



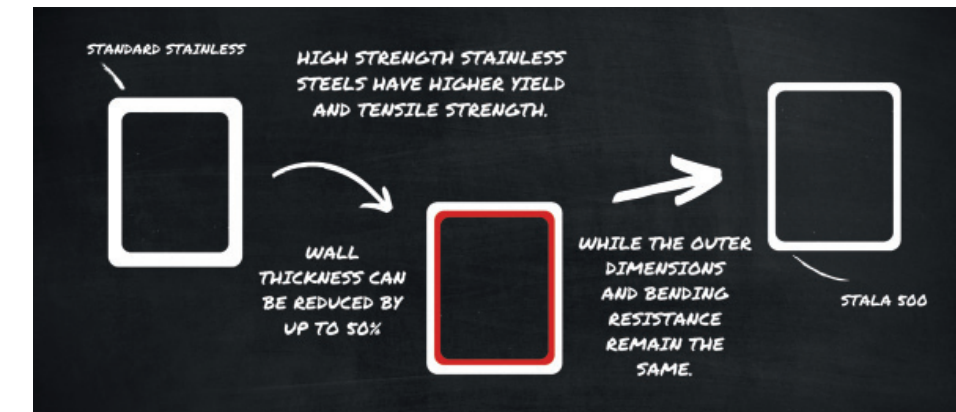
Sami Packalén: "Be more sustainable; use high strength stainless steel".

Stalatube – the Stainless Revolution is here!

Stalatube is a manufacturer of high-quality stainless steel structural hollow sections, profiles, and further processed products, with one of the world's largest ranges of square and rectangular hollow sections. With half a century of experience behind it, the company has developed a new business strategy that future-proofs it against future evolutions in the markets it serves and contributes to a strong and more sustainable world. Stainless Steel World spoke to company CEO Mr. Sami Packalén to find out more.

By Joanne McIntyre

Stalatube has a global distribution network spanning over fifty countries on all continents. Its international reach is demonstrated by the fact that around 90% of its products are exported. The company prides itself on offering the widest range of square and rectangular hollow sections in the business, having built up significant experience in finding the right materials and the right approach in any given situation. Stalatube has a long history of practising responsible and transparent business both at home and abroad. Its guiding value is the well-being of its employees, stakeholders and the environment. This philosophy was the driving force behind the company's new global strategy: the Stainless Revolution.



For company CEO Mr. Sami Packalén, Stalatube's keys to success are listening to customers, a distinctive and unique range of products and services, and a high degree of teamwork among the entire staff.

Cost and weight savings

"Stalatube has embarked on a new journey towards a world that is built to last," explains Mr. Packalén. "As a leading producer of sustainable stainless steel products, we see it as our duty to steer industries to adopt more sustainable solutions. Our new strategy centres around developing highly sustainable, high strength stainless solutions, as well as increasing sustainability in our actions and processes." High strength steels offer distinct benefits for end users both in terms of cost-savings and reduced weight of the final product, explains Mr. Packalén. "The material properties of high strength stainless steel allow customers to use significantly thinner tube wall thicknesses without compromising on the structure's functionality, stability or safety. We have demonstrated that the wall thickness can be reduced by up to

50% while maintaining the same outer dimensions and bending resistance than with standard materials. This is of course creates significant cost savings in materials and therefore cost. There are plenty of opportunities to take make use of these advantages throughout the product's long life cycle. Initially, there are direct cost savings in the initial investment phase due to lower meter price, and cost savings in transportation due to lighter weight of the cargo. And not to forget that there are also cost savings in the installation phase".

Mr. Packalén continues, "Our high strength concept, the Stainless Revolution, also brings many ecological benefits through the extreme lightweight of the structures. For example, transport load is lower due to the lighter structural weight of the products, which means a lower carbon footprint for transport. Products are highly corrosion- and fire-resistant; no coating with toxic paints needed, which means that there is no load of toxins or harmful substances on the environment. Products are 100% and endlessly recyclable and have a very long life cycle."

Sustainability benefits of high strength stainless steels

- Significant weight savings (up to 50%!) due to better mechanical properties - less material equals smaller carbon footprint for the product
- Lower transport load due to lighter structural weight = lower carbon footprint for transport
- 100% recyclable
- Long life cycle
- Highly corrosion- and fire-resistant; no coating with toxic paints needed = no load of toxins or harmful substances on the environment





Stalatube's production team at the state-of-the-art facility for further processed products in Łódź, Poland, which opened in 2019.

What is the Stainless Revolution?

So how does the Stainless Revolution combine the ambition for sustainability with the economic factors which essentially drive business? "Stalatube's new strategy focuses on targeted product development by building a large range of highly sustainable, high strength products," explains Mr. Packalén. "We've also invested in strengthening our Transport and Energy business areas and in developing their product offering because we believe these industries benefit particularly from high strength stainless solutions."

"Our new high strength solutions bring customers wide-spread added value,

Application of austenitic HS stainless steels

- Architectural applications such as glass walls and balconies
- Civil engineering applications such as dam structures
- Bridges
- Process and transport tanks
- Cable supporting structures
- Process equipment (due to better abrasion resistance)

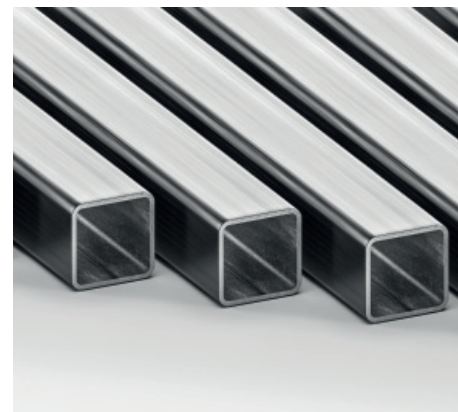
such as opportunities to design lighter and safer structures, to accumulate cost savings and to be more sustainable. Our goal is that compared to the more traditional choices, our high strength solution will always be a more ecological and sustainable choice for the customer." "Everything is, of course, based on our long-lasting commitment to our customers. We continuously listen to our customers and optimise our product offering and stock availability to meet customer needs. This is already visible in our recently widened stock selection of large sizes of austenitic hollow sections. Not to mention our new widely usable high strength grades for austenitic, ferritic and duplex products."

The benefits of high strength stainless structurals

The material properties of high strength stainless steel allow significantly thinner tube wall thicknesses without compromising the structure's functionality, stability or safety. The wall thickness can be reduced by up to 50% while maintaining the same outer dimensions and bending resistance as with

standard materials. This directly leads to savings in a number of ways:

- Saving on materials during the product's long lifecycle
- Direct cost savings in the initial investment phase due to lower per-meter price
- Cost savings in transportation due to lighter weight of the cargo
- Cost savings in the installation phase
- Total cost savings due to all of the above
- Lighter weight also makes it a more ecological and sustainable choice



Stalatube new high strength austenitic material grades 301 LN and 316Plus are now available in strength class STALA350 or STALA500, depending on tube size.

Wide range of applications

High strength stainless steel tubes can be used basically in all applications where stainless steel tubes are used - but their high strength can be utilised mainly in load-bearing applications. These could be found for example in vehicle bodies and chassis, architectural applications like balconies, process and transport tanks, bridges, cable supporting structures, dam structures and process equipment. Mr. Packalén explains further: "Many customers in the bus and coach industry and the energy industry have become familiar with using high strength lean duplex grades. Modern stainless steel bus and coach bodies and the topside support structures of oil and gas platforms are both obvious applications for these grades."

Lean duplex is a good example of a high strength stainless steel. Grades EN 1.4062 and EN 1.4162 provide a very high energy absorption capacity due to their high strength and ductility, making them ideal for bus body frames considering the safety demands in rollover situations.

The building and construction industry, on the other hand, has used a Stalatube creation for even longer. Mr. Packalén: "We launched the enhanced strength class Stala 350 for austenitic hollow sections 25 years ago, and balconies have become an iconic way to use it in the construction industry. Over the years, we have extended our enhanced strength class family by launching Stala 400F for stronger ferritics and Stala 630D for stronger lean duplexes."

New grades & sizes

Stalatube continues to develop grades to power its Stainless Revolution. Two new high strength austenitic material grades 301 LN and 316Plus are now available in strength class STALA350 or STALA500, depending on tube size. "These materials combine the best features of austenitic stainless steel," explains Mr. Packalén, "with high levels of corrosion resistance and toughness as well as excellent formability and weldability - with lighter weight and lower price. Sustainable, safe and cost-effective - totally revolutionary!" "Our next step is to bring out two new austenitic stainless steel grades for those that demand a higher proof strength or tensile strength than what regular



The Stalatube team optimizes its product offering and stock availability to meet customer needs.

EN 1.4307 or EN 1.4404 can offer. You will see us roll out these new standard materials by the end of this year." "In addition to offering two new standard austenitic grades, we've just launched an exciting new special strength class Stala 500A for austenitic square and rectangular tubes between dimensions 60x60x3mm and 120x80x5 mm! In addition, Stala 350 has been extended to large tubes above 100x100x6 mm."

Sustainability at every level

The Stalatube team is not only bringing this Stainless Revolution to the market; it is also embracing the philosophy behind it in-house. "We are very clearly focused on improving the sustainability of our own actions," explains Mr. Packalén. "Stalatube's Energy Efficiency Program 2021 aims to increase the energy efficiency of our headquarters and main production facility in Lahti, Finland. The program is part of Stalatube's continuous effort to increase the sustainability of our operations, products and policies. One of the main priorities for the coming year regarding sustainability will be

to optimise our operations to reduce total scrap to lighten our waste load and carbon footprint even further."

"We work hard every day for a stronger and more sustainable world. We want to be the most reliable and responsible partner for our entire global network, starting with our employees. As a good employer, Stalatube aims for a functional and efficient work community that also benefits the customer. Because together we are the strength that builds a better future."

"We believe that stainless steel is a sustainable choice in the world that needs sustainable choices to survive and to endure. Stainless steel is a great material, but so far, its full potential has not been realised. High strength stainless steels take the sustainability, safety and cost benefits of stainless steel to a significantly higher level." "That's why we try to find - and urge everyone to use - solutions where high strength stainless steel replaces partly or completely the traditionally used standard materials. Be sustainable; use stainless steel. Be more sustainable; use high strength stainless steel. These are the ways to Stainless Revolution."

Facts & Figures

Name:	Stalatube Oy
Headquarters:	Lahti, Finland
Products:	Austenitic and ferritic stainless steel tubes, I-beams, profiles, flat bars; Duplex and lean duplex tubes
Markets:	Transport, energy, building & construction, process industries
Website:	https://www.stalatube.com/