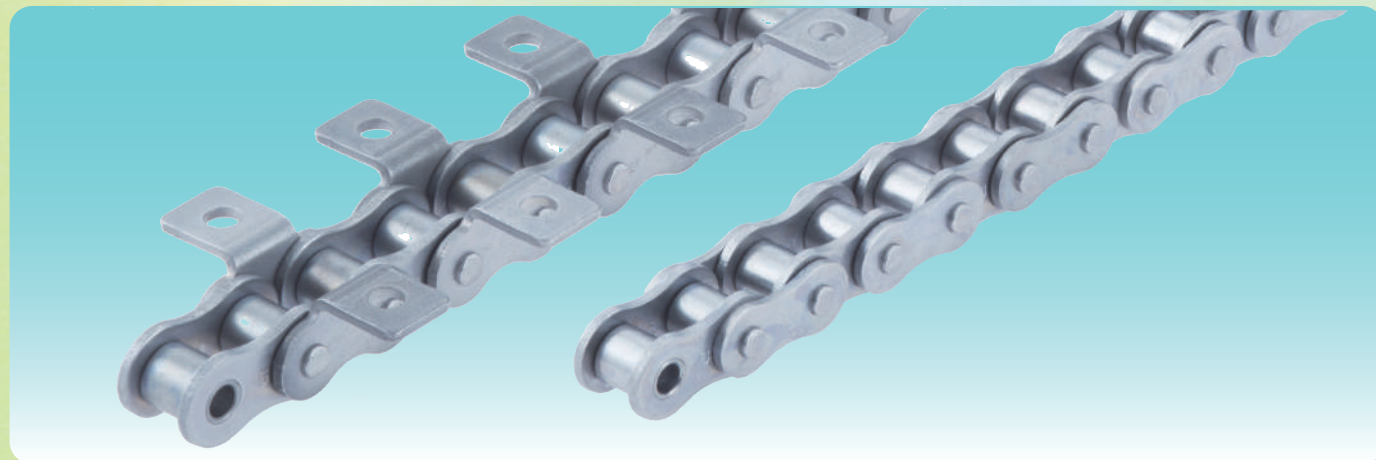


TLH Roller Chain has Excellent Corrosion Resistance, even under Severe Conditions.

Applying a special three-layered coating to standard roller chain, TLH roller chain is superior to chains surface-treated with conventional methods, providing significantly improved corrosion resistance.



SURFACE COATING AND SELF-REPAIRING PROPERTIES

The superior corrosion-resistance TLH roller chain consists of three layers of special coating. Each layer blocks water and oxygen, thereby preventing corrosion. An interdiffusion surface is bonded tightly in the boundary between the second and third layers. This prevents red rust for a prolonged period of time. The third coat, or the top coat, has a self-repairing effect, by which the coating molecules gather around the scratch and cover it over.

OPERATING TEMPERATURE RANGE

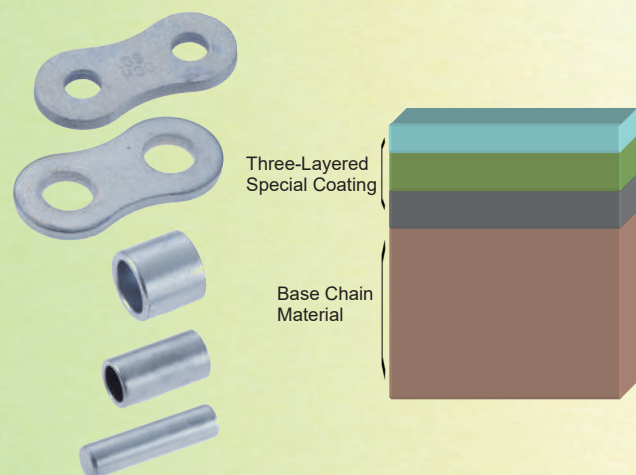
From -10°C to +150°C (14°F to 302°F)

NOTE: Please consult with us if the ambient temperature is 60°C (140°F) or higher, as special specifications are required.

CHAIN STRENGTH

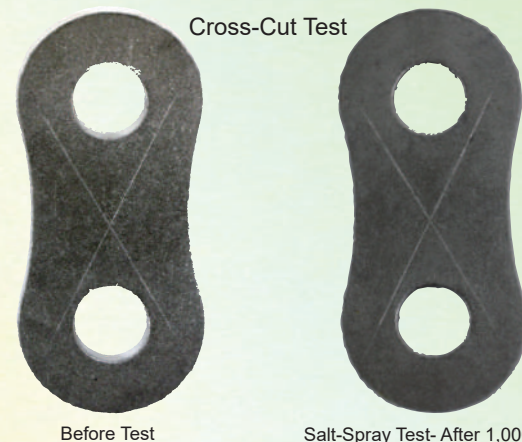
The standard roller chain surface treated with conventional methods has a decreased strength versus TLH roller chain. TLH has no decrease in strength and has the same levels of tensile strength and allowable tension versus standard roller chain.

CONSTRUCTION OF SURFACE COATING



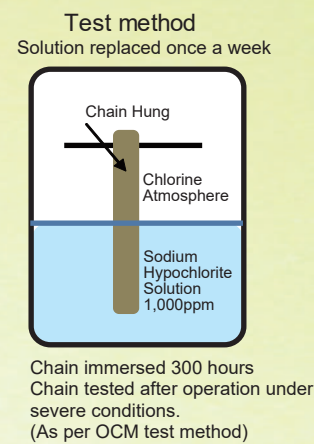
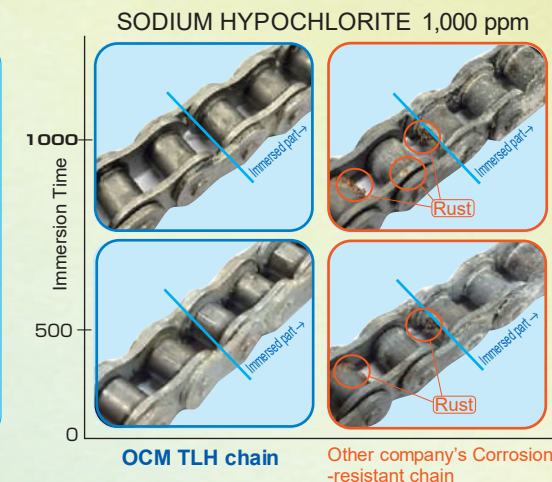
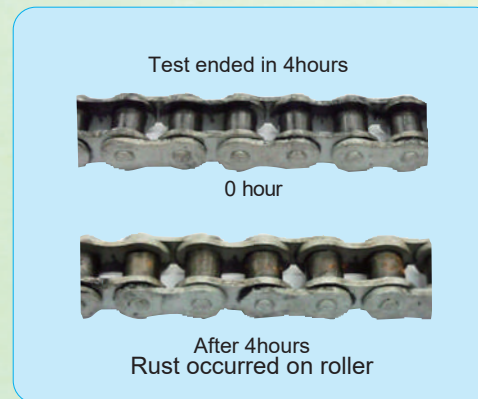
SELF-REPAIRING PROPERTIES

Even if a scratch or crack is formed, it is covered by the special coating, thereby inhibiting rust.



COMPARISON OF CORROSION RESISTANCE 1. Sodium Hypochlorite Test

Internal Test result with Super Shield Chain



Chain immersed 300 hours
Chain tested after operation under severe conditions.
(As per OCM test method)

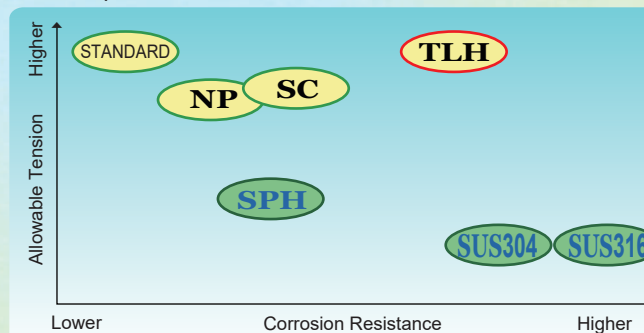
COMPARISON OF CORROSION RESISTANCE 2. Salt-Spray Test (as per JIS Z 2371)

No rust occurred after 1,000 hours, thanks to high corrosion resistance provided by Self-Repairing properties. Chain tested after operation under severe conditions.

Chain Type	Time	0 hour	500 hours	1000 hours
Nickel Plated Roller Chain [NP]				
Super Shield Chain [SC]				
TLH Roller Chain [TLH]				

Corrosion Resistance and Allowable Tension

Comparison between TLH Roller Chain and other models



- Standard: Standard Roller Chain
- NP: Nickel Plated Roller Chain
- SC: Super Shield Chain
- SUS: Stainless Steel Chain
- SAC: Stainless Steel Chain
- SPH: Stainless Steel Chain

- Standard Roller Chain
Standard Carbon Steel
- Nickel Plated Roller Chain [NP]
Special nickel plating is applied to each part.
Nickel Plated Roller Chain has lower allowable tension than standard roller chain by approximately 20%.
- Super Shield Chain [SC]
Special coating is applied to standard roller chain.
Super Shield Chain [SC] has lower allowable tension than standard roller chain by approximately 10%.
- Stainless Steel Roller Chain [SUS]
Stainless steel equivalent to SUS304 is used.
- Stainless Steel Roller Chain [SAC]
Stainless steel equivalent to SUS316 is used.
- Stainless Roller Chain [SPH]
Precipitation-hardened stainless steel is used for the pins, bushings, and rollers. The plates are SUS304 or equivalent.

TLH chain provides no decrease in allowable tension, as low coating temperature does not affect the hardness of parts.