



trefilerías
quijano

TREFILERÍAS QUIJANO

YOUR QUALITY BRAND

trefilerías quijano



TREFILERÍAS QUIJANO

TREFILERÍAS QUIJANO, a division of Global Special Steel Products, integrated in the GSW group, specializes in producing wires primarily for the automotive, appliance and communications industries.

Global Special Steels Products is a 100% subsidiary of Global Steel Wire and Incorporates four companies producers of steel wire for the automotive industry, mechanical engineering, infrastructures,...

Global Steel Wire is one of the pillars of Celsa Group, one of the leading steel producers in Europe.



CELSA GROUP™



ORIGIN

CELSA GROUP™ history began in 1967 with the first rolling mill.

A decade later the first meltshop was opened.

In the 90's **CELSA GROUP™** became the steel long products leader in Spain.

INTERNATIONALIZATION

International expansion started through acquiring production facilities in the UK and Poland in 2003.

Expansion continued entering the Nordic countries in 2006 and France in 2007.

TODAY

CELSA GROUP™ Today is amongst the world's top 50 steel Producers.

CELSA GROUP™ is the most diversified european private Steelmaking group.

2014 KEY FIGURES



TURNOVER



PRODUCTION



EMPLOYEES

CELSA GROUP™

Founded in 1967 and headquartered at Barcelona, Celsa Group is the largest long products producer in Spain and the most diversified European private steelmaking group.

Celsa Group is focused on supplying excellent quality products and direct service to its customers

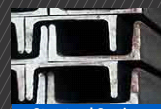
1. ROLLED PRODUCTS



Wire Rod



Plain Rounds



Structural Sections



Bars and Squares



Angle Sections



Iron Strip

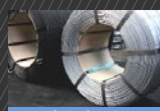


Reinforcing Bars

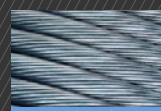
2. TRANSFORMED PRODUCTS



Cold Heading Wire



Technical Springs



Roping Wire



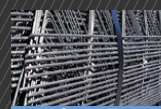
Steel Cables and Strands



Welded Tube



Welded Mesh



Reinforcing Joists



Wire Fencing

3. FORGING



Steel Lingots



Fibre Crankshafts



Main Wind Turbine Shafts



CGF Crankshafts



Boat Prop. Shafts & Comp.



Customforged Parts

CELSA (BARCELONA)

Founded in 1967, Celsa produces reinforcing steel, round bars, wire rod, flat bars, squares, angles, beams, profiles and electro-welded mesh.

CELSA NORTE

(GALICIA/FRANCE)

- Acquired in 2007.
- In process of integration.
- It produces more than 1 million Tons per year of billets.
- It has 2 rolling mills in Galicia.

(BILBAO)

- Producer of reinforcing steel, it has a filial -Laminaciones Arregui- which produces tubs.
- They were atquired respectively in 1988 and 1996.
- Nervacero is located in Vizcaya and completes installations in Barcelona.

CELSA NORDIC GROUP

- Acquired in 2006
- Headquarters: Mo i Rana (Norway)
- 953 employees* (own: 830 / sub: 123)
- 1 melting shop and 1 rolling mill
- Leader in the rebar market in all 4 Nordic countries
- Down-stream integration in more than 75% of the total production

GSW

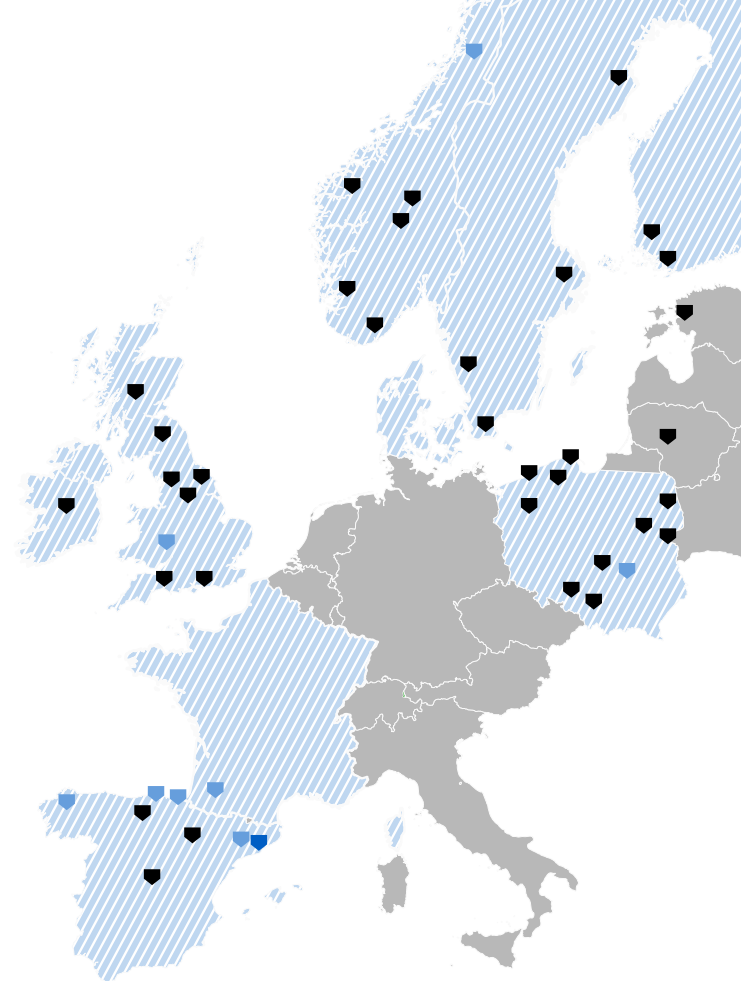
- Acquired in 1987
- One of the most important producers of wire rod in Europe.
- Situated in Santander
- Has its own harbour that gives advantage in competition on the international market.

CELSA UK GROUP

- Acquired in 2003
- Headquarters: Cardiff
- 1.661 employees* (own: 1.154 / sub: 507)
- 1 melting shop and 2 rolling mills
- Leader of British rebar and merchant bars markets
- Down-stream integration in more than 50% in Rebar

CELSA OSTROWIEC GROUP

- Acquired in 2003
- Headquarters: Ostrowiec
- 2.027 employees* (own: 1.630 / sub: 397)
- 1 melting shop and 2 rolling mills
- Market leader in rebar in Poland
- Leader in scrap recycle market that allows up-stream integration of 100%
- Leader in the production of forging machine for wind and naval sector



GLOBAL STEEL WIRE

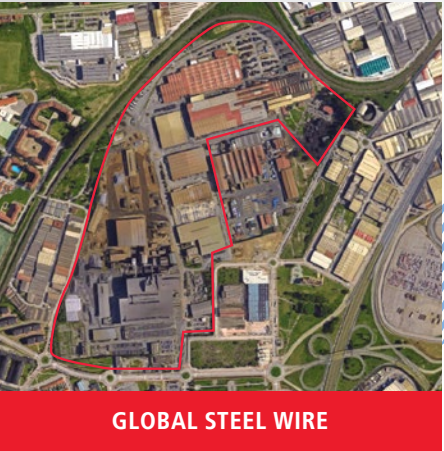
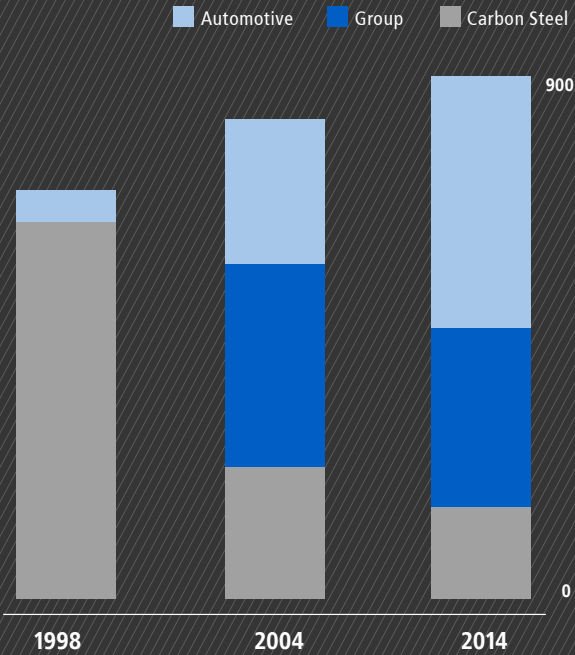
GSW is the **Celsa Group** company engaged in manufacturing wire rod in an extensive range of steels and dimensions, which have been progressively expanded towards higher technology services.

We are present in all wire rod based manufacturing sectors.

Following our main objective of satisfying our customers, we have continuously invested in keeping our facilities and processes in line with the latest technological developments

Likewise, our Total Quality Management (TQM) system allows us to focus our entire organisation towards delivering the quality and service required by our customers.

GSW'S FOCUS ON THE
AUTOMOTIVE INDUSTRY



GLOBAL STEEL WIRE



PRODUCTION

970.000 MT (BILLETS) -
900.000 MT (WIRE ROD)



GROUP TURNOVER

760 MILLION EUROS



EMPLOYEES

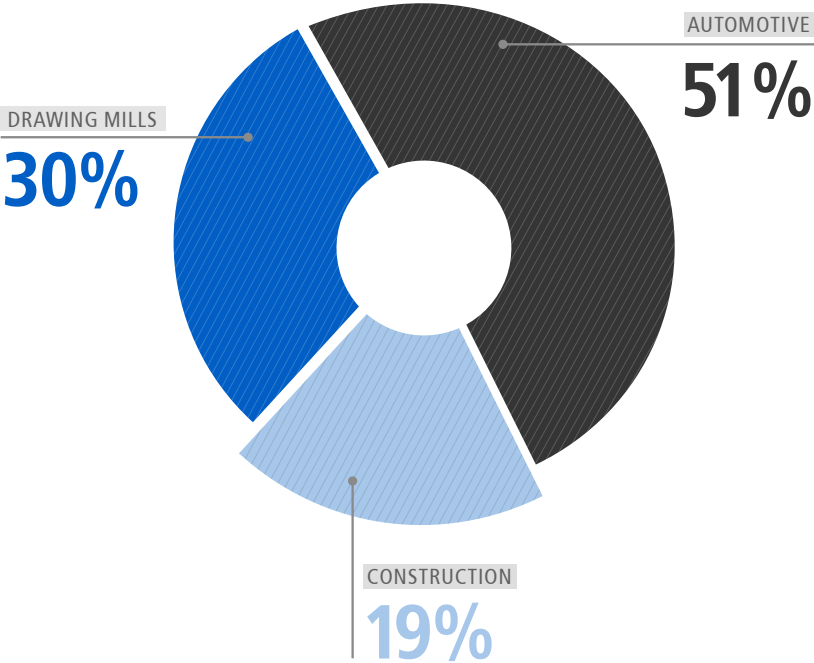
1500 PEOPLE



DRAWING MILLS

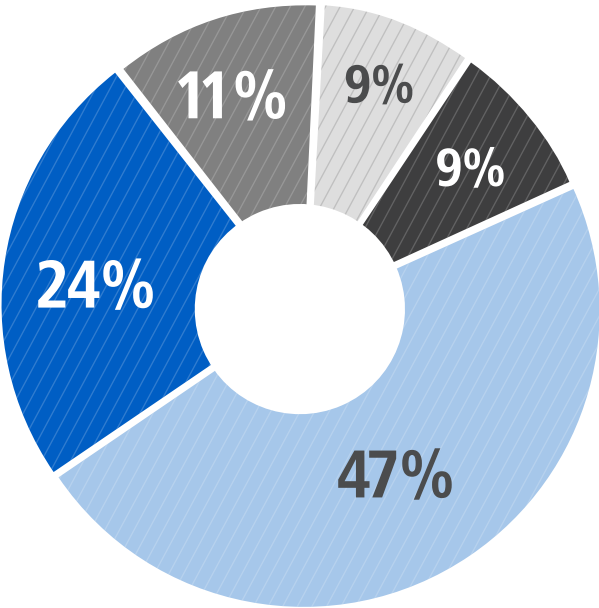
355.000 MT OF DRAWN
WIRE PRODUCTION

(COLD HEADING QUALITIES, PC WIRE, BEDDING
AND SEATING WIRE, CARBON STEEL WIRE)

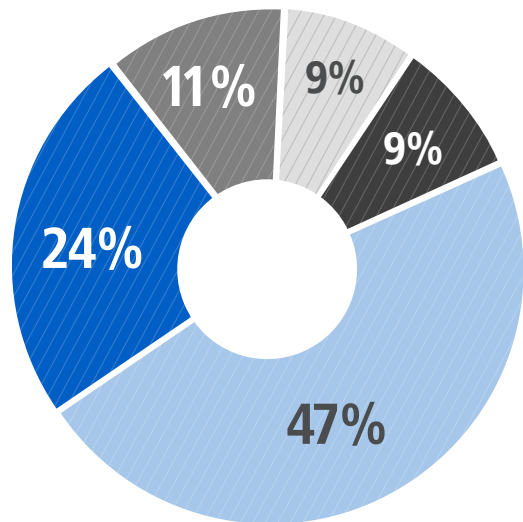


AUTOMOTIVE WIRE ROD

- COLD HEADING
- FREE CUTTING
- SPRING STEEL
- SUSPENSION SPRINGS, STABILIZER AND TORSION BARS
- STEEL CORD



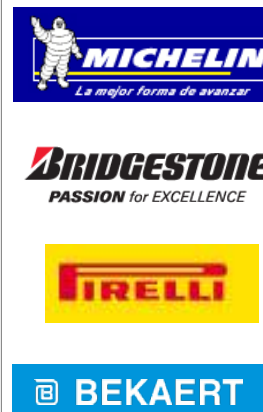
GLOBAL STEEL WIRE AUTOMOTIVE CUSTOMERS



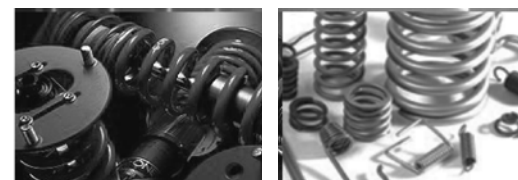
COLD HEADING



TYRE CORD



SUSPENSION SPRINGS, STABILIZER AND TORSION BARS



FREE CUTTING



STEEL WIRE QUALITY SYSTEMS

**THE CURRENT QUALITY SYSTEM
OF GSW AND TQ IS BASED ON
THE MODEL OF THE ISO 9001:2008
STANDARD FOR QUALITY
MANAGEMENT IN PRODUCTION,
INSTALLATION AND AFTER-SALES
SERVICE.**

This system is in continuous development, adapting at all times to changing market needs, the intensification of international competition, the growing pressure of costs and new ways of organisation with a view to obtaining the highest quality in our products for the greater satisfaction of our customers.

Quality management is one of the fundamental pillars of our industrial activity.

GSW and TQ has a Quality Management System certified by AENOR as compliant with ISO 9001:2008 Standard.

***GSW AND TQ HAVE
ALSO THE ISO T/S 16949
CERTIFICATION***



TREFILERÍAS QUIJANO

OVER 140 YEARS OF GREAT ACHIEVEMENTS

Trefilerías Quijano is the heir of the conical-tip nail workshop founded in 1873 at Corrales de Buelna, on the banks of the river Besaya, by Mr José María Quijano. The workshop started manufacturing wire, and later steel. The range of products grew as well, and already in 1914 the José María Quijano company had a presence in all wire applications and its derivatives.

By 1940 our company began to diversify its business portfolio, without abandoning wire manufacturing, into the automotive engineering industry. In 1969 the company achieved a new milestone in terms of capacity and wire-drawing tonnage, a situation that set it apart from the rest of domestic wire-drawing companies.



Almost 20 years later, in 1987, the Celsa Group became interested in the company and re-named it Trefilerías Quijano S.A. This is the name with which the company has gradually become a benchmark in the wire-drawing industry.

In 1988 the company split into two separate entities, one for production of wire rod in Santander and the other, Trefilerías Quijano, focused on manufacturing steel wires, cords, and wire products.



A key milestone in our history was 1999, when we started our Cold Heading business.

VALUES THAT HAVE CONSOLIDATED OUR OUTSTANDING TRACK RECORD

We work every day with a the commitment to make Trefilerías Quijano a pioneer in the development of processes and technologies related to the production of technical wires, keeping our corporate values at any time:

- Closeness and proactiveness with our customers.
- Compliance with quality, safety and environmental standards.
- Tenacity in the continuous improvement of our processes, activities, products and services.
- Applying our expertise to contribute to our clients' development.

COLD HEADING

This term includes all boron steel wires, aluminium killed steel wires and alloyed steel wires. Standard specifications. Specific variations of any product can be considered. Please contact our technical department.

CHQ STEEL COMPARATIVE CHARTS

.Nr	DIN Std Des.	EN 10263-2 Std Des.	Other Des.	GSW Des.
10.303	QST 32 - 3	C4C	-	C05QAL
10.303	QST 32 - 3	C4C	-	C06QAL
10.213	QST34 - 3	C8C	-	C08QAL
10.214	QST36 - 3	C10C	-	C10QAL
10.214	QST36 - 3	C10C	-	C13QAL
10.234	QST38 - 3	C15C	CQ15	C15QAL
10.234	QST38 - 3	C15C	CQ15	C18QAL
10.434	-	C17C	-	C19QAL
10.411	-	C20C	CQ22	C23QAL

.Nr	DIN Std Des.	EN 10263 - 4 Std Des.	Other Des.	GSW Des.
17.076	-	32CRB4	-	C32CRB4
17.077	-	36CRB4	-	C36CRB4
17.033	34CR4	34CR4	ASTM A752	C34CR4
17.034	37CR4	37CR4	ASTM A752	C37CR4
17.220	34CRMO4	34CRMO4	-	C34CRMO4
17.202	37CRMO4	37CRMO4	-	C37CRMO4
17.035	41CR4	41CR4	-	C41CR4
17.039	41CRS4	41CRS4	-	C41CRS4
17.225	42CRMO4	42CRMO4	-	C42CRMO4

.Nr	DIN Std Des.	EN 10263 - 4 Std Des.	Other Des.	GSW Des.
-	-	-	CQ15B	C15B
15.502	-	17B2	-	C18B
15.506	17MNB	-	ASTM A320	C18B
15.508	22B2	23B2	ES F1291	C22B
15.523	19MNB4	19MNB4	ASTM A304	C23B
15.525	20MNB4	20MNB4	-	C23B1
15.535	-	23MNB4	-	C23BCR
15.530	-	20MNB5	AF 20MB5	C23B3
15.530	-	20MNB5	AF 20MNB5	C23BCR3
15.536	-	27MNB4	-	C28B
15.510	28B2	28B2	AF 25B3	C28B
15.526	-	30MNB4	-	C30BCR
15.511	-	-	35B2	C35B
15.511	-	-	35B2	C35BCR
15.537	-	36MNB4	-	C35B2
15.537	-	36MNB4	-	C35BCR1
15.538	37MNB5	37MNB5	-	C40MNB

KEY APPLICATION

The most common uses that can be made with our cold forming products include:

- **Automotive sector**
- **Fixation parts**
- **Ball and socket joints**
- **White appliances**
- **Screws**
- **Nuts**
- **Bolts**
- **Rivets**
- **Different industrial applications**



TECHNOLOGICAL AND METALLURGICAL FEATURES

Our Cold heading wire drawing machines handle diameter ranges from 2.00 mm to 33.00 mm.

Surface Treatment:

Two fully automated (in terms of process and dosage) lines of HCL chemical pickling.

Different surface treatment available:

- Phosphate free. GARDO®Hybrid
- GARDOMER® phosphate. Allows big deformations with maximum efficiency.
- Phosphate soap.
- Phosphate lime.

Annealing and Globulisation:

Our wires are annealed in state of the art EBNER furnaces (hydrogen atmosphere), ensuring globulization of ► 90% with automatic temperature and atmosphere control.

Hardenability:

Boron steels are killed with aluminium and titanium. This system allows obtaining an amount of soluble boron that ensures the steel's hardenability. The product is systematically tested according to JOMINY hardening and test methods to check the product's response to the hardening treatment.

Quality Control:

- Spectrometer
- Metallographic analysis
- Upsetting machine

LOGISTICS

We have internal and external warehouses to ensure rapid and reliable delivery lead times to guarantee just-in-time requirements and punctual arrival of the order.



TECHNOLOGICAL AND METALLURGICAL FEATURES

Formats:

- Coils
- Formers
- Spools

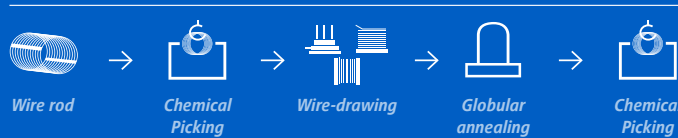


MAIN MANUFACTURING PROCESS:

+ U + C (K)



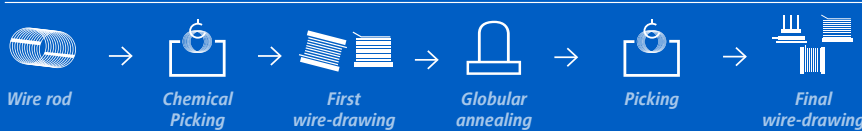
+ U + AC (K + GKZ)



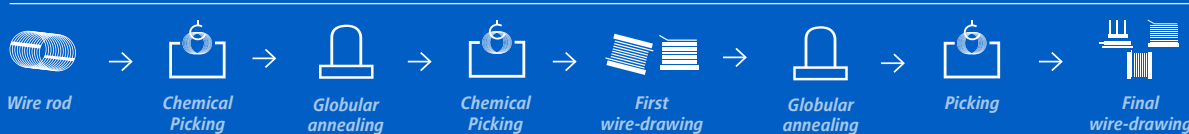
+ AC + C (GKZ + K)



+ U + C + AC + LC (K + GKZ + K)



+ U + AC + C + AC + LC (GKZ + K + GKZ + K)



MEDIUM AND HIGH CARBON WIRES

This category includes carbon steel wires with carbon content between 0.24% and 0.75% and steel wires with very high carbon content between 0.75% and 0.88%, and in some cases micro-alloyed with chromium and/or vanadium.

TREATMENTS, COATING AND RANGE OF DIAMETERS:

2 fully automated HCL Chemical Pickling Lines. Different Surface treatments and coatings can be applied according to intended purpose of the wire.

GALVANIZED

From 0.80 mm to 8 mm

Zinc bath with normal coating according EN 10270-1.

PHOSPHATED

From 0.80 mm to 14 mm

For all wires (not necessarily specified) with greater degree of coating.

PATENTED

From 0.80 mm to 7 mm

Depends on the specification of the wire.

STELMOR

From 0.80 mm to 14 mm

STEEL GRADES

GSW	EN 16120	%C	%Mn	%Si	%P	%S	GSW	EN 16120	%C	%Mn	%Si	%P	%S
K28	C26D2	-0.24-0.29	0.5-0.8	0.15-0.3	cccc-0.02	cccc-0.02	K58	C56D2	-0.54-0.59	0.5-0.8	0.15-0.3	cccc-0.02	cccc-0.02
K30	C26D2	-0.26-0.31	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03	K60	C58D2	-0.56-0.61	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03
K33	C32D2	-0.29-0.34	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03	K63	C62D2	-0.59-0.64	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03
K35	C32D2	-0.31-0.36	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03	K68	C66D2	-0.64-0.69	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03
K38	C36D2	-0.34-0.39	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03	K70	C68D2	-0.66-0.71	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03
K40	C38D2	-0.36-0.41	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03	K73	C72D2	-0.69-0.74	0.5-0.8	0.15-0,3	máx 0.02	máx 0.03
K43	C42D2	-0.39-0.44	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03	K75	C72D2	-0.71-0.76	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03
K45	C42D2	-0.41-0.46	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03	K78	C76D2	-0.74-0.79	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03
K48	C46D2	-0.44-0.49	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03	K80	C78D2	-0.76-0.81	0.5-0.8	0.15-0,3	máx 0.02	máx 0.03
K50	C48D2	-0.46-0.51	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03	K83	C82D2	-0.79-0.84	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03
K53	C52D2	-0.49-0.54	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03	K85	C82D2	-0.81-0.86	0.5-0.8	0.15-0.3	máx 0.02	máx 0.03

TQ is specialized in customer-oriented wire products. We can produce according to customer requirements, please ask us for further information.










MEDIUM AND HIGH CARBON WIRES

KEY APPLICATIONS

Common applications are:

- Steel cables
- ACSR cords and conductor cables
- Fibre optic wires
- Mechanical springs and wire forms
- Upholstery and mattress springs
- Steel wool
- Wire for tyres, hoses, etc.
- Wire for tying cotton and others
- Wire for bridge suspension cables



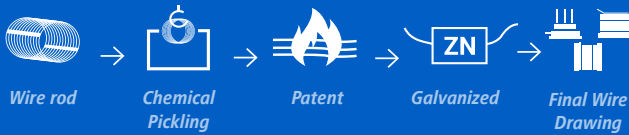
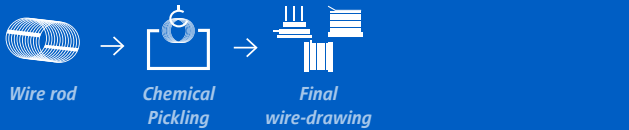
PRODUCT	DESCRIPTION	DIAMETRES	STANDARD	TENSILE STRENGTH
 TECHNICAL SPRINGS	Medium and high carbon wires for the manufacture of all type of springs (automotive, appliances, agriculture)	0.80-14.00 mm	EN 10270-1 DIN 17223 ASTM A228 NFA 47301 BS5216	AS STANDARD
 CABLE AND WIRE ROPE	Intermediate product used in the manufactured of Steel cables for aviation, fishing, offshore, mining, elevator, cranes and more	0.80-5 mm	EN 10264 DIN2078 BS2763	1370 MPa 1570 MPa 1770 MPa 1960 MPa 2060 MPa 2160 MPa
 ACSR ACSR CORD	Intermediate product used in the manufactured of electrical conductors and cords	1.60-5.50 mm	ASTM 8498 EN50189 IEC888 CEI 7.2	AS STANDARD
 WIRE MESH	Medium and high carbon wire used for the manufacture os wire mesh designed for separating aggregates and other uses	1x7+0 1x19+0	ASTM B500 EN50182 IEC1089 CEI 7.2	AS STANDARD
 RIVETS	Medium and high carbon designed for the manufacture os rivets	1.00-14.00mm	ISO 8458 DIN 17223 EN 10270-1	AS STANDARD
 AGRO. GALVANIZES WIRE	Heavy duty galvanized wire for agricultural use (fences, greenhouses...)	2.00-5.00mm	CUSTOMER	AS STANDARD
 STEEL WOOL	Product designed to get wool for industrial cleanning and sanding	2.00-4.50mm	CUSTOMER	880-1080 MPa
 ZIG ZAG	Medium and high carbon wire to make zigzag springs mainly used in the upholstery industry	2.50-3.50mm	CUSTOMER	1570-1870 MPa
 BALING WIRE	Medium and high carbon wires designed for tying cotton bales	2.00-3.80mm	CUSTOMER	1570-1870 MPa

MEDIUM AND HIGH CARBON WIRES

Formats:

- Coils
- Reels
- Spools

MAIN FACTURING PROCESS:



...BELONGING TO A LARGE GROUP GLOBAL STEEL WIRE S.A.

Is the Celsa Group company focused on manufacturing wire rod. It boasts an extensive range of steel grades and dimensions that has been gradually expanded with the aim of gaining a growing presence in high-tech industries.

We are present in all industries making products from wire rod, with a growing presence in the automotive sector and other industries with similar requirements. **Customer satisfaction is our main objective**, and we are continuously making significant investments to maintain our facilities and processes in line with the latest developments in technology.

Likewise, our **Total Quality Management (TQM)** System allows us to focus the entire organization on our customers, in order to give them the quality and service they require at all times.



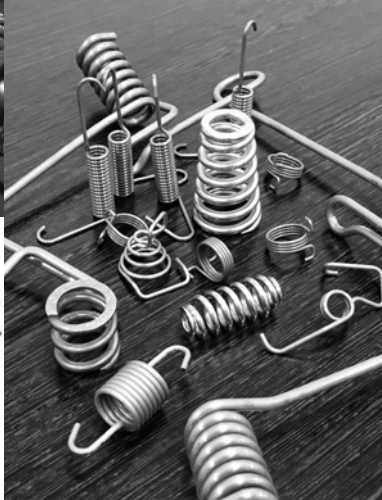
TYRE CORD



COLD HEADING AND
FREE CUTTING



SUSPENSION SPRINGS, STABILIZER AND TORSION BARS



WIRE ROD

COIL WEIGHTS AND DIMENSIONS

Inside diam (mm.)	Outside diam (mm.)	Length (mm.)	Weight (Kg.)
900	1.210	1.000	1.500
900	1.210	1.700	2.600
900	1.210	2.000	3.000

DIAMETERS FOR WIRE RODS (mm.)

-	-	-	-	-	-	-	-	-	-	-	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5
10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	-	16.0	15.5	17.0	-	18.0	-	19.0	-
20.0	-	21.0	21.5	22.0	-	23.0	-	24.0	-	25.0	-	26.0	-	27.0	-	28.0	-	29.0	-
30.0	-	31.0	-	32.0	-	-	-	34.0	-	-	-	36.0	-	37.0	-	38.0	-	-	-
40.0	-	-	-	42.0	-	-	-	44.0	-	-	-	-	-	47.0	-	-	-	-	-
-	-	-	-	52.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CELSA GROUP™ SUSTAINABILITY MODEL

Sustainable development is based on a commitment to improve the quality of life of society today and in the future. For the companies which work under the CELSA Group™ name it means **taking into account the environmental, social and economic consequences** of the strategic decisions we make in all our daily tasks.

Steel is one of the most recyclable and recycled materials in the world. It can be recycled over and over again without losing its properties and, thanks to its magnetic properties, it can be easily separated for recycling.



Two technologies exist today for producing steel: that which uses a blast furnace, which use iron ore and that used in electric arc furnaces, which recycle scrap and, therefore, respects the environment more.

In **CELSA Group™** we produce steel exclusively in electric arc furnaces, using scrap as our raw material in 100% of our products. Thanks to vertical integration, we cover the complete cycle of steel recycling; from the separation and recovery of scrap to its transformation into new steel products.

“WE TAKE INTO ACCOUNT THE ENVIRONMENTAL, SOCIAL AND ECONOMIC CONSEQUENCES OF THE STRATEGIC DECISIONS WE MAKE IN ALL OUR DAILY TASKS”



IN THIS WAY, CELSA GROUP™ CONTRIBUTES PROMINENTLY IN PROTECTING THE ENVIRONMENT:

- Using the most sustainable steel production technology
- Recycling steel products at the end of their life-cycle
- Recovering the sub-products of manufacturing processes which use steel as raw material
- Producing fully recyclable products
- Operating facilities in efficient way

All steel products produced by CELSA GROUP™ come from recycled scrap and are 100% recyclable.

COMMITTED TO PEOPLE

HEALTH AND SAFETY AT WORK

We are continuously making the effort to keep our **workplace safe from accidents.**

One of our principal objectives is to ensure a **safe and healthy workplace for all our staff.**

This **commitment** extends to all people, who although they may not form a part of our organisation, participate in it, such as providers, contractors, clients, visitors, and the residential community around us.



We focus all available resources on the integration of health and safety as an essential part of our daily management.

We believe that any business whose activities cause damage to its employees or to the environment is not a sustainable business.

OUR MOST IMPORTANT ASSETS AT CELSA GROUP ARE OUR EMPLOYEES (BOTH INTERNAL AND EXTERNAL), AND THE PROTECTION OF THEIR HEALTH AND SAFETY AT WORK IS OUR TOP PRIORITY.

For this reason “zero accidents” is the only possible principal objective in all our activities.

In order to achieve this objective, it is not enough to uphold and maintain the requirements for health and safety and the environment; only a commitment to rigorously maintain our own health and safety and that of our colleagues will enable us to fulfil it.

This commitment is demonstrated by sharing common principals and the proactive application of existing tools to prevent accidents and work-related illnesses.



OUR KEY TOOLS

- Visible leadership: the importance of safety is observed in the safety-consciousness of the management.
- Investigation of accidents and incidents: we analyse daily activity to spot potential causes of accidents or incidents.
- Preventative observations for safety: we analyse all situations of risk or accidents in order to prevent them and to avoid them recurring.
- Internal auditing: we ensure that all safety regulations are rigorously upheld.
- Risk correction cards: we make it easy for all company employees to inform us of possible risk using this card system.
- Corporate standards of health and safety: standards describe all safe conduct to be maintained.



OUR SAFETY PRINCIPALS

- All professional accidents and illnesses can and should be prevented.
- Management is responsible and will keep account of all actions related to health and safety.
- The commitment and training of employees is fundamental.
- Working safely is a condition of employment, promotion and career.
- Excellence in health and safety will lead us to excellent results in business.
- Health and safety is fully integrated in all our business management procedures.

**trefilerías
quijano**

TREFILERÍAS QUIJANO

Av. José María, Quijano S/N
39400 Los Corrales de Buelna
Cantabria (Spain)

T. (+34) 942 837 400

www.tquijano.com

