



TSUBAKI

Heavy Duty Drive Chains & Sprockets

SUPER CHAIN / RS-HT CHAIN / SUPER-H CHAIN
RS Sprocket TOUGH TOOTH

*The Ultimate
in Strength*



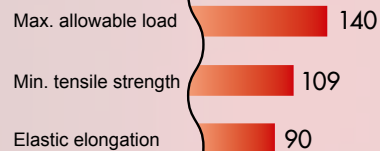


The Ultimate in Strength

The pursuit of higher performance has helped us created a stronger, longer lasting chain. Choose the model that best suits your needs.

Super Chain

5–10% higher maximum allowable load than the previous series!



Note: With RS Roller Chain as benchmark (100).

■ Available sizes: RS80–RS240, up to sextuple strand



Slip fit connecting links available

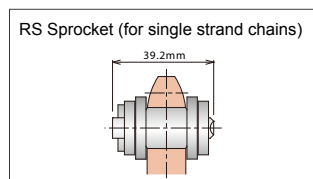


Four pitch offset links available

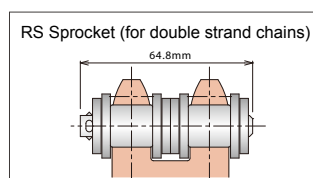
Heavy Duty Chains provide the following benefits.

For example...

RS80-SUP-H-1 Super-H Chain has the same maximum allowable load as RS80-2-RP RS Roller Chain. So, you can replace double strand RS Roller Chain with single strand Super-H Chain, saving you space.



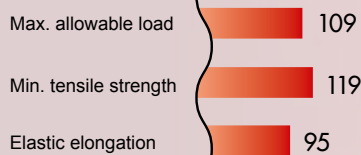
A smaller chain means a smaller sprocket.



A small chain and sprocket means more compact parts for your equipment!
Motors, frames, etc.

RS-HT Chain

**Twice the wear life
of the previous series!**



Slip fit connecting links available

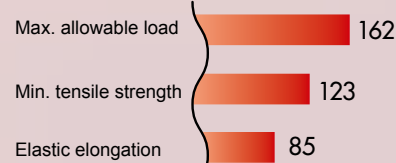
Note: With RS Roller Chain as benchmark (100).

■ Available sizes: RS60–RS240, up to triple strand

Super-H Chain

**20% higher max. allowable load than
the previous series!**

**Slip fit connecting links
now available!**



Note: With RS Roller Chain as benchmark (100).

■ Available sizes: RS80–RS240, up to triple strand



Slip fit connecting links available



Strengthening of inner plate

You can reduce costs by using smaller chains and sprockets.

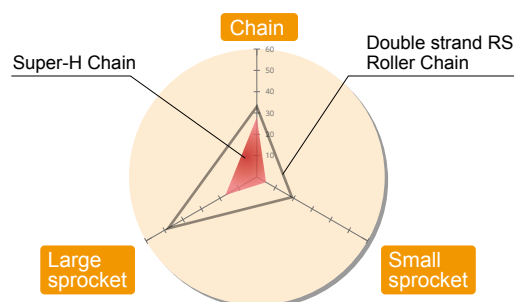
Cost Comparison

| | Super-H Chain | Double Strand RS Roller Chain |
|----------------|---------------|-------------------------------|
| Chain | 28 | 33 |
| Small sprocket | 5 | 19 |
| Large sprocket | 17 | 48 |
| Total | 50 | 100 |

Note: With total costs of double strand RS Roller Chain as benchmark (100).

Selection Conditions

Chain size : RS80
Center distance between shafts : 800mm
Small sprocket : 18T
Large sprocket : 36T



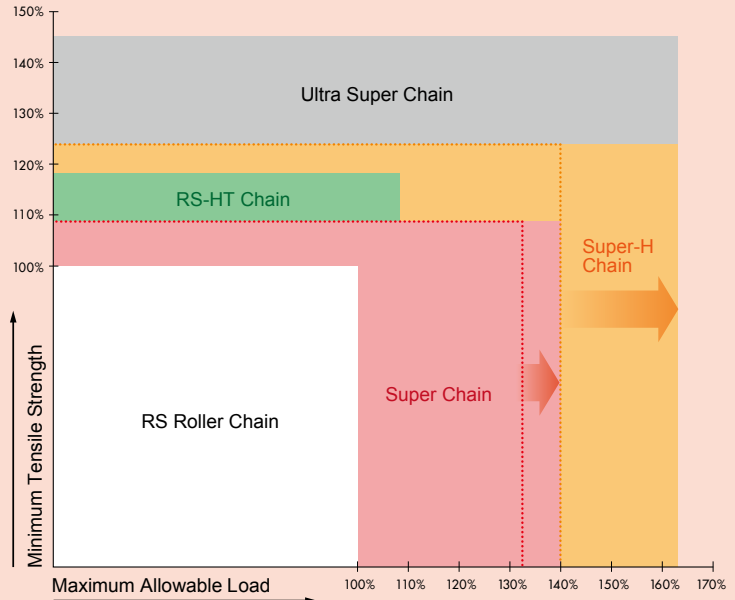
Reduce costs 50% with the chain and sprocket

Heavy Duty Drive Chain has a higher maximum allowable load and higher minimum tensile strength than standard RS Roller Chain.

Comparison of min. tensile strengths and max. allowable loads

Note: With RS Roller Chain min. tensile strength and max. allowable load as benchmark (100).

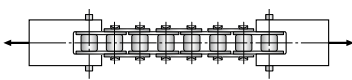
- Super Chain
- Super-H Chain
- RS-HT Chain
- Ultra Super Chain
- Previous Super Chain
- Previous Super-H Chain



Minimum Tensile Strength

Five or more links of a roller chain are attached to jigs on either side (as shown in the image below) and then pulled until breakage. This test is conducted numerous times, and the minimum value statistically derived is the minimum tensile strength. Any roller chain, attached to jigs on either side and then pulled until breakage, that breaks at a load lower than the minimum tensile strength is considered non-conforming.

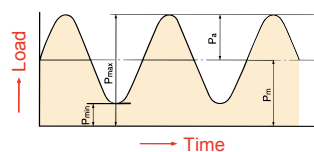
Tensile strength test



Max. Allowable Load & Fatigue Strength

A roller chain's maximum allowable load is the lower limit of its fatigue strength (except for stainless steel chains). A roller chain will not suffer fatigue breakage at a load lower than this value, even if the load is repeatedly applied.

Concept of Fatigue Load



F type connecting link

Pins and Connecting link plate holes are press-fitted (interference fit). It is recommended for high shock, high load and hanging application.

M type connecting link

Pins and Connecting link plate holes are slip-fitted (loose fit). It allows for easy attachment and removal of connecting link.

Chain Numbering Example

Super Chain

[Base chain]
RS80 - SUP -1- RP+ 50L-MSJ R
 Size Series Number of strands Pin type Number of links End link
 [Connecting link]
RS80 - SUP -1- FSJL
 Size Series Number of strands F type : Press fit M type: Slip fit

RS-HT Chain

[Base chain]
RS80 - HT -1- RP+ 50L-MWJ R
 Size Series Number of strands Pin type Number of links End link
 [Connecting link]
RS80 - HT -1- FWJL
 Size Series Number of strands F type : Press fit M type: Slip fit

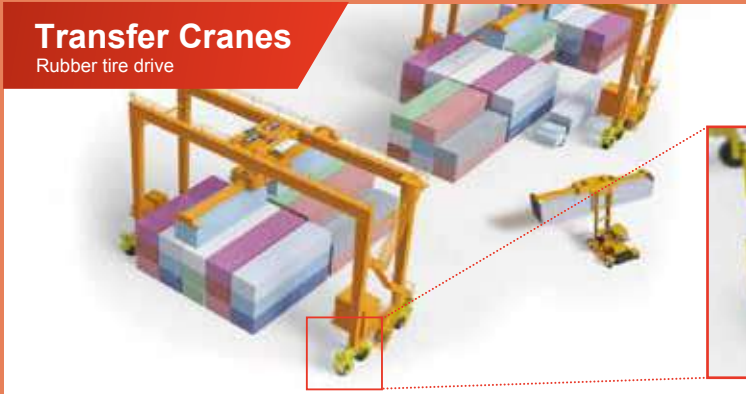
Super-H Chain

[Base chain]
RS80 - SUPH -1- RP+ 50L-MSJ R
 Size Series Number of strands Pin type Number of links End link
 [Connecting link]
RS80 - SUPH -1- FSJL
 Size Series Number of strands F type : Press fit M type: Slip fit

Applications

Transfer Cranes

Rubber tire drive



Chain used → Super Chain

Reason → High kW ratings



Looper

Stage lifter



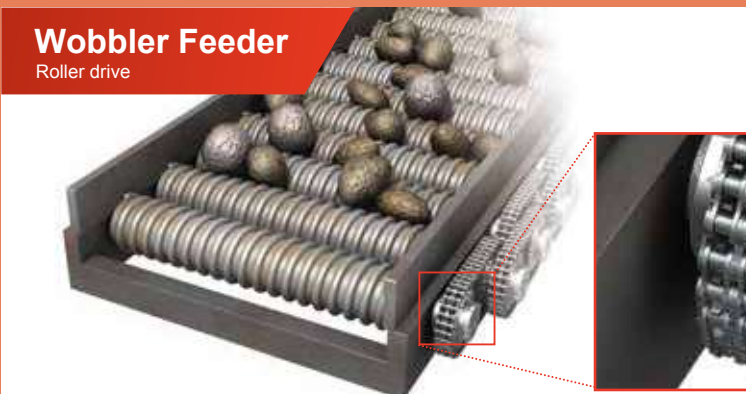
Chain used → Super-H Chain

Reason → High minimum tensile strength



Wobbler Feeder

Roller drive



Chain used → Super Chain

Reason → High kW ratings
High shock load resistance



Cultivator

Rotary drive



Chain used → Super-H Chain

Reason → High kW ratings
Space saving



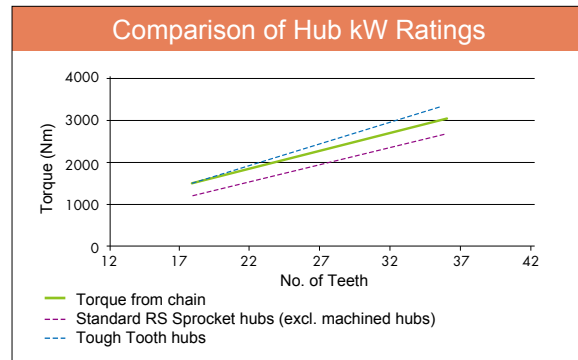
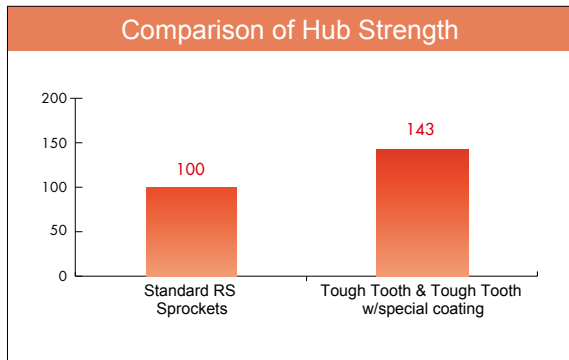
RS Sprocket TOUGH TOOTH

TOUGH TOOTH sprockets have increased strength and durability to bring out the best in Tsubaki's new G8 Series Heavy Duty Drive Chains.



Features

- Teeth have ample strength to handle the increased strength of the G8 Series Heavy Duty Chain. The hub has been further strengthened as well.
- All models feature hardened teeth to give the sprocket more wear resistance.
- A special coating that even further increases tooth hardness is also available (optional)—ideal for harsh operating environments where users want to reduce chain and sprocket replacement frequency. The coating has a Vickers hardness over 800 to give the sprocket more wear resistance.

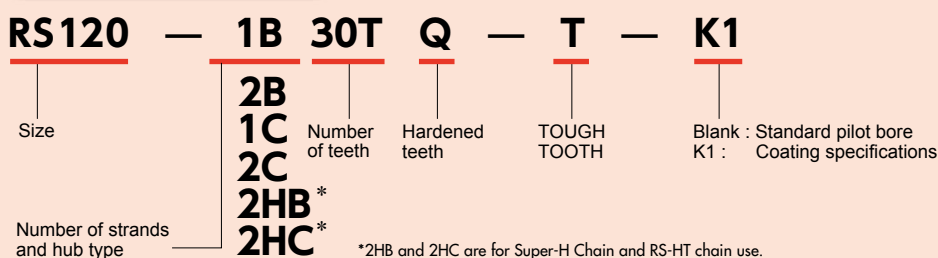


Note: 1. Torque is calculated from the keyway allowable surface pressure using a JIS parallel key at the maximum shaft hub diameter.
2. Comparison using RS80-SUP-H-1.

Specifications

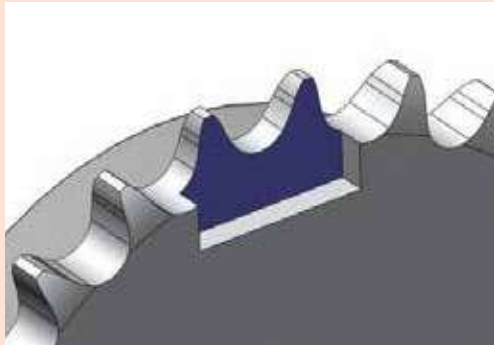
- B and C types standardized for single and double strand RS-HT Series RS60 and above.
- RS-HT Chains and Super-H Chains in multi strand configurations have a different tooth transverse pitch than RS Roller Chain sprockets.
- Other multi strand configurations, hub types, and numbers of teeth are made-to-order. Other shaft hub finishing also available.
- Both teeth and hubs use carbon steel for machine structural use.
- Made-to-order product.

Model Numbering Example



The tooth hardening used on Tsubaki Sprockets is overwhelmingly superior.

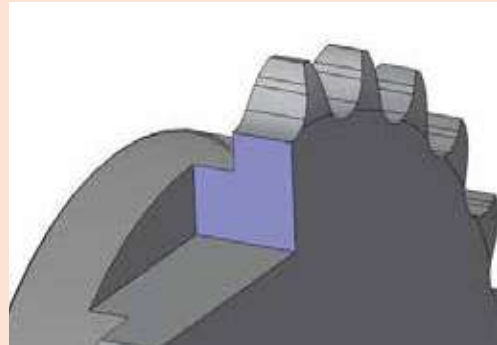
Comparison of Tooth Hardening



Cross-sectional observation of tooth hardening (darker area is the hardened layer)



Comparison of Tooth Hardness and Hardened Layer Depth

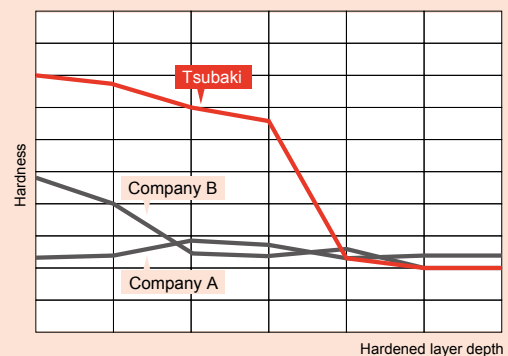
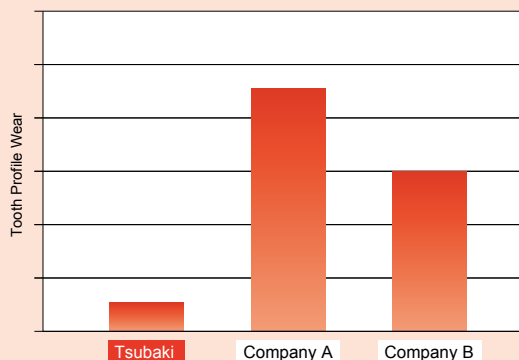


Cross-section observation of tooth hardened layer depth (darker area is the hardened layer)



Comparison of Tooth Profile Wear When Tested under Load

After 500 hours of testing RS40 sprockets for wear, the Tsubaki sprocket had the overwhelmingly superior wear performance.



Special Coating Specifications

A special coating gives the teeth a hardness of over HV800 for better wear resistance. Effective in harsh operating environments where sprocket replacement frequency is high.



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