

TECHNICAL DATASHEET
Cold Rolled



Cold Rolled (CR)

Comprehensive Technical Overview

These are flat steel products in the form of coils or plates, obtained by cold rolling, annealing and tempering of hot-rolled, acid-cleaned flat steels, with thicknesses ranging from 0.20 to 3.15 mm. The physical properties of the materials produced by tandem cold rolling are homogeneous throughout the coil as well as the surface smoothness, width and thickness distribution meet expectations at the highest level. Cold rolled products can be produced also as continuous annealed (CA) or batch annealed (BA) for better formability performance.

1. Uses

Cold rolled are extensively used as basic material in different industries as:

- **Automotive Industry**

- Bodywork components.
- Chassis and support structures.
- Machinery and engine parts.

- **Construction**

- Metal structures in buildings.
- Support and reinforcement elements.
- Roofing and cladding systems.

- **Electronics**

- Housings and chassis for electronic devices.
- Connectivity and support components.

- **Machinery and Industrial Equipment**

- Machinery components.
- Support structures for heavy equipment.
- Tools and accessories.

- **Containers and Packaging**

- Metal containers for chemical and pharmaceutical products.
- Storage containers.

2. Technical specifications

As Cold rolled materials are widely used across different industries, several designations and technical specifications have been developed to fulfill those requirements. In the following table, the standard technical specifications are shown, however, other technical specifications could be discussed.



	Standard cold rolled	Deep drawing cold rolled
Tensile strength, MPa	270 – 410	> 270
Yield Strength, MPa	125 – 145	100 – 135
Elongation, min %	37 – 44	40 – 51
Roughness Ra, max μm	0,20	0,50

Chemical composition

According to international standards, the following is the chemical composition recommended for each use. Chemical composition for other uses could be discussed.

Designation	Chemical composition %			
	Carbon (C)	Manganese (Mn)	Phosphorus (P)	Sulfur (S)
Standard Cold Rolled	< 0,15	< 1,0	< 0,10	< 0,035
Deep drawing Cold rolled	< 0,06	< 0,45	< 0,03	< 0,030

3. Dimensions

Dimensions for this material are according to each customer end use. In the following table some standard values are presented, however, each case should be evaluated.

Coils			
Dimension	Units	min	max
Thickness	mm	0,20	3,15
Width	mm	630	1600
Coil weight	kg	6.000	18.000
Flatness	mm	6	20
Edge camber	mm	2	8

4. Recommendations and product handling.

For maximum usage of the raw material, the following recommendations should be followed:

- Cold rolled material are normally coated with rust preventive oil, however to avoid rust, the material should be stored in a humidity-free environment to prevent and risk of oxidation and it is necessary to take care when transporting, storing and handling.
- Demand appropriate transportation, with vehicles that have floors and roofs in good condition
- Never leave the material outdoors
- Store the material in closed warehouses with low relative humidity. In coastal areas or lots of rainfall, it is advisable to use equipment to reduce relative humidity to acceptable levels.
- Do not store material without appropriate packaging
- Use material immediately after opening it, as rust can occur if products are held for long periods after unpacking.
- Material storage should be as follows:
 - In general the lots with greater area or quantity should be located in the stack's lower side
 - Stack height should be necessary enough to keep visual control to avoid injuries. Moreover, the stability due the base/height and floor capacity resistant should be considered.

Contact us for technical inquiries

For more detailed technical information or to discuss your specific requirements, reach out to our expert team. Let us help you select the optimal specifications for your project.

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