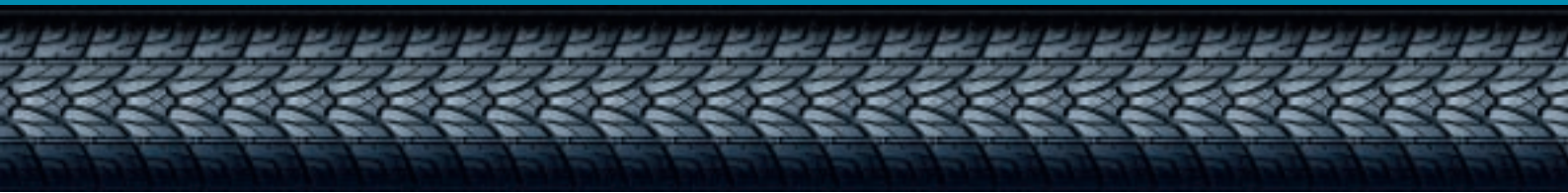


Corus Wire Rod

Tyre reinforcement steel products

Endless possibilities



High strength, quality-critical steel for the world's leading tyre manufacturers



Product in brief

Corus Wire Rod manufactures steel that meets the demanding specifications set by the world's leading tyre-cord manufacturers.

Tyre reinforcement cord is one of the most demanding applications for any steel. Wire rod has to be drawn to the thickness of a human hair to produce this safety-critical vehicle component. Tyre cord gives a tyre its strength, shape and durability, as well as improving safety, performance and longevity.

Corus Wire Rod has the knowledge and expertise to manufacture this high-quality grade of wire rod, and the advanced distribution systems to deliver the damage-sensitive material in prime condition to customers worldwide.

High-performance material

Corus Wire Rod is constantly working to develop new grades of steel with enhanced properties to meet the most stringent quality requirements.

Wire rod for tyre reinforcement cord is manufactured to meet individual customer specifications. Tensile strength is altered by adapting the steel microstructure, while scale characteristics can be tailored to suit each customer's descaling method.

We produce high-strength steel that meets the demands of a global tyre industry striving to manufacture lighter and more durable tyres, which improve fuel economy and vehicle performance.

The majority of the tyre-cord steel we supply comprises 70C and 80C grades, but we can also supply 60C and 90C grades. Further details are available on request.

70C Tyre cord properties

Analysis (%)	C	Si	Mn	P	S	Tensile (MPa)	Reduction of area (%)
Max	0.74	0.30	0.58	0.025	0.025		
Min	0.70	0.10	0.44				
Typical cast	0.71	0.19	0.51	0.012	0.007	1005	40

80C Tyre cord properties

Analysis (%)	C	Si	Mn	P	S	Tensile (MPa)	Reduction of area (%)
Max	0.85	0.30	0.60	0.025	0.025		
Min	0.80	0.15	0.46				
Typical cast	0.83	0.21	0.52	0.008	0.010	1136	38

Standard tyre cord rod dimensional tolerances: Gauge +/-0.20mm Ovality 0.3mm maximum. Tighter tolerances may be available – Please contact us for further information.

Quality assurance

Corus Wire Rod is committed to producing tyre-cord wire rod of the highest quality.

Strict process controls and the rigorous application of our quality-assurance standards provide the peace of mind that all products will fulfil your specifications.

Corus Wire Rod holds ISO9001:2000 for our quality management system and ISO14001 for our environmental management system.

Monitoring and control

Tight controls are implemented throughout the steelmaking process to ensure our wire rod meets the exacting requirements of tyre cord.

Composition

- The composition of wire rod is carefully controlled in the basic oxygen steelmaking process. The use of high-purity iron ore and high-purity scrap maintains low levels of residual elements. Low sulphur content is achieved by desulphurisation of the iron before primary steelmaking and the use of synthetic slags in secondary steelmaking.
- Composition is managed during secondary steelmaking in the ladle furnace by carefully controlled alloying. Sample analysis throughout the process enables the composition to be controlled to achieve the desired final properties.
- Electromagnetic and argon stirring are used to ensure consistent composition throughout the whole cast.

Cleanness, segregation and decarburisation

- We achieve a high level of cleanness in our wire rod through strict control of the purity of our alloys. We maintain low levels of oxides and aluminates by applying metallurgical engineering to eliminate non-deformable inclusions.
 - Special measures are used to separate the slag and liquid steel during steelmaking and tight control of the secondary slag ensures that any remaining inclusions are benign. Special refractories are designed to prevent harmful inclusions entering the liquid steel.
 - Cleanness levels are maintained by using efficient shrouding systems during continuous casting. Our advanced casting technology ensures that segregation is maintained at exceptionally low levels to reduce the risk of fractures during wire drawing and subsequent operations.
 - Decarburisation is minimised by reheating in our state-of-the-art furnace, which directly feeds the rod mill. Wire rod is supplied to decarburisation limits of 1.5% average maximum partial decarburisation, in line with EN 10263 – with tighter limits available on request.
- ### Testing and delivery
- A comprehensive testing procedure assures the quality of Corus products before they are despatched to customers. Testing in our fully equipped laboratories examines segregation, steel cleanness, scale, surface quality, decarburisation, composition, size, shape and tensile strength properties.

- Despatch through the purpose-built rod service centre or automated coil warehouse allows us to provide an efficient delivery service from these streamlined despatch facilities. They are equipped with bespoke handling equipment which, combined with minimal handling and an anti-abrasive flooring system, eliminates storage and handling damage.

Product range

Rod diameter	5.5-15.0mm in 0.5mm increments
Coil weight	Nominal 2100kg
Coil dimensions	Outside diameter 1250mm Inside diameter 850mm

Technical support

A team of experienced metallurgists provides Corus Wire Rod customers with technical support, helping you to select the most appropriate steels and ensuring you receive the best possible advice.

Contact us

For more information or support on any of our products, please visit our website:

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