill.



Together with Acciaierie di Calvisano, we form the Business Unit Specialties of Feralpi Group: an **effective synergy** to serve the automotive and engineering sectors with quality, speed and flexibility.

The production process and the sharing of knowledge and competence through the whole process allow to pursue higher standards, which is typical of the special industrial applications. Our team controls **all the process stages**, by carrying out data captures and analyses. We identify the actions needed to ensure traceability and optimize the management of the whole value chain.





*The **quality of our product** is the result of **people's skills**, of their cooperation, of the ongoing improvement of plants, operational practices and of the implementation of **advanced simulation and control systems**.*





# Our Steelworks

In **Acciaierie di Calvisano** the careful selection of the raw materials merges with the **technological innovation** in order to produce high quality billets, the heart of our special steels.

The data-cloud, the advanced data capture and analyses system, the **constant monitoring** of the whole production process, the evolved and shared databases make the synergy between steelworks and rolling mill even closer.

This allows us to work with a single goal: optimizing every stage of the process, guaranteeing the **highest performances** of our steels.



## SCRAP REFINING MACHINE

With magnetic drum and sieve for the separation of ferrous and non-ferrous materials

## SCRAP YARD

completely covered. The correct charge mix is monitored by a tracking system

## LF WITH 3 STATIONS FOR STEEL TREATMENT

Equipped with a feeding machine with 8 strands each in order to improve the secondary metallurgy and guarantee the homogeneity of the product

## EBT FURNACE WITH CAPACITY OF ABOUT 95 T

## CONTINUOUS CASTING WITH 4 STRANDS

Each one is equipped with 3 stirrers in order to guarantee a steel homogenization during solidification and minimizing the core segregation

## PROCESS CONTROL

By constant monitoring of parameters

## LABELLING TRACKING ROBOTS

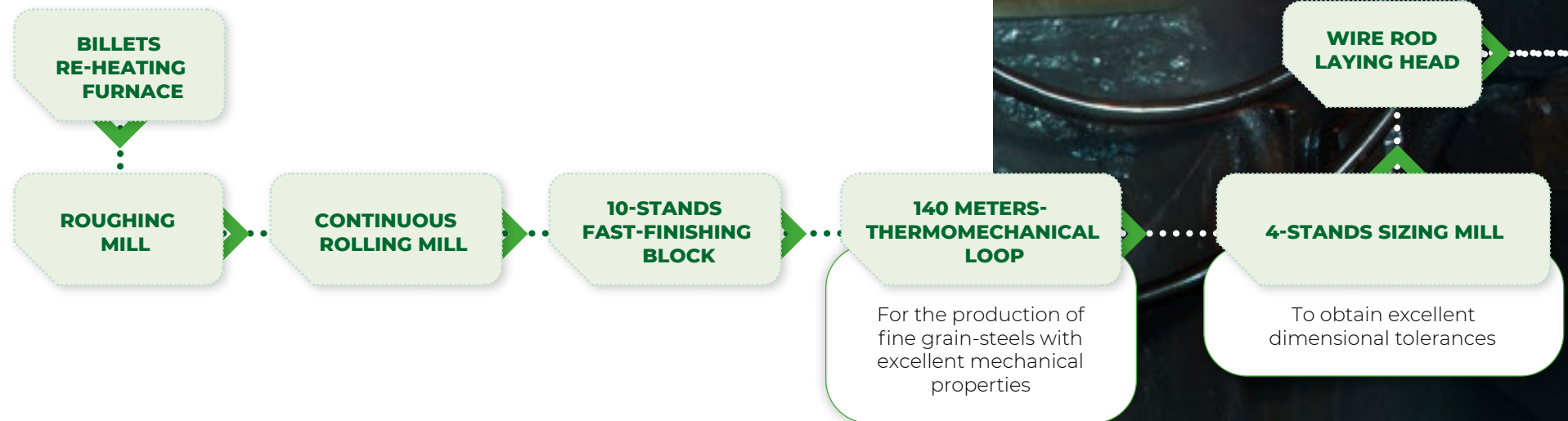
Which weld the metallic QR-code labels on the billets, which contain all the information about the heat and single billet

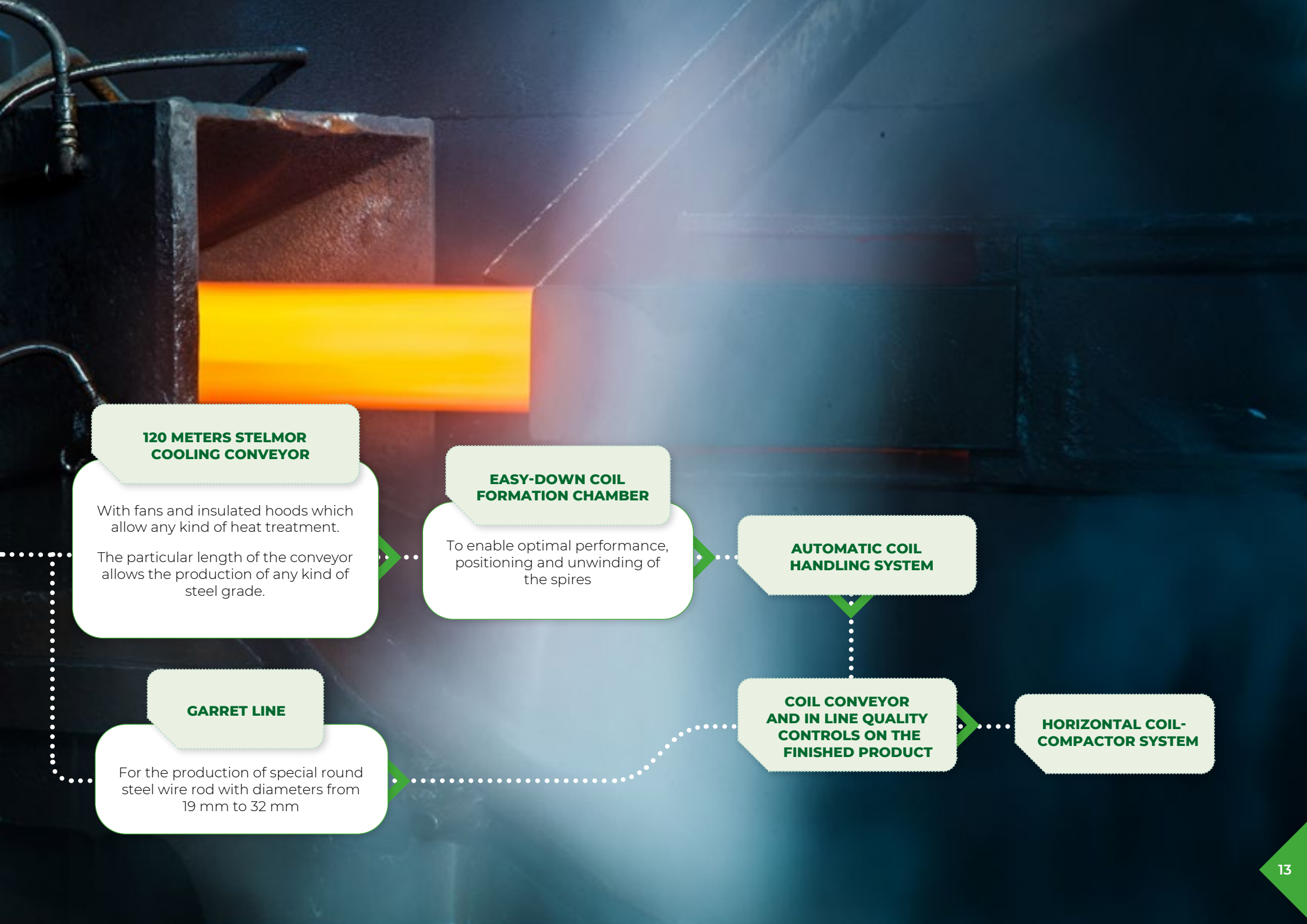
## WALKING BEAM COOLING BED

# Our rolling mill

A path of continuous improvement by installing **technological advanced rolling mills**.

Recent investments have focused on achieving a high-quality product implementing the process by a sensor technology all along the way, and by the traceability of every single product, the data capture and the monitoring system of the parameters of the process itself.





**120 METERS STELMOR COOLING CONVEYOR**

With fans and insulated hoods which allow any kind of heat treatment.

The particular length of the conveyor allows the production of any kind of steel grade.

**EASY-DOWN COIL FORMATION CHAMBER**

To enable optimal performance, positioning and unwinding of the spires

**AUTOMATIC COIL HANDLING SYSTEM**

**COIL CONVEYOR AND IN LINE QUALITY CONTROLS ON THE FINISHED PRODUCT**

**HORIZONTAL COIL-COMPACTOR SYSTEM**

**GARRET LINE**

For the production of special round steel wire rod with diameters from 19 mm to 32 mm



# The Garret line

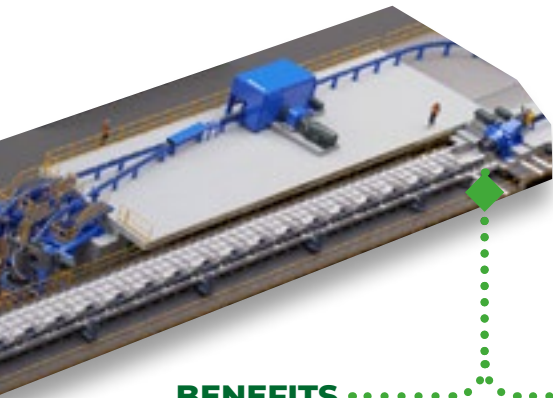
We are facing a new technological challenge: adding **flexibility and versatility** in our rolling mill in order to respond to new market needs, by keeping high quality and precision standards.

With this clear goal, we decided to invest in a modern Garret Line, the plant technology dedicated to the production of **wire rod** with diameters **from 19 mm to 32 mm**.



## TECHNICAL PROPERTIES

- ◆ Product range: round wire rod up to 32 mm of diameter
- ◆ Coil weight from 1,4 a 1,85 t, speed till 20 m/s, winding temperature from 700 to 900 °C



This investment strengthens our commitment to being updated with technological progress in order to supply **cutting-edge solutions.**



## BENEFITS

- ◆ Lower transformation cost and higher material yield downstream compared to a product in bars
- ◆ Better coil shape
- ◆ Improved coil dimensions
- ◆ Ease of storage, handling and transportation compared to a product in bars
- ◆ Reduction of off-line heat treatments for specific steel grade
- ◆ Optimized and customizable coil formation
- ◆ Conveying through rollers which allows perfect surface quality

This technology will widen the size range and guarantee an **improvement of the intrinsic characteristics of the products.**

In fact, a higher surface quality of the finished product, a better coil formation and a uniformity of the coil size will not be the only improvements: also the structure of the steel itself will be enhanced thanks to the walking beam tunnel with moving cover, the cooling by controlled temperature will guarantee excellent mechanical properties.





# A continuous research



The close cooperation with different research organizations, like the metallurgy department of the University of Lecco, part of Politecnico of Milano, provides a fresh, updated, academic view which encourages us to **refine the quality of our products** and to question our methods and processes keeping an open mind to **change** and **innovation**.

We involve researchers and graduating students, who will undertake a professional path in Caleotto. This guarantees a constant widening of skills which brings new inspiration and feeds our **dynamic approach**.



# What we do



**300.000**  
T/year

Rolling mill capacity



section  
from **140** to **160**  
mm

Rolled billets



from **1.400**  
to **1.850**  
Kg

Coil weight



from **4,5** TO **32**  
mm

Size Range

# Our mission

We are specialized in the production of **special steel wire rod**

Our mission is to develop at best the productions of high-quality wire rod for different applications, guaranteeing **the highest standards** in terms of products, processes, service and customer care.

For special end uses we apply non-standard processes in order to satisfy the market requests.

Every steel we produce is tailormade by a **careful analysis of every detail** and a **deep listening** of the customer's need.





# NUTS AND BOLTS

Wire rods with high plasticity and deformability, suitable for cold or hot forging, thanks to the particular characteristics of the surface quality, ductility and micro purity.

## Application:

Fasteners for automotive industry

Fasteners for mechanical industry

Bolts for structural uses

Rivets

Extruded or cold-formed parts, including downstream mechanical parts

Other uses

Steel quality	Caleotto	UNI / EN	Steel	Werkstoff	
Screws and forging	CAL04F	10263-2	C4C	1.0303	
	CAL08F		C8C	1.0213	
	CAL10F		C10C	1.0214	
	CAL20FC		C20C	1.0411	
Rivets	CAL15X	10263-2	C15C mod Si+Mn	-	
	CAL20X		C20C mod Si+Mn	-	
	CAL30X	10263-4	C35EC mod C	-	
Boron Nuts and Bolts	CAL15B	10263-3	15B2	1.5501	
	CAL18B		18B2	1.5503	
	CAL18B-1		18B2	1.5503	
	CAL18B-2	18B2 mod Mn	-		
	CAL19B	10263-4	17MnB4	1.5520	
	CAL21B		20MnB4	1.5525	
	CAL21B-1		20MnB4 mod Mn	-	
	ZCAL22B		20MnB4 mod Mn	-	
	CAL23B		23MnB4	1.5535	
	CAL23B-1		23MnB4 mod Mn	-	
	CAL23B-2		23MnB4	1.5535	
	CAL26B		27MnB4 mod C+Si+Mn	-	
	CAL28B		30MnB4	1.5526	
	ZCAL29B		30MnB4	1.5526	
	CAL30B-1		30MnB4	1.5526	
	CAL35B		38B2	1.5515	
	CAL35B-1		38B2 mod Cr	-	
	CAL38B		38B2	1.5515	
Cr alloyed	CAL34K		10263-4	34Cr4	1.7033
Cr + Balloyed and Bolts Cr + B	CAL30KB		10263-4	32CrB4	1.7076
Cr + Mo + Balloyed Nuts and Bolts	ZCAL31DB		10263-4	31CrMoB2-1	1.7272
Cr + Mo Alloys Nuts and Bolts	CAL34KD		10263-4	34CrMo4	1.7220
	CAL42KD	42CrMo4		1.7225	
Mo + B Alloys Nuts and Bolts	CAL30MB	10263-4	30MoB1	1.5408	

We meet the various market requirements by carrying out all additional processing such as: globular and workability annealing, pickling with phosphating and lime, polymer or neutralized coating; this is done with the help of industrial partners approved. For special applications, non-standard drawing at controlled temperatures can be provided.



Nuts and Bolts



Chains



Springs



Special drawn products



Structural and construction steel



High Machinability



Case-hardening



Welding operations



Quenching & Tempering



Tools



# CHAINS

Wire rod with high wear resistance and core strength.

## Applications:

Snow chains

Lifting chains

Tyre protection chains for earth-moving machinery

Chains for forestry and military machinery

Other uses

Steel Quality	Caleotto	UNI / EN	Steel	Werkstoff
Chains	CALG21B	10263-4	20MnB4 mod + Cr	-
	CALG05T		23MnNiCrMo5-2	1.6541
	CALGN06	DIN 17115	15Mn4 mod Mn + Ni	-
	CALG23K		24MnSi6 mod + Cr	-
	CALGN04B	-	-	-





## SPRINGS

Wire rod for the production of springs, featuring purity inclusion and excellent surface quality, which makes it ideal for use in mechanical engineering and the automotive industry.

### Applications:

Springs for shock-absorbers

Springs for clutches

Springs for valves

Track tension springs

Torsion bars

Rail clips

Other uses

Steel Quality	Caleotto	UNI / EN	Steel	Werkstoff
Carbon springs	CALM75	16120-4	C76D2	1.1253
	CALM78		C78D2	1.1252
	CALM80		C80D2	1.1255
	CALM82		C82D2	1.1262
	CALM84		C82D2	1.1262
Carbon springs + Cr e + Cr+V	CALM88		C88D2	1.1272
	CALM82K	16120-4	C82D2 mod Mn+Cr	-
	CALM82Y		C82D2 mod Mn+Cr+V	-
CALM82Y -1	C82D2 mod Mn+Cr+V		-	
Railway Fasteners	CALMS15	10089	38Si7	1.5023
Si+Cr	CALMK54	10089	54SiCr6	1.7102

For special applications, non-standard drawing at controlled temperatures can be provided.



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# SPECIAL DRAWN PRODUCTS (LC, MC, HC)



**Low-carbon** wire rod, high-ductility wire rod suitable for deep drawing

## Applications:

Bright and chrome wire
Galvanized wire with different coating weight
Flat and special profile, cold-rolled or wire drawn
Chains
Other uses

We meet various market requirements by performing different Stelmor heat treatments depending on the type of pickling and calibrating the content of scale. We also provide different nuances by diameter and end-use, allowing an optimal fitting with the customer's needs.

**Medium and high carbon wire rods** with high drawability, micro-structural homogeneity

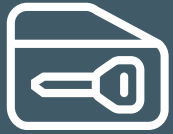
excellent degree of micro-purity, increasingly narrow gaps in mechanical characteristics, which make them suitable for the production of high mechanical resistance wires.

## Applications:

Strand and wires for reinforcing bars - CAP
Bead wire ed hose wire
Special ropes and cables
Special nails
Springs for mechanics, agriculture and automotive industry
Bedding and sitting springs
Cold rolled tapes

We meet the increasingly high performance demands of these steels, by means of innovative casting and stelmor cooling techniques, by non-standard rolling processes in temperature control when necessary.

Steel Quality	Caleotto	UNI / EN	Steel	Werkstoff
Low Carbon Wire Rod	CAL04B	16120-4	C32D mod Mn+B	-
	CAL05B		C4D	1.0300
	CAL05-1B		C4D	1.0300
	CAL07B	16120-2	C7D mod C+B	1.0313
	CAL010		C10D mod Mn	-
	CAL015		C15D mod Mn	-
Medium Carbon Wire Rod	CAL026	16120-4	C26D2	1.1139
	CAL032		C32D2	1.1143
	CAL037		C38D2	1.1150
	CAL040		C40D2	1.1153
	CAL042		C42D2	1.1154
	CAL044		C46D2 mod C	1.1162
	CAL045		C46D2	1.1162
	CAL048		C48D2	1.1164
	CAL050		C50D2	1.1171
	CAL052		C52D2	1.1202
	CAL056		C56D2	1.1220
	CAL060		C60D2	1.1228
	CAL062		C62D2	1.1222
	CAL065		C66D2	1.1236
CAL068	C68D2	1.1232		
CAL070	C70D2	1.1251		
High Carbon Wire Rod	CAL072	16120-4	C72D2	1.1242
	CAL072-1		C72D2	1.1242
	CAL072-2		C72D2 mod Mn	-
	CAL075		C76D2	1.1253
	CAL078		C78D2	1.1252
	CAL080		C80D2	1.1255
	CAL082		C82D2	1.1262
	CAL084		C82D2	1.1262
	CAL086		C86D2	1.1265
	CAL088		C88D2	1.1272
High Carbon + Cr	CAL080K	16120-4	C80D2 mod Mn + Cr	-
	CAL082K		C82D2 mod Mn+Cr	-
High Carbon + Cr + V	CAL082Y	16120-4	C82D2 mod Mn+Cr+V	-
	CAL082Y-1		C82D2 mod Mn+Cr+V	-



# STRUCTURAL & CONSTRUCTION STEEL

Wire rod intended for the manufacture of welded, bolted and nailed structures and parts used in building construction and mechanical engineering.

## Applications:

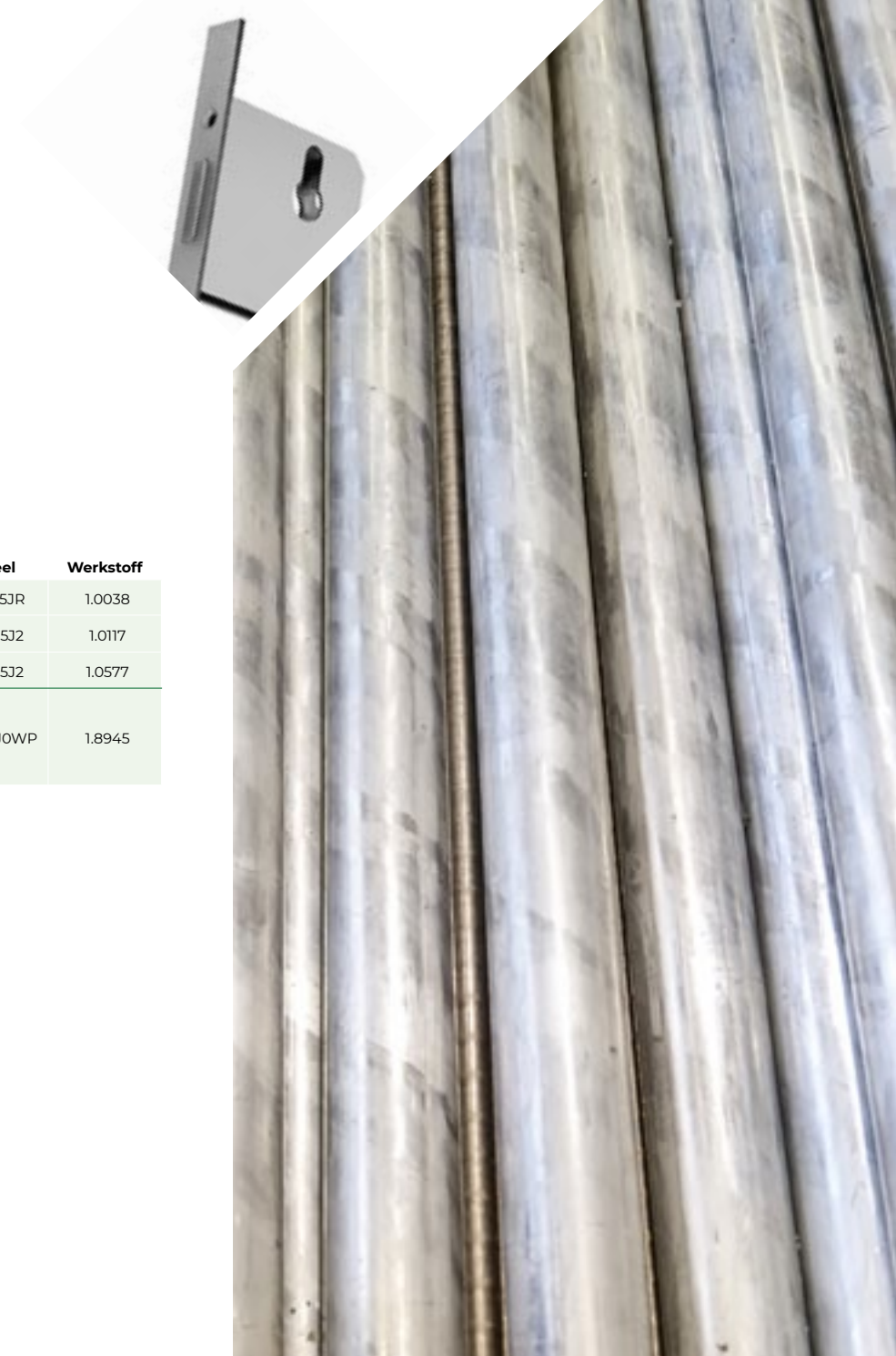
Flange

Pipes and fittings

Construction in general

Other uses

Steel Quality	Caleotto	UNI / EN	Steel	Werkstoff
Structural and construction steel	CAL36D	10025-2	S235JR	1.0038
	CAL36D		S235J2	1.0117
	CAL51D	S355J2	1.0577	
Steel with improved resistance to corrosion	CALW10KP	10025-5	S355J0WP	1.8945



Nuts and Bolts



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Special drawn products



Structural and construction steel



High Machinability



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Tools





## HIGH MACHINABILITY

Wire rod intended for high-speed machining and low tool wear, commonly known as free-cutting steels. They are specially designed to be machined with tools with high hourly output.

**Used for series production in various industries such as:**

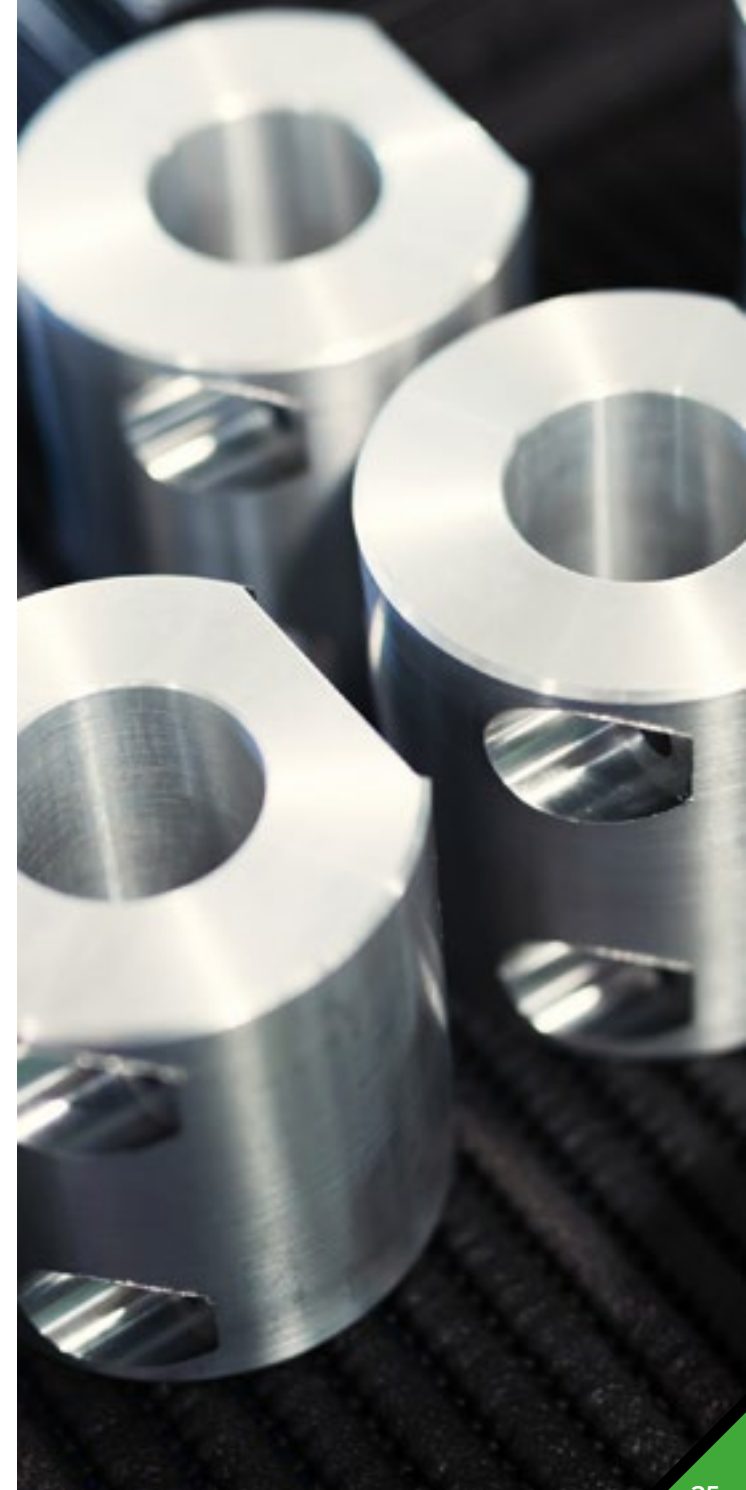
Automotive

Mechanical engineering

Household appliances

Other industries

Steel Quality	Caleotto	UNI / EN	Steel	Werkstoff
Free-cutting steels	CALS08	10087 683-4	11SMn30	1.0715
	CALS08B		11SMn30 mod+B	-
	CALS45	46S20	1.0727	



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## CASE-HARDENING

Wire rod intended for the manufacture of mechanical components requiring high surface hardness combined with high core strength.

### Applications:

Gears

Pins

Bushings

Shafts and everything needed for motion transmission

Other uses

Steel Quality	Caleotto	UNI / EN	Steel	Werkstoff
Case hardening	CAL16GKS	10084 683-3	16MnCrS5	1.7139
	CALCG20	-	20MnV6	1.5217



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## WELDING OPERATIONS

Wire rod for welding and electrodes, featuring very low inclusion content and very high structural homogeneity, making the product suitable for deep drawing. Different low-medium alloy grades according to custom analyses.

### Applications:

Rods for arc-welding in a protected atmosphere

Rods for submerged arc-welding

Mild steel rod electrodes, both coated and uncoated

Other uses

Steel Quality	Caleotto	UNI / EN	Steel	Werkstoff
Welding	CALSG2	14341	3Si1	-
	CALS10	14341	2Si	-
	CALS8TV	16834	Mn3NiCrMo	-
	CALS8TV-1		Mn3NiCrMo	-
	CALSG8D	14341	4Mo	-
	CALEN8S	16834	Mn3NiCu mod Si	-
CALS7T	Mn3NiCrMo		-	
Electrodes C	CALEC8	-	S1	-





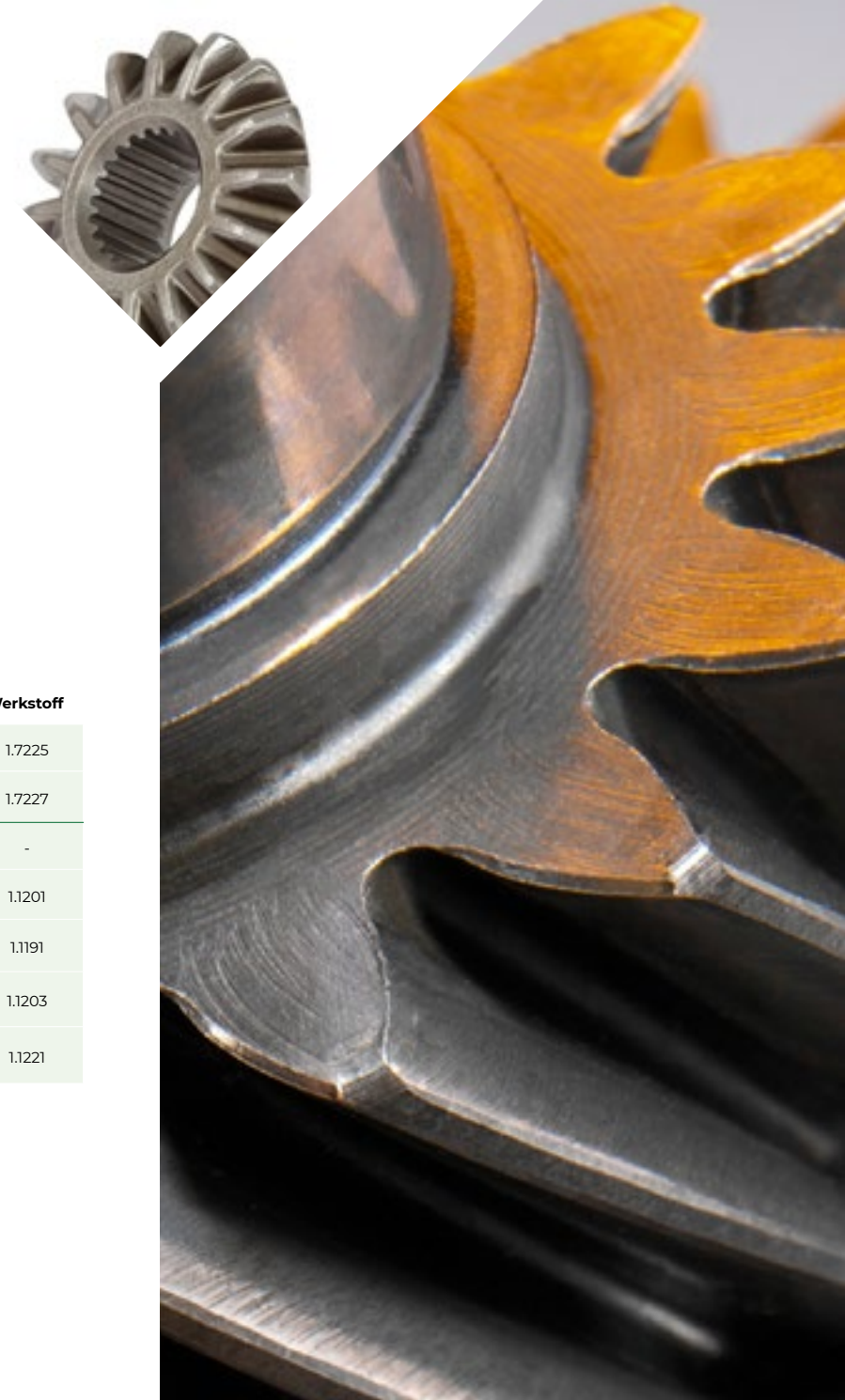
# QUENCHING AND TEMPERING

Wire rod normally quenched and tempered in oil for further downstream processing, which allows the production of parts of a complex shape. Low-inclusion content steels, controlled austenitic grain and no surface decarburization.

## Applications:

- Shafts
- Gearboxes
- Linkage
- All types of mechanical parts
- Other uses

Steel Quality	Caleotto	UNI / EN	Steel	Werkstoff
Quenching and Tempering Alloyed Steel	CAL42KD	683-2	42CrMo4	1.7225
	CAL42KDS	10083-3 683-2	42CrMoS4	1.7227
Quenching and Tempering Non-alloyed Steel	CAL43S	7847	C43	-
	CAL45S	10083-2 683-1	C45R	1.1201
	CAL45E		C45E	1.1191
	CAL55E	10083-2	C55E	1.1203
	CAL60E	683-1	C60E	1.1221



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Tools



# TOOLS

Wire rod for the production of tools featuring high micro-purity and analytical homogeneity to achieve maximum consistency in the performance of tools manufactured by customers.

## Applications:

Screwdrivers

Wrenches

Drill bits

Other uses



Steel Quality	Caleotto	UNI / EN	Steel	Werkstoff
Tools	CALMV16	-	58CrV4	1.8161
	CAL31KV	-	31CrV2	1.2208







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