

TSUBAKI **Surface-Treated Chain** **Neptune™**

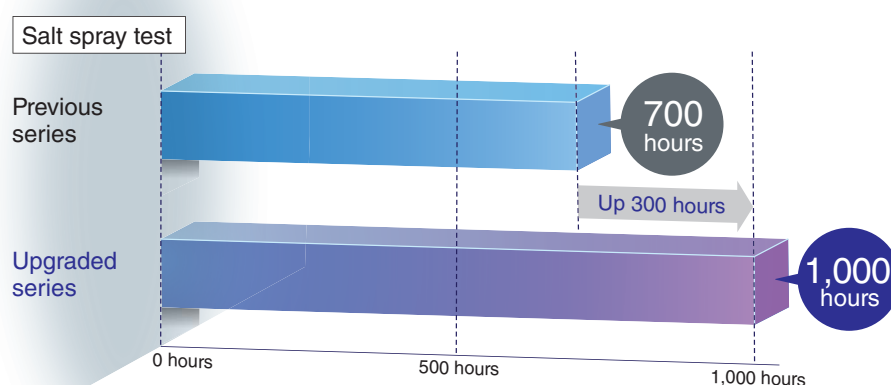


Upgraded for even better performance

Neptune™—Tsubaki's unique corrosion-resistant chain

Superb resistance to corrosion by water and alkaline chemicals Plus greatly improved resistance to salt water

The upgraded chain has improved resistance to corrosion from salt water. It can withstand 1,000 hours of exposure to salt water, compared to 700 hours with the previous series (based on in-house testing). It also has excellent resistance to alkaline chemicals, such as those commonly used to clean food-processing equipment.



● Superb Corrosion and Chemical Resistance

Corrosion resistance	Salt spray test		
	General-use roller chain	Previous Neptune™	Upgraded Neptune™
	 After 10 hours	 After 1,000 hours	 After 1,000 hours

- The upgraded chain has extra corrosion resistance. (Highly corrosive environment testing carried out in accordance with JIS-Z-2371 salt spray test.)
- The rollers have the same coating as the plates, pins, and bushes.

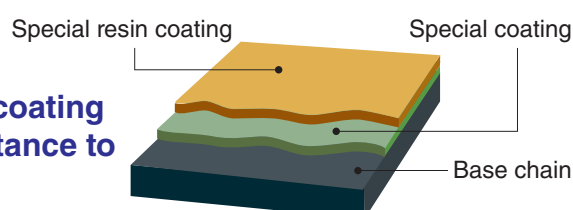
Chemical resistance	Immersed in 1,000 ppm sodium hypochlorite solution	Salt spray test after being immersed in 5% sodium hydroxide solution
	Upgraded Neptune™	Upgraded Neptune™
	 After 2,000 hours	

- Corrosion resistance to sodium hypochlorite solution is on a par with the previous Neptune chain. (The above shows the result of an immersion test in sodium hypochlorite solution.)
- We used a proprietary method to evaluate chemical resistance to a sodium hydroxide solution.
- Chemical resistance is equal to or better than the previous Neptune chain. (The above shows the result of undergoing 65 hours of a salt spray test after being immersed in a chemical solution for 45 hours.)

● New Surface Treatment

\ Newly developed by Tsubaki /

A new surface treatment combining a special coating and a special resin coating gives superb resistance to corrosion, rust, and chemicals.



The NEP series Neptune chain features a unique coating developed by Tsubaki and a special resin coating. We've upgraded the NEP series to give it even better resistance to corrosion, rust, and chemicals.



Lower Environmental Load

NEP series Neptune chain uses no harmful hexavalent chromium in its corrosion-resistant surface treatment, nor any other hazardous substances such as lead, cadmium, mercury, or arsenic. It is also RoHS compliant.



What is RoHS?

RoHS is a directive issued by the European Union limiting the use of specified hazardous substances in electronics or electrical equipment.

No Strength Reduction

NEP series Neptune chain uses a special treatment process that does not affect chain strength (or the hardness of the components). It has the same tensile strength and allowable load as our standard steel chains.

Unit: kN(kgf)

	Standard	NEP series	Zinc chromate compound coating	NP series	Stainless steel SS series
Min. tensile strength	17.7 {1800}	17.7 {1800}	16.6* {1690}	17.7 {1800}	—
Max. allowable load	3.63 {370}	3.63 {370}	—	3.04 {310}	0.69 {70}

Ref.: For RS40-size drive chain. *Average tensile strength of other companies' chains

Operating Temperature Range	Available Sizes	Number of Strands and Available Attachments
−10°C to 60°C (Chains other than drive chains can be used in temperatures up to 150°C)	NEP series surface-treated drive chain RS35 to RS160	NEP series surface-treated drive chain 1 to 2 strands
	NEP series surface-treated RS attachment chain RS40 to RS100	NEP series surface-treated RS attachment chain A1, SA1, K1, SK1
	NEP series surface-treated Double Pitch chain RF2040 to RF2100	NEP series surface-treated Double Pitch chain A1, SA1, K1, SK1

Chain Numbering Examples

NEP series surface-treated drive chain	RS100 - NEP - 1 - RP + 86L - MWJR - P SizeSeriesNumber of strandsUnit pin typeNumber of linksEnd linkOptions
NEP series surface-treated RS attachment chain	RS80 - NEP - 2L K1 + 200L - JR - T SizeSeriesAttachment spacingAttachment typeNumber of linksEnd linkOptions
NEP series surface-treated Double Pitch chain	RF2060 R - NEP - 1L A2 + 150L - JR - P SizeRoller typeSeriesAttachment spacingAttachment typeNumber of linksEnd linkOptions

Extra services

NEPTUNE™

Contact a Tsubaki representative.

We can provide surface-treated corrosion-resistant chains in sizes other than the standard Neptune line-up. We can add corrosion resistance to other series chains, such as lube-free drive chains. And we can provide special attachments. Feel free to contact us.



Drive chains

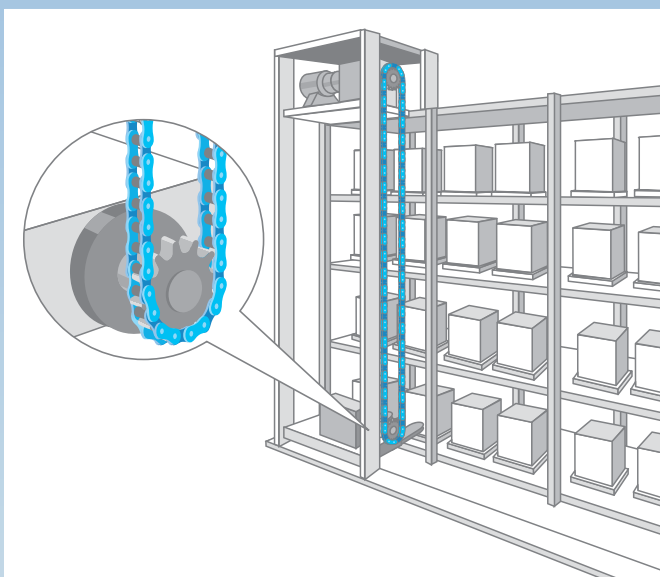
Key advantages

Makes your equipment more compact

The NEP series has the same strength as RS roller chain. You can select smaller sizes than stainless steel chain, which allows you to reduce the overall size of your equipment. It can also be used in large power-transmission machinery or lifting equipment.

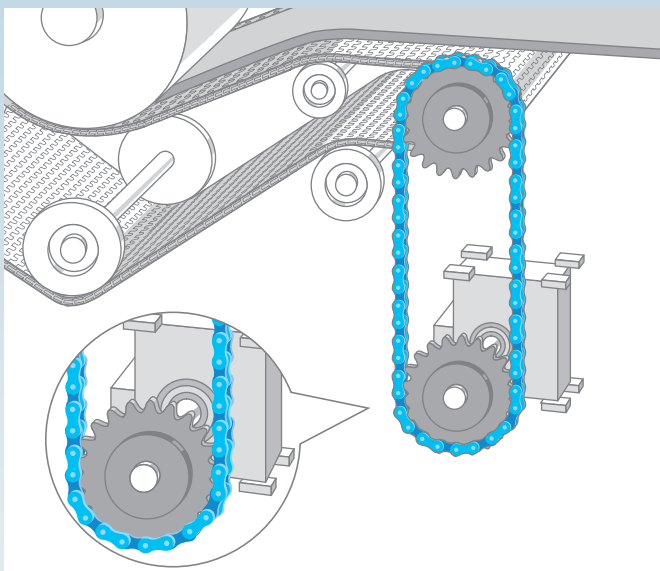
Resists corrosion in coastal or outdoor environments

The NEP series shows superb corrosion resistance in applications exposed to splashing water—including seawater. It's also an ideal solution to problems like poor chain articulation, wear, or breakage.



Automated warehouse

Used on a stacker crane for mushroom cultivation in a high-temperature, high-humidity environment. Standard steel chain quickly corroded and suffered wear, while stainless steel chain would be too large. So the customer chose the NEP series.



Drive unit of sheet transport equipment

Used to drive the roller section for transporting wet sheets.

This usage environment is extremely humid, with water droplets from the sheets falling onto the chain. The customer adopted a general-purpose chain, but the environment was more corrosive than expected and corrosion became a problem. The NEP series has the same power transmission capacity as general-purpose chain, but also offers superb corrosion resistance. By choosing NEP series chain, the customer was able to solve corrosion problems without having to modify their equipment.

is tough in corrosive environments, equipment

Attachment chains

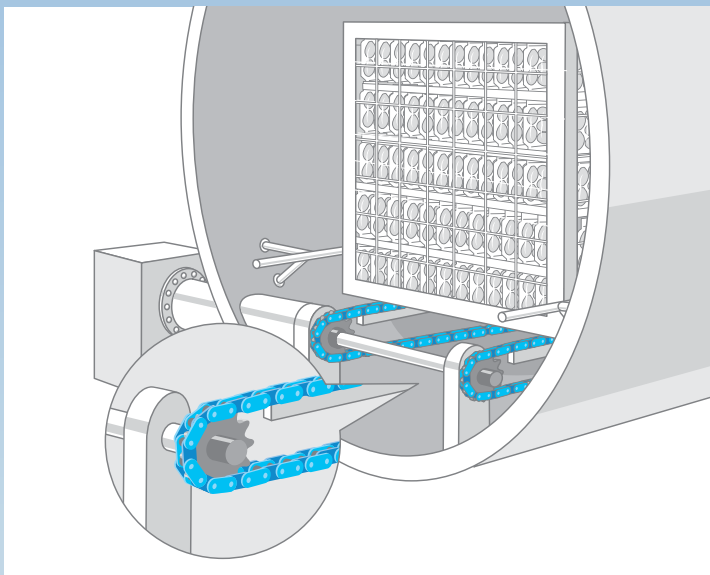
Key advantages

As a measure against wear

The NEP series has the same wear resistance as heat-treated chains. It solves the problem of stainless steel chains having a short life.

Reduces equipment costs

Using corrosion-resistant surface-treated chain means that equipment can be smaller than it would be with stainless steel chain. This helps to reduce the cost of installing equipment.



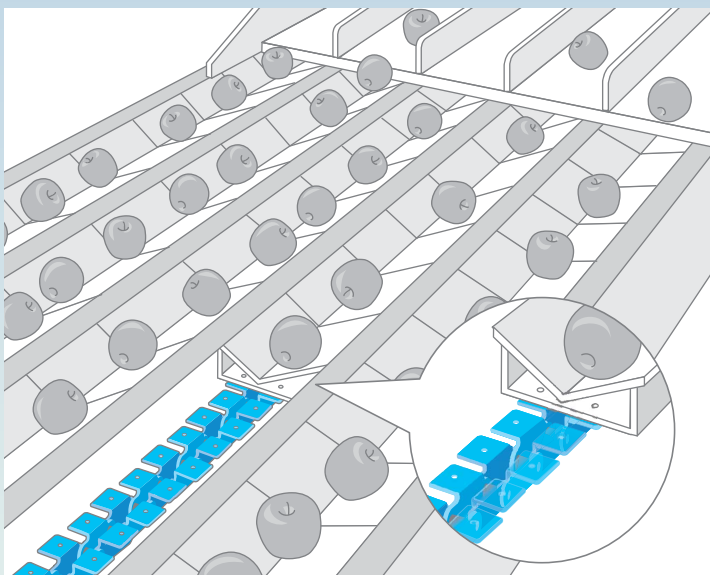
Washing equipment

Used on equipment to wash and clean pouches packed with food.

The chain is used to convey heavy items and is exposed to large amounts of wash water.

The customer had been using stainless steel chain from another company, but they had to frequently replace the chain when it became elongated due to wear.

The NEP series has superb corrosion resistance and the same level of wear resistance as heat-treated chains. By choosing NEP series chain, the customer was able to cut down on running costs and raise operational efficiency.



Fruit sorter

Used on a sorter to swiftly and efficiently sort large amounts of fruit.

When customers choose equipment, one of the key criteria they consider is chain quality.

The NEP series has the reliably excellent qualities you expect of Tsubaki-branded chain, such as uniform length and superb performance with regard to wear elongation. It also boasts high corrosion resistance in cleaning environments. By choosing NEP series chain, the customer enjoyed a shorter equipment delivery time and stable operation.



Precautions for Use

- When choosing your preferred chain, refer to the *Tsubaki Drive Chains & Sprockets* catalog or the *Tsubaki Small Size Conveyor Chains & Sprockets* catalog.
- With a suitable lubricant, NEP series chain can be used in temperatures up to 150°C.
- Consult a Tsubaki representative if you want to use the chain in a high-temperature steam environment.
- Galvanic corrosion may occur when steel chains are used with stainless steel sprockets, promoting premature wear of the rollers. Avoid using steel chains with stainless steel sprockets—use surface-treated steel sprockets instead.
- Do not use the chain if it will come in direct contact with food or where coating flakes or wear dust can contaminate food. Also, in non-food applications, take measures to prevent entry of foreign matter—for example, install an appropriate cover when using the chain in environments where coating flakes or wear dust may present a problem.
- There are no food machinery-related laws or regulations with which NEP series surface-treated Neptune chain is required to comply. Hence, this chain has no specific official certification.



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Website <https://www.tsubakimoto.com>

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