

Brinsworth Hot Strip Mill

Corus Narrow Strip

Hot rolled special steel strip for diverse applications



Contents

- 3 Precision with vision
- 4 Release your imagination
- 6 Steel that makes the grade
- 8 Conditions of supply
- 9 Size ranges
- 10 Tolerances

Precision with vision

Brinsworth Hot Strip Mill produces narrow strip products manufactured to exacting specifications for industries throughout the world.

The mill has a long-established reputation for providing precision strip products that can be tailored to meet the specific needs of customers in many market sectors.

Our range of steel grades, from low carbon and free-cutting steels to high carbon, alloy and stainless steels, offers varying strength, formability, durability and hardness properties to suit the requirements of a great many end applications.

Our range of high-quality strip steels is used to manufacture diverse components, from seat-belt mechanisms to ice axes and from industrial needles to plough blades. It is used for cold rolling and in presswork, roll forming and engineering industries. The markets we serve include:

- Automotive
- Agricultural
- Mining
- Yellow goods
- Construction
- Aviation

Our steel products are backed up by extensive technical and metallurgical expertise within the strip mill and the wider Corus group. This enables us to offer advice and technical support to ensure that our steels meet the precise needs of your most demanding applications. We can advise on steel selection and usage to enhance the design of new components, or to support weight-reduction and cost-saving initiatives. Our integrated steel supply facility offers supply chain benefits, and enables us to react quickly to projects with short lead times and achieve just-in-time deliveries.

The quality of our products, our specialist expertise and our precision manufacturing mean we are able to serve a global network of customers, from Europe, the USA and Brazil to India and China.

Ongoing research, development and investment ensure that we continue to lead the way in steel advances, enabling us to offer cutting-edge products that keep pace with the very latest developments in your industry.

Release your imagination

Strip products can be tailored to fulfil an incredible variety of roles – turning your most innovative ideas into reality.

Imagine the possibilities for product design if suppliers could tailor-make individual components for your specific requirements. Imagine the long-term cost savings if those components were built from the highest quality material, offering superior strength and durability.

Free your imagination to the possibilities of steel.

Made to measure

Product designers in the automotive, agricultural, mining and many other sectors have already realised the performance benefits and long-term cost savings offered by designing narrow steel strip into their components. Many of these components are used in safety critical and highly specialised applications, which require parts manufactured to extremely tight tolerances.

Brinsworth Hot Strip Mill has the capability to manufacture steel to meet such stringent specifications. Tight gauge tolerances in the mill result in excellent repeatable performance in component manufacture, with consistent dimensions for highly specific applications.

Our hot rolled strip can be produced in tailor-made sizes to fit the requirements of your product design, whether it's a television frame or a surgical blade. Product performance can be customised too, so that the strength, formability and hardness of the steel are matched to the demands of your application.

Flexible service

It's not just our products that are customised to suit your needs. The service we offer is tailored to meet your specific technical, logistical and commercial support requirements. A dedicated account team will assess your needs and liaise with the relevant logistics and production teams to ensure we provide precisely the product you need, delivered just when you need it.

We can offer support ranging from day-to-day management and liaison, to advice and guidance on long-term initiatives or product developments. Internationally Corus has the back-up of offices strategically located across the globe. Wherever you are we work closely with you to provide the service package you require, ensuring you always gain optimum value from the steel you buy.





At Brinsworth we produce hot rolled narrow strip, up to 19.8" wide, in a variety of grades. Each of our products offers a set of specific properties that makes them suitable for a range of applications in a whole host of market sectors. Our narrow steel strip products include:

- **Low carbon grades**

Properties: Combination of good strength and ductility. Available in a variety of yield and tensile strength ranges to suit specific applications.

Typical applications: Automotive and agricultural wheels, pulley wheels, ratchets and lock parts.

- **Free-cutting steels**

Properties: Highly machineable low carbon steels, with controlled hardness and ductility.

Typical applications: Keys, contact boards and other parts requiring rapid metal removal.

- **High-strength, low alloy grades**

Properties: HYPRESS® steels offer excellent strength to weight ratios, along with good formability and weldability.

Typical applications: Seat-reclining mechanisms, scaffold clips, seat-belt pre-tensioners, seat slides, pipe couplings and brake components.

- **Boron grades**

Properties: Medium carbon steels with the addition of boron to give the excellent hardenability of higher carbon and lower alloy steels. Toughened by quenching and tempering, boron steels offer improved cold formability and weldability.

Typical applications: Shovels, harrow discs, mower blades, agricultural knives and chain side plates.



Steel that makes the grade

Narrow strip steels are manufactured under quality-controlled conditions to create high-performance products with distinct properties.

- **Medium to high carbon grades**

Properties: Available with a wide range of yield and tensile strengths. Higher carbon levels give greater hardness and abrasion resistance.

Typical applications: Garden tools, toe caps, washers, ice skate blades, clutch diaphragm springs, machetes, plane blades, files and cutting tools.

- **Alloy grades**

Properties: Alloying additions, including manganese, chromium, vanadium, nickel, silicon and tungsten, create specific properties for different applications. Alloys improve hardenability during heat treatment.

Typical applications: Clutch components, bicycle frames, TV tube frames, lock parts, golf club shafts, ice axes, cutting saws and knives.

- **Stainless steels**

Properties: Martensitic, ferritic and austenitic grades are available, offering excellent hardness and corrosion resistance.

Typical applications: Chemical filters, food-processing knives, cutlery, scissors, surgical and razor blades.

Our customised production process and the tight controls we maintain over steel properties result in extremely consistent products.

The mill is accredited to the internationally recognised BS EN ISO 9001:2000 Cert FM 00728 quality standard and we have an environmental management system that is accredited to BS EN ISO 14001:1996 Cert EMS 40606.



Hot rolled narrow strip

Conditions of supply.

Surface condition

Black or pickled (chemically de-scaled) and oiled.

Edge condition

Mill or rotary sheared edge.

Metallurgical properties

As rolled or annealed condition to meet specific metallurgical properties.

Gauge tolerances

Standard gauge tolerances to ASTM A568, A635, A749.
Tighter tolerances are available on most grades and sizes on request.

Width tolerances

Mill edge and rotary sheared edge strip to ASTM A568, A635, A749.
Tighter tolerances are available for sheared edges on request.

Edge camber

ASTM A568, A635, A749.

Coil weight

Typical coil weight: Up to 475 PIW

Coil diameter

Inside diameter: 20in
Smaller ID available on request.

Typical outside diameter: 53in
Smaller OD available on request.

Cut lengths

Size range: 27.5 - 433in

Normal tolerances: ASTM A568, A635, A749
Fine tolerances available on request.

Bundle Weight: Up to 11,000lbs

Packaging

Warehousing facilities are available for wrapping and packaging to specific customer requirements.

Hot rolled narrow strip

Size ranges.

Hot rolled strip - size range

Mill edge

Quality	Width (in)	Thickness (in)
Up to 0.25% Carbon	5.9 - 13.78	0.059 - 0.472
	13.79 - 16.93	0.079 - 0.394
	16.94 - 17.72	0.098 - 0.394
	17.73 - 19.8	0.118 - 0.394
*Hypress	5.9 - 13.78	0.063 - 0.394
	13.79 - 16.93	0.079 - 0.315
	16.94 - 18.11	0.118 - 0.315
0.45% - 0.85% Carbon	5.9 - 13.78	0.063 - 0.354
	13.79 - 16.93	0.079 - 0.354
	16.94 - 17.72	0.098 - 0.354
	17.73 - 19.8	0.118 - 0.354
Over 0.85% Carbon & Low Alloy	5.9 - 13.78	0.071 - 0.354
	13.79 - 16.54	0.079 - 0.354
	16.55 - 19.8	0.118 - 0.354

*Restrictions may apply for higher strength grades.

Sheared edge

Quality	Width (in)	Thickness (in)
Up to 0.25% Carbon	1.02 - 13.39	0.059 - 0.138
	1.02 - 15.35	0.063 - 0.138
	1.02 - 16.54	0.098 - 0.138
	1.02 - 17.32	0.118 - 0.138
	1.97 - 18.31	0.138 - 0.315
*Hypress	1.02 - 13.39	0.063 - 0.138
	1.02 - 15.35	0.079 - 0.138
	1.02 - 16.54	0.118 - 0.138
	1.97 - 17.72	0.138 - 0.315
0.45% - 0.85% Carbon	1.02 - 13.39	0.063 - 0.138
	1.02 - 15.35	0.079 - 0.138
	1.02 - 16.14	0.118 - 0.138
	1.97 - 18.31	0.138 - 0.276
Over 0.85% Carbon & Low Alloy	1.02 - 13.39	0.071 - 0.138
	1.02 - 15.35	0.079 - 0.138
	1.02 - 16.14	0.118 - 0.138
	1.97 - 18.31	0.138 - 0.236

*Restrictions may apply for higher strength grades.

Enquiries outside these ranges are subject to technical discussion.



Hot rolled narrow strip

Tolerances.

Width tolerances

	Width (in)	Thickness (in)	Normal tolerances (+/-)	Fine tolerances (+/-)*
Mill edge				
	5.91 - 9.84	All thicknesses	0.0591	0.0591
	9.85 - 15.75		0.0787	0.0709
	15.76 - 19.68		0.0984	0.0827

Sheared edge

	1.97 - 9.84	Up to 0.0062	0.0098	0.0051
	1.97 - 9.84	0.0063 - 0.117	0.0098	0.0075
	1.97 - 9.84	0.118 and above	0.0098	0.0098
	9.85 - 18.31	Up to 0.062	0.0098	0.0079
	9.85 - 18.31	0.063 and above	0.0098	0.0098

Thickness tolerances

Mill or sheared edge

	All widths	0.063 - < 0.079	0.0039	0.0024
		0.079 - < 0.118	0.0043	0.0024
		0.118 - < 0.157	0.0043	0.0028
		0.157 - < 0.197	0.0047	0.0028
		0.197 - < 0.236	0.0051	0.0028
		0.236 - < 0.315	0.0055	0.0035
		> 0.315	0.0055	0.0035

* Fine tolerances by agreement.



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