

# TSUBAKI

# Cold Resistant Drive Chains

## Cold Resistant Roller Chain

## Lambda Chain Cold Resistant Series



The low temperature workhorse



# Tsubaki Cold Resistant Drive Chains for

I want to use the chain in freezer and cold-storage facilities.

## Cold Resistant Roller Chain

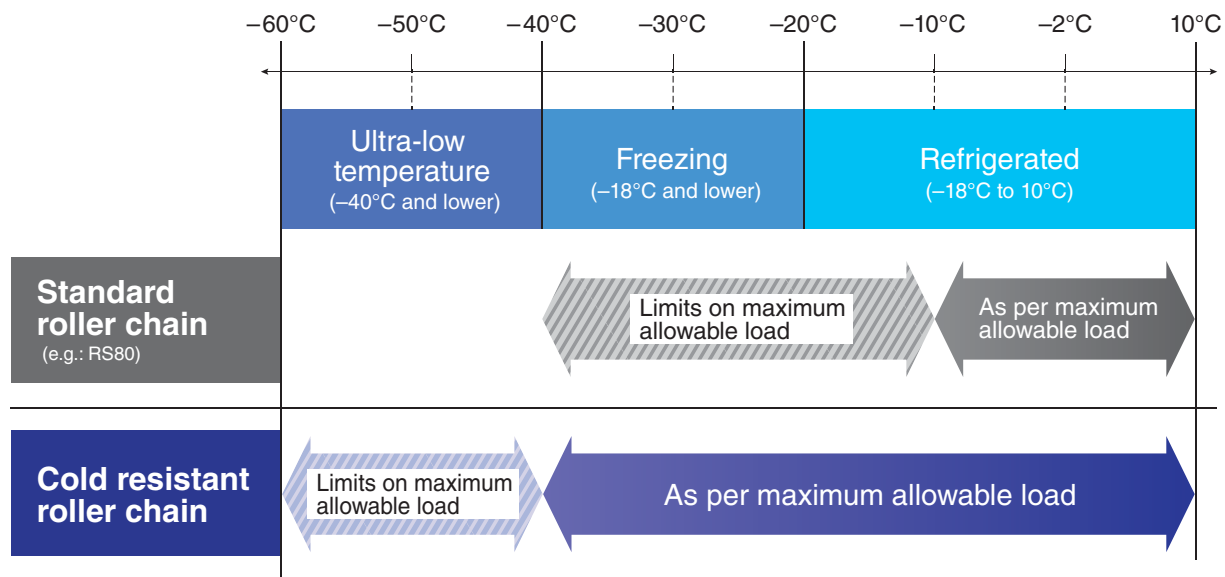
### Allowable ambient temperature down to $-60^{\circ}\text{C}$

Note: There are limits on maximum allowable load for temperatures of  $-40^{\circ}\text{C}$  and lower. Refer to the Selection Guide on the back page.



### Works below $-10^{\circ}\text{C}$ , a temperature range that degrades standard roller chain.

Can be used in colder temperatures than can standard roller chain.



#### Easy to attach, even in cold places

Uses M-type connecting links with ring coining\*, which allows for easy attachment and removal of the connecting link but provides the same strength as the base chain links.

\*Tsubaki original processing



#### F-type connecting link

The pin and plate are press-fit. Recommended for lifting applications.

#### M-type connecting link

The pin and plate are slip-fit for ease of handling.

#### Easy to install

Chains are coated with an anti-rust oil at the time of shipment.

Customized models coated with low-temperature silicone oil are also available. Contact a Tsubaki representative.

#### Operating temperature range

$-40^{\circ}\text{C}$  to  $60^{\circ}\text{C}$  (without condensation)

#### Applicable sizes

RS35 to RS160

#### Number of strands

Single

Note: There are limits on maximum allowable load for temperatures between  $-60^{\circ}\text{C}$  and  $-40^{\circ}\text{C}$ .

Note: Other sizes, number of strands, BS/DIN standard types, and small conveyor chains are also available. Contact a Tsubaki representative.

# Low Temperature Environments

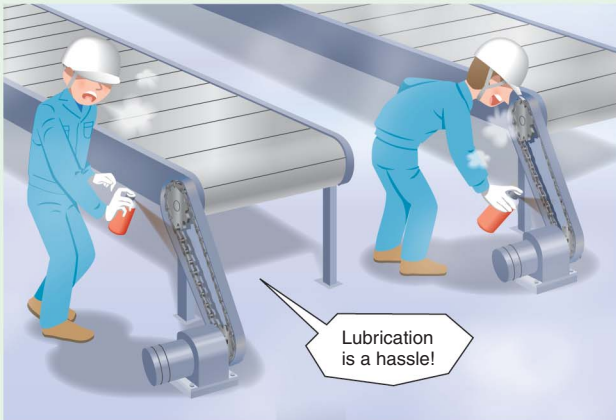
I want to use the chain in freezer and cold-storage facilities without lubrication.

## Lambda Chain Cold Resistant Series

Allowable ambient temperature down to  $-30^{\circ}\text{C}$



### Do you have these issues?



Lambda chain cold resistant series helps...

**...by eliminating the need to lubricate.**

This frees up more time to do other work.



Lambda chain cold resistant series helps...

**...keep your workplace clean.**

No lubrication means no oil to dirty work spaces.

### POINT

Can be used in colder temperatures than can the Lambda chain standard series.

Has the same kW ratings as the Lambda chain standard series even in  $-30^{\circ}\text{C}$  environments.

NSF H1 certified food grade oil impregnated in bushing.

Operating temperature range

**$-30^{\circ}\text{C}$  to  $150^{\circ}\text{C}$**  (without condensation)

Applicable sizes

**RS40 to RS100**

Number of strands

**Single**

Note: Other sizes, number of strands, BS/DIN standard types, and small conveyor chains are also available. Contact a Tsubaki representative.

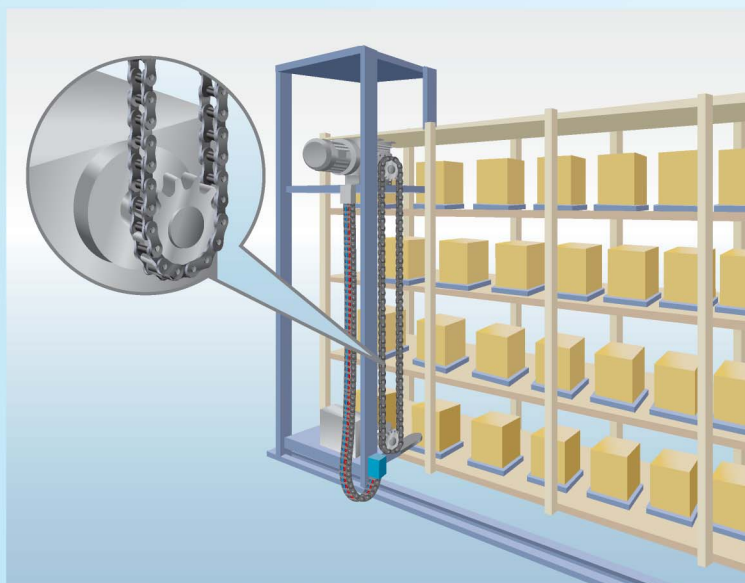


Precautions when using Lambda chain

- Applying silicone oil may result in reduced wear performance.
- Debris or dust in between chain parts may result in premature wear of the chain.
- Do not use Lambda chain if the chain will come in direct contact with food, or if coating flakes or wear dust may contaminate food. In non-food applications, take measures to prevent entry of foreign matter; for example, by installing an appropriate cover in environments with coating flakes or wear dust in the air. Or, consult a Tsubaki representative regarding chain selection. Though nickel is not subject to the Japan Food Sanitation Act or the Industrial Safety and Health Act, be careful of nickel plating flakes that may come off the sliding members.
- Depending on usage conditions, the lubricating oil may spatter.
- Lambda chain is not coated with anti-rust oil. Keep away from hot or humid places, and avoid dusty locations.

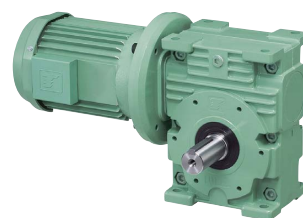
Note: Be aware that during the manufacturing process anti-rust oil and assembly oil that do not conform to NSF H1 will become adhered to Lambda chain.

## Ideal for use in low temperature environments



### Multi-Level Freezer and Cold-Storage Facilities

Our lineup includes chains, sprockets, Cableveyors, and worm gear reducers for use in multi-level freezer and cold-storage facilities. Tsubaki products ensure your facilities operate trouble-free.



Worm gear reducers

Operating temperature range:  $-30^{\circ}\text{C}$  to  $40^{\circ}\text{C}$   
 Note: Consult Tsubaki regarding use in  $0^{\circ}\text{C}$  or colder.

### Conveyors for Refrigerated and Frozen Foods

A range of Tsubaki products can be used on conveyors in low-temperature environments in food processing plants. We help you achieve any equipment function, be it conveying, rotating, carrying, protecting, or connecting. Our products ensure that conveyors operate safely in extreme environments and that time-consuming equipment maintenance is kept to a minimum.



Lambda chain cold resistant series

Operating temperature range:  $-30^{\circ}\text{C}$  to  $150^{\circ}\text{C}$



Low-temperature plastic modular chain

Operating temperature range:  $-70^{\circ}\text{C}$  to  $60^{\circ}\text{C}$



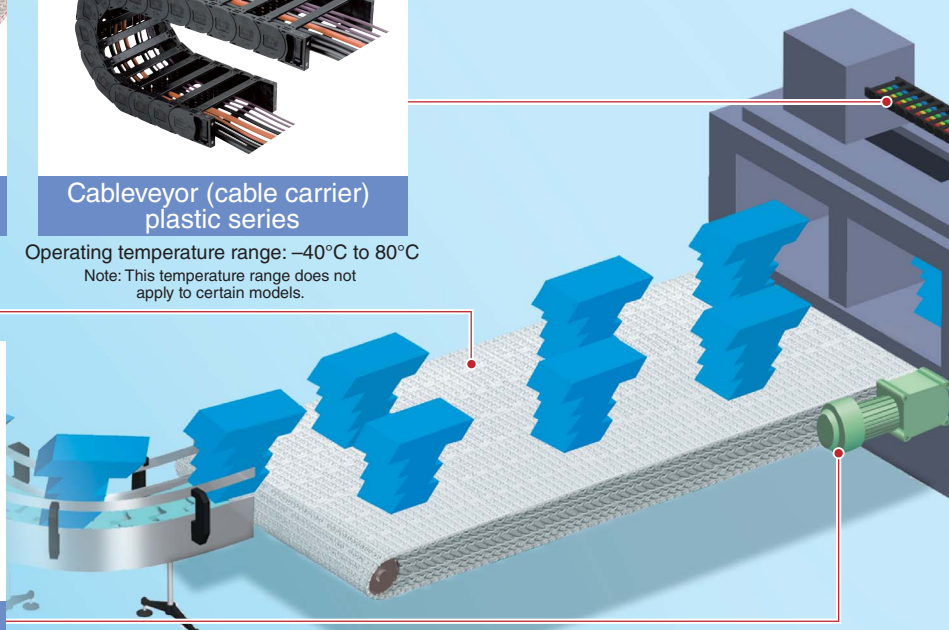
Cableveyor (cable carrier) plastic series

Operating temperature range:  $-40^{\circ}\text{C}$  to  $80^{\circ}\text{C}$   
 Note: This temperature range does not apply to certain models.

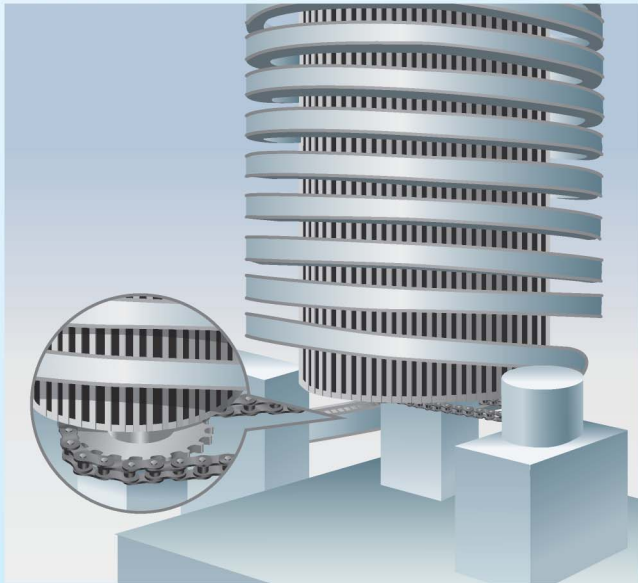


Hypoid motors cold resistant type

Operating temperature range:  $-30^{\circ}\text{C}$  to  $40^{\circ}\text{C}$



## Examples. Tsubaki cold resistant product lineup.



### Spiral Freezers

Tsubaki products—such as chains, sprockets, and small gear reducers—are crucial inside spiral freezers, which are subject to low temperatures in frozen food production and continuous freezing processes.



#### Cold resistant roller chain

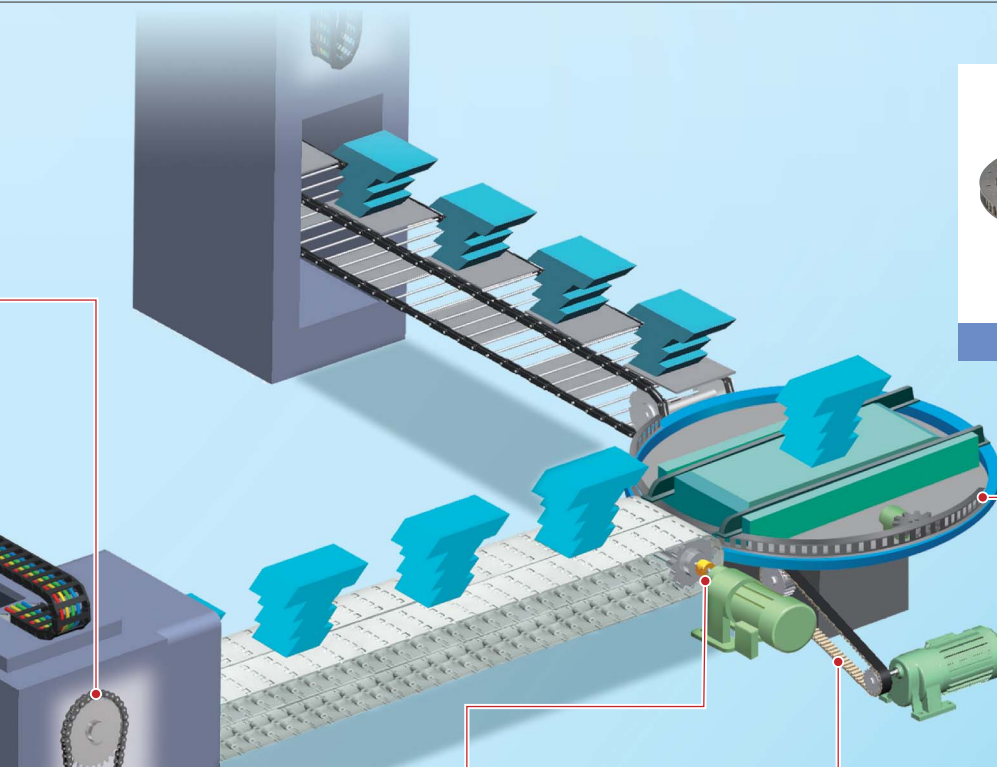
Operating temperature range:  
-40°C to 60°C



#### Sprockets

Operating temperature range:  
-10°C to 60°C

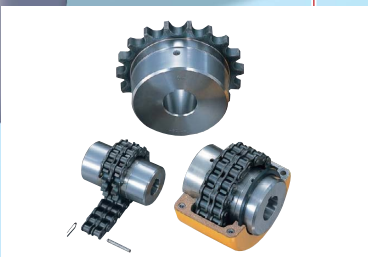
Note: Consult Tsubaki regarding use in  
-10°C or colder.



#### Pin gear drive units

Operating temperature range:  
-10°C to 150°C

Note: Consult Tsubaki regarding use in  
-10°C or colder.



#### Roller chain couplings cold resistant type

Operating temperature range:  
-40°C to 60°C



#### Timing belts and pulleys

Operating temperature range: -15°C to 80°C  
Note: Consult Tsubaki regarding use in -15°C or colder.



#### Gear motors cold resistant type

Operating temperature range:  
-30°C to 40°C

Note: Be sure to use products in condensation-free environments and according to instructions in the catalog.

## Selection Guide

### Cold Resistant Roller Chain

Selection method Allowable load selection method

### Lambda Chain Cold Resistant Series

Selection method General selection method

Refer to the Tsubaki Drive Chain & Sprockets catalog for selection method, dimensions, and kW ratings.

#### Maximum allowable load

Maximum allowable load of standard roller chain at low temperatures

Temperature	Standard roller chain		Cold Resistant chain
	RS60 or under	RS80 or over	
-10°C to 60°C	Catalog value	Catalog value	Catalog value
-20°C to -10°C	Catalog value × 1/3	Catalog value × 1/2	Catalog value
-30°C to -20°C	Catalog value × 1/4	Catalog value × 1/3	Catalog value
-40°C to -30°C	Unusable	Catalog value × 1/4	Catalog value
-50°C to -40°C	–	Unusable	Catalog value × 2/3
-60°C to -50°C	–	–	Catalog value × 1/2
Below -60°C	–	–	Unusable

#### kW ratings

-30°C to 150°C

Can be used with the same kW ratings as the Lambda chain standard series.

## Model Numbering Example

**RS80 - LMDKT - 1 - RP + 80L - MWJR - P**

Size

Number of strands

Pin type

Number of links

End link

Options

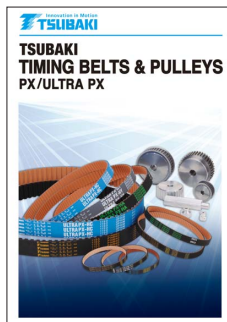
Series

KT: Cold Resistant roller chain  
LMDKT: Lambda chain cold resistant series

## Tsubaki Cold Resistant Product Lineup



Tsubaki Top Chain & Sprocket



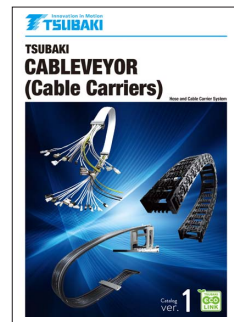
Tsubaki Timing Belts & Pulleys PX / Ultra PX



Tsubaki Gear Motors 40 W-5.5 kW



Tsubaki Couplings



Tsubaki Cableveyor (Cable Carriers)



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

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