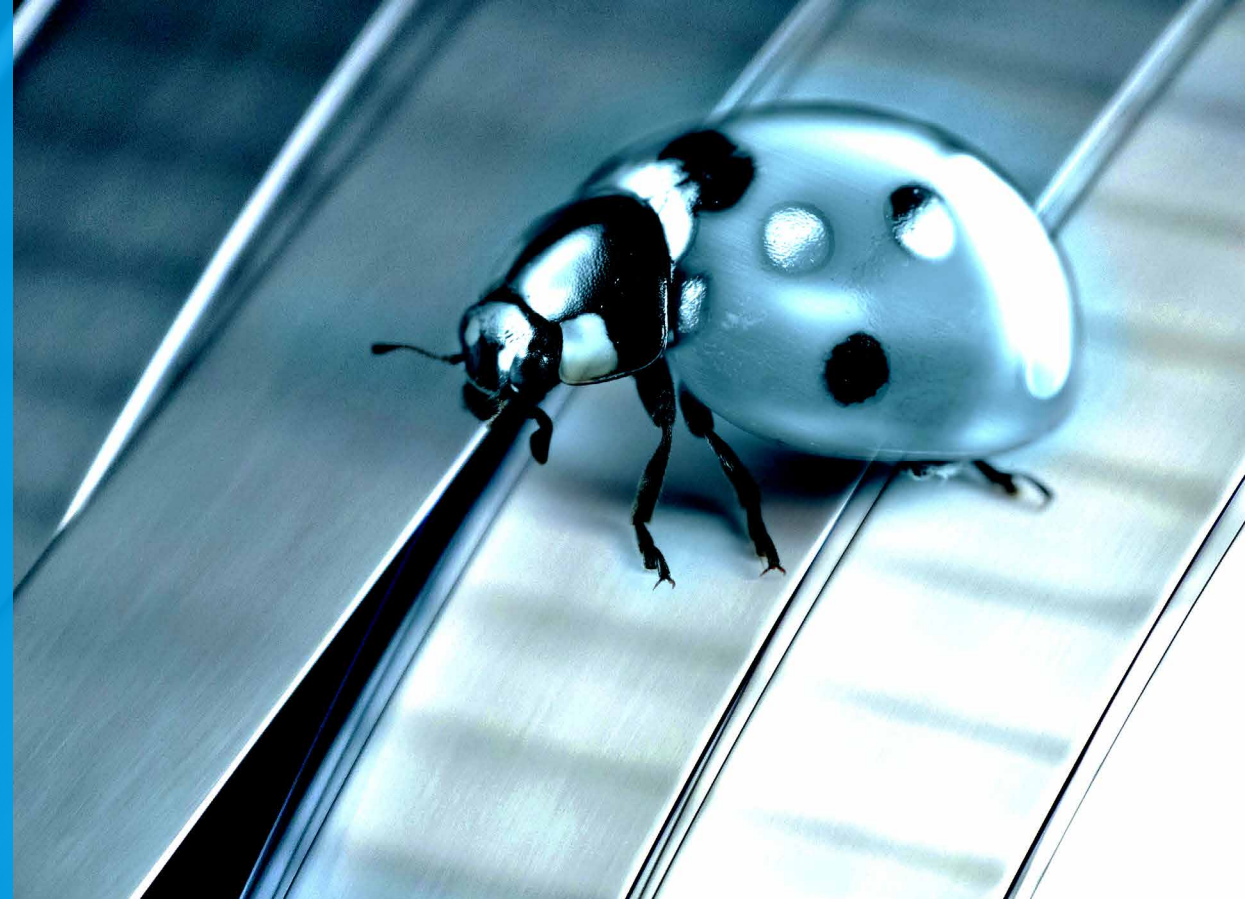




Buying precision strip? Here are the most important points to think about

Stainless steel precision strip has a huge variety of applications in many different industries, including automotive, medical, manufacturing, electronics, telecoms, construction, chemical and processing, household, consumer products and energy.



Manufacturers' priorities vary, depending on the material's end use. For some products in the consumer space, light weight and attractive finish are important. In comparison, industrial valves, springs and other applications need high tensile strength to deliver the right performance. In chemical and food processing, corrosion resistance is vital, whereas strength and hardness are important for blades.

However, we'd encourage buyers in all industries to consider the same five points.



1. Define your mechanical and chemical properties to choose the right grade for you

First and foremost, you need to specify the right mechanical properties such as yield, tensile or fatigue strength, as well as the chemical environment. There's a wide array of stainless steel grades on the market and making the right choice could extend the life of your product or save production costs. So it's worth telling your supplier all the details of your application up front.

You may need expert advice to navigate through the choices available. For example, to help you select products with high yield strength and tensile strength for reliable and long-lasting springs, pressed or stamped components and aerosol cans, connectors or contacts.

Alternatively, an expert could tell you how clean steel can avoid fatigue in high cycling applications such as valves or switches.

Very often, at Outokumpu, we can draw from our stock of ferritic and austenitic stainless steels and roll material to order. However, we can work with any grade. When a customer needs high hardness and high strength, we offer martensitic and duplex grades. The maximum tensile strength we can deliver is 2,000 megapascals (MPa).

2. Be open to sharing details about your own production

Similarly, you can get better results if you tell your supplier about how you'll be processing the material as they can use their experience to help you choose the grade that best fits your production. For example, they might recommend a material that is straightforward to weld or to form into any conceivable shape, such as fine medical needles or stamped parts.

By buying material with tightly defined tolerances for tensile strength, flatness and dimension, you might be able to cut out production steps and reduce cost and complexity for your own workshop.

Outokumpu delivers strip with 0.05 to 1.5 mm thickness and from 3 to 650 mm wide within the tolerances specified in the EN9445-1 standard. We can even achieve tighter tolerances if required.

We also provide support in terms of advice on best practice for forming and welding.

Have a look at the available grades and download datasheets:

[Read more](#)



3. Choose your surface and edge finishes carefully

Another area that can make a difference to the appearance or performance of the end product is the finish chosen for the surface and edges. Typically, customers choose a material with a glossy or matt finish, or a surface with roughness in the range of 5 to 30 micrometers. However, we can also carry out embossing if required for decoration or branding.

By specifying the edge finish as deburred or fully rounded, you can reduce the number of production steps or achieve the final edge finish you need.

And for applications where cleanliness is important, some customers need an oil-free surface. This is challenging as oil is essential to lubricate material during production in our rolling mills, although it vaporizes in the intense heat of the bright annealing process – therefore our strip has no oil on its surface when it leaves us.

We also offer a wide variety of customized packaging for transportation and to protect stock until it is needed.

4. Define the format and packaging

Precision strip is typically supplied on spools or coils loaded onto a pallet. However, packaging and formatting can make a big difference to your ease of production.

For example, some manufacturers need “endless” strip to feed production machines with a constant, continuous supply of material. It’s made up of individual coils that are welded together after rolling to create a single unbroken strip over multiple coils or spools. This saves time feeding production machines.

Alternatively, it might be important to specify packaging that is sealed with foil so that spools arrive pristine and untouched.

Another option is for different types of pallets to suit the forklifts and storage facilities at your own warehouse, whether that calls for Euro-pallets or round pallets. You can also specify the size of the wooden spacers between individual spools – another detail that makes handling more straightforward.





5. Calculate your carbon footprint

Choosing a sustainable supplier makes business and political sense, as well as being the right thing to do. New emissions targets and regulations are coming into force, and consumers are increasingly willing to pay a premium for products that can prove their environmental credentials.

Variations in reporting can make it difficult to compare the carbon footprint of stainless steel from different suppliers. While two products can appear identical in terms of composition and mechanical dimensions, their carbon footprints can be significantly different. That's because steel mills often take differing approaches to energy efficiency and procurement of low carbon energy for their processes, as well as using low carbon raw materials.

Another challenge is that carbon reporting varies between suppliers and countries. Not all reporting methods consider carbon dioxide (CO₂) emissions from 'cradle to gate' – and emissions from sourcing raw materials can be surprisingly high. So it's important to ask for the right data so that you can compare like with like.

At Outokumpu, we publish Environmental Product Declarations (EPDs) that include verified carbon footprint data at every step from cradle to the gate of our parent factories. We can then add the carbon footprint of our precision rolling and annealing line to provide a precise figure for equivalent CO₂ emissions per tonne of precision strip.

Summary

With these five steps in mind, manufacturers who need precision strip will be well positioned to make smart buying decisions.

We're always happy to provide technical and sales and advice around any questions about precision strip material.

The global leader in sustainable stainless steel

At Outokumpu, we recognized long ago that sustainability would become a competitive advantage for our customers and took action. Our carbon footprint is the lowest in the industry – only one third of the global average for stainless steel.

Our stainless steel has industry's highest level of recycled content – more than 85 percent compared to the EU average of 70 percent. Not only does this save the use of virgin ore material but it also improves our energy efficiency. Every tonne of recycled stainless steel saves 4.3 tonnes of CO₂ emissions.

We have now committed to further reducing our CO₂ emissions by a fifth by 2023 through the Science Based Targets program that is backed by the UN Global Compact.

Learn more about
Outokumpu's leading
approach to sustainability:

[Read more](#)

Working towards a world that lasts forever

We work with our customers and partners to create long lasting solutions for the tools of modern life and the world's most critical problems: clean energy, clean water, and efficient infrastructure. Because we believe in a world that lasts forever.



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