

# RhinoxVox

INOX Beat the harsh & corrosive environments & give sustainable life.



Hence, your home plumbing deserve Rhinox Stainless Steel pipes.

**SUSTAINABLE PIPING  
FOR THE LIFE  
OF A SYSTEM**

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## **BUILDING A SUSTAINABLE FUTURE IS POSSIBLE**

A lot has changed over the years with companies becoming more aware of the environmental issues and hence, switching to sustainable practices such as the use of stainless steel. Well, it doesn't come across as a surprise when known to reduce carbon footprints significantly 100% recyclable and does not produce toxic. Plus, during production, stainless steel uses scrap metal as its primary raw material with up to 80% of the product coming from recycled material and the process repeats. Just in case it is not recycled, there will be no harmful effect on the soil or groundwater.

Also, it is widely used in the medicine and food industry due to the effortless cleaning involved and fewer chances

for microbes to live. The chromium present in it acts like a natural shield that prevents corrosion of steel which is why it does not put an individual's life at risk.

The best part is yet to come Stainless steel is not just eco-friendly but cost-effective as well provided the right grade of steel is chosen for a particular use. It is built to last long which saves additional costs, including maintenance costs, production downtime costs, and inspection costs.

The bottom line is using stainless steel in the manufacturing process means making a valuable contribution to the planet. With limited environmental impact, envisioning a greener and sustainable future is possible.



**WHY SWITCH TO STAINLESS STEEL**

## HELIX BRIDGE - SINGAPORE



**In recent years,** Stainless Steel has made a notable contribution to the industrial sector consistently changing the face of architecture and engineering across the world. Its amazing properties include remarkable strength, immense ductility, corrosion resistance, and an undeniable aesthetic appeal. Truly versatile as well as cost-effective, it is used for the construction of small and long bridges.

Since the inception of bridges in the late 18th century, wood was used in construction and later replaced with stone and concrete. These methods were neither inexpensive nor full-proof. Unable to resist extreme environments like saltwater, these bridges ended up corroding. The solution to all these concerns was just one material—Stainless Steel.

Stainless steel was introduced to bridge construction in the early 1900s when industrialization came into play and since then

it has grown immensely. In the last 20 years, many bridges including those for vehicles and pedestrians have been built using this innovative material. Plus, the aesthetics of stainless steel bridges never fade down, even after years of usage. It displays the magnificent property of converting the metallurgical structure according to the conditions outside. While bridge design, extra attention is paid to stress corrosion cracking (SCC) resistance i.e the material should not go through any major damages or changes under high humidity or heat. Stainless Steel here surpasses the expectation without fail.

Even after showing such versatility, stainless steel remains pretty cost-effective, one might wonder why? This is because of the low molybdenum and nickel content combined with low weight that makes this alloy unbeatable.

## SIMONE-DE-BEAUVOIR FOOTBRIDGE- PARIS



## Benefits of Stainless Steel in Bridge Construction

Environment	Economic
100% recyclable	Lower construction costs compared to other materials
Reduces waster when manufactured in a controlled environment	Last longer and hence, requires does have to replaced often.
Withstands any weather condition	Less maintenance and hence less cost incurred.
Fewer chances of getting damaged during natural disasters like hurricanes and earthquakes.	Lighter in weight means less costly equipment required to lift, etc.

## Stainless steel bridges are **LOW MAINTENANCE**

Strength and durability are the main aspects to consider while making any bridge and stainless steel provides both. High tensile strength, temperature resistance, and ductility are a few of the many extraordinary properties that make stainless steel a perfect fit for engineering. These stainless steel bridges also eliminate the need for regular re-painting and repair because of their extreme durability. A cost-efficient and green solution in the industrial sector.

WHEN IT COMES TO STAINLESS STEEL, ITS STRENGTH AND VERSATILITY REMAIN UNMATCHED. BEING EXTREMELY MALLEABLE IN NATURE MAKES IT THE MOST PREFERRED CHOICE FOR THE CONSTRUCTION OF BUILDINGS AND ABOVE ALL, BRIDGES. STAINLESS STEEL IS THE CORE ELEMENT OF SOME OF THE MOST REMARKABLE AND MIND-BOGGLING BRIDGES ACROSS THE GLOBE.

- **VALMY FOOTBRIDGE - PARIS**

Talking about some famous bridges around the globe, FootBridge in Paris is constructed using the most versatile material i.e. Stainless Steel. Stainless Steel 316L is used by keeping in mind its uniformity, aesthetic appearance and corrosion-resistance properties. It is an excellent choice to construct the entire bridge, giving it slenderness and strength.

- **HELIX BRIDGE - SINGAPORE**

Another world-famous bridge Helix Bridge in Singapore is also fabricated with Duplex Stainless Steel. The use of grade 2205 stainless steel has made the entire bridge a lightweight and beautiful structure. This grade is an excellent choice as it is very good at resisting fatigue.

- **SIMONE-DE-BEAUVOIR FOOTBRIDGE- PARIS**

The construction of Simone-De-Beauvoir is yet another major construction accomplishment in Paris. The use of 316 L grade stainless steel is an excellent choice due to the combination of strength and slenderness. Also, it has given the bridge an elegant look.

**VALMY FOOTBRIDGE**



**HELIX BRIDGE**



**SIMONE-DE-BEAUVOIR FOOTBRIDGE**



## When it comes to corrosion resistance, trust stainless steel!

Steel, an iron-based alloy, is one of the most used elements across the consumer market and industrial areas of construction as well as automobiles. It is one of the most versatile materials to work with due to its high tensile strength, ductility, and overall toughness.

Steel has been a reliable component for years now, with just one problem which turns into a big issue in no time – it tends to corrode. Corrosion is a natural process in which the refined metal reacts to the oxygen and nitrogen in the environment to form a chemically stable oxide or hydroxide layer, eventually deteriorating the quality of the material. Steel turns brown and crumbles later, affecting the product as well. To avoid such situations, replace the steel with stainless steel.

Stainless steel is a remarkable material like its parent alloy but with the benefit of no corrosion. Stainless steel contains iron, chromium, manganese, silicon, carbon, and in several cases also a significant amount of nickel and molybdenum. It is a clever preparation as this material reacts with the oxygen from air and water to form a thin yet stable film which consists of the corrosion products of oxides and hydroxides, later reducing the levels of deterioration. Chromium plays a vital role in reacting with oxygen and forming the film on top of the steel. The presence of the stable film ensures to be a barrier against additional corrosion as it tightly attaches itself to the few atomic layers of steel making it immensely resistant to rust or any other degradation.

Completely recyclable and environmentally,

stainless steel is one of a kind. The recovery of this material is said to be 100% in the construction sector. Among its many benefits, its long life is surely one that appeals to many. This longevity checks many boxes for sustainable production. In addition to this, it is aesthetically pleasing, extremely hygienic and easy maintenance.



## **Desalination:**

### **Stainless Steel is part of the answer to the sustainable water challenge.**

The technique of converting saline seawater into drinkable water is a solution preferred for promoting sustainability. This process helps in providing water to many remote regions. In the desalination industry, stainless steel is an indispensable entity. This versatile material is non-corrosive and provides resistance against high temperatures making it the most suitable choice for transporting seawater across areas. Stainless steel contributes relentlessly to the desalination industry and continues to save millions of lives.



## **Drinking water supply**

### **Water is extracted, treated, stored, & distributed in stainless steel.**

Stainless Steel has many applications such as treating, storing, and distributing clean water. It benefits society with better quality water at a lower cost, establishing itself as an efficient material. Plus, it has a feeble environmental impact. Studies show that stainless steel maintains the purity and quality of drinking water even in adverse conditions. People are becoming more aware of it every day and choosing stainless steel for their plumbing needs.





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## Trust **THE BEST**

Because of the rigid properties and feature of sustainability, Stainless Steel possesses the capacity to withstand **high corrosion atmospheric environments**. If stainless steel can withstand such climatic conditions, it can prove to be an excellent choice for your homes. Hence, a blessing for your residential plumbing system.



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