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Bright bar

What we do, where to find us

Corus Engineering Steels

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Care has been taken to ensure that the information herein is accurate, but Corus Engineering Steels Limited does not accept responsibility for errors or for information which is found to be misleading.



Introduction

As an integral part of Corus and its Engineering Steels business, and with over 100 years of experience, we go far beyond simply producing and distributing a range of surface enhanced, cold finished steel bars.

We can advise on both material selection and supply routes supporting our customers and design engineers in the vast array of industries demanding consistent, reliable materials for our highly mechanised world.

With a new range of Hitenspeed steels and the development of our on-line internet services, we carry forward to the new millennium our sincere commitment to innovation, quality service and product excellence that has been our hallmark throughout the 20th Century.

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Key facts

An integral part of the World's largest producer of leaded steels and Europe's largest producer of free-cutting steels.

Technical resources of multi-national metals company.

Fully traceable and guaranteed continuity of supply from an integrated steelmaking to bright bar process route.

A major European producer of drawn bar.

Europe's most comprehensive range of bright bar, in metric or imperial sizes.

Production centred on 3 manufacturing sites, each with specific expertise and equipment.

Multiple bar and coil drawing lines ensure flexibility and contingency planning.

Scheduled drawing cycles for reliable delivery times.

In-house black and bright heat treatment capability.

A vast experience in international sales.

On line ordering from stocks of popular sizes and specifications @ www.BuyBrightBar.com

Products & services

Steel quality groups

- Carbon & carbon manganese
- Alloy free cutting
- Low carbon free cutting
- Alloy through hardening
- Medium carbon free cutting
- Case hardening & nitriding
- Micro-alloyed
- Bearing

Product range

Product	Shape	Size (mm)	Tolerance (ISO)	Length (metres)
Drawn Bar	Round	10 – 90	h11 – h9	3 – 7
	Hexagon	10 – 76	h11 – h10	3 – 7
	Square	12 – 28	h11 – h10	3 – 7
Ground Bar	Round	10 – 90	h11 – h7	3 – 7
Turned Bar	Round	18 – 225	h11 – h10	3 – 9
Heat Treated	Round	10 – 225		3 – 8.5
	Hexagon	10 – 76		3 – 8.5

Services

Corus Engineering Steels offers all customers, irrespective of size, full bright bar service packages focused on individual needs. These include, as appropriate:

Dedicated account management

Inventory & supply management

Scheduled deliveries

Special packaging

- hessian / polyweave wrapping
- boxed

Cutting to length

- for requirements < 3 metres

Chamfering / facing

- one or both ends

Heat treatment

- subcritical / spheroidal annealing
- annealing to hardness or grain structure
- normalising, stress relieving
- quench & tempering

Material selection and applications expertise

Joint product development

Mechanical or metallurgical testing / investigations

Product features & benefits

Drawn Bar

Closer control of size and finish than hot rolled bar.

Increased tensile and yield strengths.

Roundness control and straightness levels to best world practice.

Ground Bar

Free from surface defects and decarburisation.

Very close tolerances, superior to drawn or turned bar.

Surface finish suitable for use in the finished component or for subsequent electroplating.

Centreless Turned Bar

Technically free from surface defects and decarburisation associated with hot rolled products.

Highly responsive to induction hardening.

Lower residual stress distribution than drawn bar.

Improved impact and ductility properties.

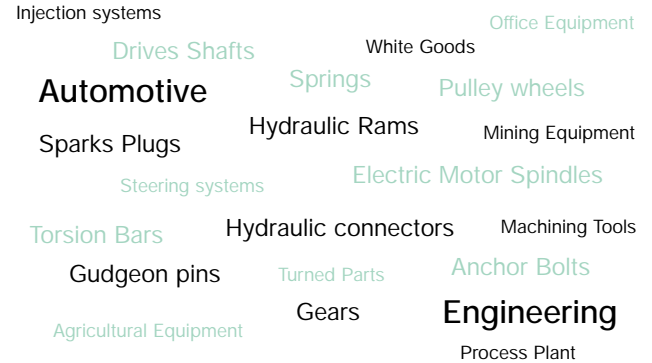
Engineered high lustre surface finish to 0.40 µm Ra.

Concentric stock removal.

Straightness 1:2000 or better in sizes 18 < 50mm dia.

Bars have known machining capability.

Markets & applications



Quality approvals

The quality assurance procedures of Corus Engineering Steels have been assessed and approved by over 100 component and equipment manufacturers end users and national bodies.

Approvals particularly relevant to our Bright Bar products include:

BS 5750 Pt2 1987
ISO 9002
Renault
Citroen
Ford
GKN CLVD
Peugeot
TRW

Proprietary steels

Brand Name	Steel Type	Nominal Chemical Analysis %							Features and Benefits	
		C	Si	Mn	P	S	Other			
XLCut & XLCutPb	Low Carbon Free Cutting Steels	0.07	0.01	1.00	0.05	0.30	(Pb)		Low carbon free cutting steels offering a high and consistent level of machinability. Supplied with or without lead for further enhanced machinability. Compatible with most equivalent international specifications	
Hitenspeed 45A	Medium Carbon Free Cutting Steels	0.43	0.10	1.40	0.03	0.30			As drawn strengths of 800MPa (< 40mm dia) or 700MPa (<75mm dia) with enhanced machinability for reduced through costs, reduced distortion and consistent performance. Also available in heat treated condition.	
Hitenspeed 65		0.41	0.10	1.40	0.03	0.30			As drawn strengths of 950MPa (<75mm dia) with no need for heat treatment, combined with excellent machinability for reduced through costs, reduced distortion and consistent performance in gear, shaft, spindle, drive train and hydraulic valve applications.	
Hitenspeed 55	Alloy Free Cutting Steel	0.40	0.20	1.60	0.03	0.25	0.30Mo		Free machining steel, heat treatable to strength levels from 775 MPa to 1000 MPa.	
IM Steels	Inclusion Modified Steels	Calcium treated within standard specification								Inclusion modified steels offering improved machinability, and with more consistency than standard grades.
Dev 88	8.8 bolting steel	0.25	0.20	1.45	0.01	0.02	+V		As drawn steel offering the complete mechanical properties of steel BSEN ISO898-1:1999 grade 8.8. Suitable for thread rolling applications.	

International specifications

As an integrated steelmaker, Corus can supply bright bar to most international or customer specifications.

Popular steel grades are readily available and are detailed in the subsequent pages. These tables show the equivalence of various international specifications based on nominal chemical analysis.

Most grades can be supplied with lead additions for improved machinability.

The list of specifications is not exhaustive and we can advise on the availability of other grades or on the optimum material to suit individual applications and delivery needs.

International specifications

Free cutting steels

Euronorm EN 10277	BS970 Pt3 1991	USA AISI	DIN 1651	AFNOR	SIS
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Standard Machining Steels

11SMn30	230M07	1215	9SMn28	S250	1912
11SMn30Pb	230M07Pb	12L14	9SMnPb28	S250Pb	1914
11SMn37	230M07	1215	9SMn36	S300	
11SMn37Pb	230M07Pb	12L14	9SMnPb36	S300Pb	

Case Hardening Steels

10S20 15S10 15SMn13			10S20	13MF4	1922
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Steels for Quenching & Tempering

35S20 36SMn14 36SMnPb14 38SMn28	216M36 216M36	1139 1139	35S20	35MF6 35MF6Pb	1957
46S20 44SMn28	212A42 226M44	1141 1144	45S20	45MF6.3	1973

International specifications

Carbon steels

Euronorm EN10277	BS970 P13 1991	USA AISI	DIN 1651	AFNOR	SIS
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Case Hardening Steels

C10R	045A10	1010	C10 Ck10		1265
C15	080M15	1015	C15 Ck15	C12 XC15	1350 1370
C16R	080M15 210M15	1015 1115			

Carbon and Carbon Manganese Steels

	070M20 080A30	1021 1030			
C35	080M30	1030	C35	XC32	1572
C40	080M40	1040	C40	XC38	1650
C45	080A42	1042		XC42	1650
C45	080A47	1046	C45	XC48	1672
C50	080M50	1050	C50		1655
C60	070M55 150M19 150M36	1055 1524 1536	C60	XC55	1665

International specifications

Alloy steels

Euronorm EN 10277	BS970 P13 1991	USA AISI	DIN 1651	AFNOR	SIS
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Case Hardening Steels

15NiCr13 20NiCrMoS2-2	635M13 637M17 655M17 805M17 805M20				
17NiCrMoS6-4	815M17 820M17 822M17 835M15				
16MnCrS5 20MnCrS5		16MnCr5 16MnCrS5 20MnCr5 20MnCrS5	20MC5		2173

Direct Hardening Steels

34CrS4			34Cr4	32C4	
41CrS4	530M40 605M36 606M36	5140 4037	41Cr4	42C4	2244
25CrMo4			25CrMo4 34CrMo4 42CrMo4 42CrMoS4	25CD4 35CD4 42CD4	
42CrMoS4	708M40	4140			
34 CrNiMo6	722M24 817M40 826M31 826M40 945M38	4340	34CrNiMo6		2541

Commercial contacts

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European & overseas sales

Corus Field Commercial Teams operate on behalf of Corus Engineering Steels through wholly owned offices in the countries shown below.

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Tel: +33 (0) 4 72 14 86 20 Fax: + 33 (0) 4 78 41 19 94

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Rosario Pino 14-16, Torre Rioja, 28020 Madrid, Spain
Tel: +34 (0) 91 425 2910 Fax: +34 (0) 91 572 1295

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Other Overseas Agents

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