TSUBAKI
Surface Treated
NEPTUNE™

Patent Pending
Philosophy

One hundred years of fundamental technology, and the endless pursuit of new value.

Tsubakimoto Chain has worked tirelessly on improving chain performance since our founding in 1917. We were the first Japanese factory to be accredited by Japan Industrial Standards (JIS) for roller chain in 1953. We dubbed that roller chain our first generation chain, and every decade since we have made major leaps in performance up to the 2006 launch of our G7 Series, the world’s highest quality roller chain. To celebrate our 100th anniversary, we will be launching our next generation G8 Series, the next evolution of our chain line.

As a manufacturing company, Tsubakimoto Chain continues to develop products that adapt to global needs with a century of chain manufacturing know-how and contribute to energy savings, labor savings, and better efficiency around the world.
Leonardo da Vinci, the genius of the Renaissance, devised the prototype of a roller chain that today is widely used as a drive chain. His foresight and advanced ideas are revealed in his notebooks, which contain sketches of an object that looks remarkably like a modern chain. The photo shows a portrait of da Vinci, made entirely out of link plates, on display in the main lobby of Tsubakimoto Chain’s Kyotanabe Plant.

Tsukakimoto Chain has worked tirelessly on improving chain performance since our founding in 1917. We were the first Japanese factory to be accredited by Japan Industrial Standards (JIS) for roller chain in 1953. We dubbed that roller chain our first generation chain, and every decade since we have made major leaps in performance up to the 2006 launch of our G7 Series, the world’s highest quality roller chain. To celebrate our 100th anniversary, we will be launching our next generation G8 Series, the next evolution of our chain line.

As a manufacturing company, Tsubakimoto Chain continues to develop products that adapt to global needs with a century of chain manufacturing know-how and contribute to energy savings, labor savings, and better efficiency around the world.
**NEPTUNE**

**Corrosion Resistant Chain**

**Superb Corrosion Resistance**

<table>
<thead>
<tr>
<th></th>
<th>Corrosion Resistance</th>
<th>Chemical Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Salt water spray tests*</td>
<td>1000ppm sodium hypochlorite</td>
</tr>
<tr>
<td>NEPTUNE</td>
<td>700 hours</td>
<td>2000 hours</td>
</tr>
<tr>
<td>Previous series</td>
<td>700 hours</td>
<td>200 hours</td>
</tr>
</tbody>
</table>

*Salt water spray tests in accordance with JIS-Z-2371.*

**New Surface Treatment Structure**

Combines Tsubaki’s uniquely developed special coating and special resin coating for superb corrosion (rust) and chemical resistance.
No Strength Reduction

Uses a special treatment process that does not affect chain strength (part hardness). NEPTUNE have the same tensile strength and allowable load as our standard roller chains.

<table>
<thead>
<tr>
<th>Unit: kN(kgf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
</tr>
<tr>
<td>Min. tensile strength</td>
</tr>
<tr>
<td>Max. allowable load</td>
</tr>
</tbody>
</table>

Ref.: For RS40 size drive chain
*Ave. competitor tensile strength

And Much, Much More

Contact a Tsubaki representative regarding:
- Corrosion resistance to other chemicals besides alkalis.
- Surface treatments providing corrosion resistance for sizes not covered by NEPTUNE. (Please note that these surface treatments will not have chemical resistance.) (See pgs. 7 – 11 for NEPTUNE sizes.)

Notes from the Developer

It was extremely difficult developing both the corrosion (rust) resistance and chemical resistance that NEPTUNE required. Increasing the chemical resistance would decrease the corrosion resistance, and vice versa. I had to first select different materials and evaluate different combinations and surface treatment structures countless times. Then I evaluated 230 different combinations before finally developing a unique resin coating that gives NEPTUNE Series vastly improved resistance to alkaline chemicals often used in food processing equipment and wash-down processes.
Applications

**Nursing Bath**

A stainless steel chain that would satisfy the required performance would be too big to fit in the space provided, so the user chose a NEPTUNE, which has the same strength as steel chain. Slight amounts of detergent and other chemicals are used in the bath, so NEPTUNE provided a much longer service life than steel chains.

**Automated Warehouse**

Used on a stacker crane for mushroom cultivation in a high temperature, high humidity environment. Standard chain quickly corroded and suffered wear, while the required stainless steel chain would be too big, so the user chose NEPTUNE.

**Raw Garbage Agitator**

This equipment turns raw garbage into compost. The agitator, travel section, and drive of the equipment all use chain, but the corrosive environment (ammonia gas, etc.) degrades steel chain and shortens its service life. Switching to NEPTUNE has doubled the wear life.
Applications

A stainless steel chain that would satisfy the required performance would be too big to fit in the space provided, so the user chose a NEPTUNE, which has the same strength as steel chain. Slight amounts of detergent and other chemicals are used in the bath, so NEPTUNE provided a much longer service life than steel chains.

Nursing Bath

This equipment turns raw garbage into compost. The agitator, travel section, and drive of the equipment all use chain, but the corrosive environment (ammonia gas, etc.) degrades steel chain and shortens its service life. Switching to NEPTUNE has doubled the wear life.

Raw Garbage Agitator

Used on a stacker crane for mushroom cultivation in a high temperature, high humidity environment. Standard chain quickly corroded and suffered wear, while the required stainless steel chain would be too big, so the user chose NEPTUNE.

Automated Warehouse

The center of the spiral conveyor rotates and lifts or lowers the conveyed goods. These conveyors are used in high and low temperatures, in contact with water or steam, in contact with chemicals, and many other environments. The drive requires a high tensile strength that stainless steel chains cannot provide. NEPTUNE, with its corrosion and chemical resistance, solves this problem.

Spiral Conveyor

Frozen Noodle Conveyor

This conveyor conveys food, so there is always a wash-down when different products are conveyed or at the end of operations. Chemicals are used during this wash-down, so we proposed NEPTUNE with its corrosion and chemical resistance. The chain in the drive section is covered, but cleaning water and chemicals sometimes splash on the cover – with NEPTUNE, the user can use their chain worry free.

PET Bottle Sterilizer

Sterilizes PET bottles. The conveying area uses a special chain that is regularly in contact with water. The customer uses NEPTUNE to prevent rusting.
NEPTUNE™ Drive Chain Specifications and Drawings

1. Maximum allowable load is 65% of the above values when using a one-pitch offset link.
2. RS35-NEP is a bushed chain.
3. Multi-strand RS35-NEP is not available.
4. Models in bold are stock items. All other models are made-to-order.
5. 2-pitch offset links are not available.
6. The dimensions given above are nominal dimensions and may differ from actual dimensions.

Connecting link: Spring clip: RS35-NEP – RS60-NEP
Riveting is standard on all Neptune chains.

Operating Temperature Range:
-10°C - 150°C (Use a high temperature lubricant when using above 60°C. Contact a Tsubaki representative when using in temperatures beyond the ranges given.)

Selection/Handling
Refer to the Tsubaki Drive Chains & Sprockets catalog for information on selection and handling.

Precautions in Use
- Galvanic corrosion may occur when steel chains are used with stainless steel sprockets, promoting premature wear. Avoid mutual contact as much as possible. In-house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.
- Uses a different surface treatment than other parts in order to reduce the size of film flakes during roller engagement or sliding.
- Do not use if there is a risk that the chain will come into direct contact with food, or if film flakes or wear debris will mix in with food. Install a cover as possible. In-house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.
- Galvanic corrosion may occur when steel chains are used with stainless steel sprockets, promoting premature wear. Avoid mutual contact as much as possible. In-house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.
- Do not use if there is a risk that the chain will come into direct contact with food, or if film flakes or wear debris will mix in with food. Install a cover as possible. In-house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.

Operating Temperature Range:
-10°C - 150°C (Use a high temperature lubricant when using above 60°C. Contact a Tsubaki representative when using in temperatures beyond the ranges given.)

Selection/Handling
Refer to the Tsubaki Drive Chains & Sprockets catalog for information on selection and handling.

Precautions in Use
- Galvanic corrosion may occur when steel chains are used with stainless steel sprockets, promoting premature wear. Avoid mutual contact as much as possible. In-house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.
- Use a different surface treatment than other parts in order to reduce the size of film flakes during roller engagement or sliding.
- Do not use if there is a risk that the chain will come into direct contact with food, or if film flakes or wear debris will mix in with food. Install a cover as possible. In-house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.
- Galvanic corrosion may occur when steel chains are used with stainless steel sprockets, promoting premature wear. Avoid mutual contact as much as possible. In-house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.
- Do not use if there is a risk that the chain will come into direct contact with food, or if film flakes or wear debris will mix in with food. Install a cover as possible. In-house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.
Specifications and Drawings

NEPTUNE

1. Maximum allowable load is 65% of the above values when using a one-pitch offset link.

2. "RS35-NEP is a bushed chain.

3. Multi-strand RS35-NEP is not available.

4. 2-pitch offset links are not available.

---

**Chain Numbering Example**

**RS50-NEP-1L A1**

- Chain size
- Alt. type
- NEPTUNE code
- Alt. spacing

---

**TSUBAKI**

<table>
<thead>
<tr>
<th>NEPTUNE Code</th>
<th>Chain No.</th>
<th>Pitch P</th>
<th>Roller Diameter R</th>
<th>Inner Width of Inner Link W</th>
<th>Plate Thickness T</th>
<th>Height H</th>
<th>Diameter D</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>Tensile Strength kN (kgf)</th>
<th>Maximum Allowable Load kN (kgf)</th>
<th>Approximate Mass kg/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS40-NEP</td>
<td>12.70</td>
<td>7.92</td>
<td>7.95</td>
<td>1.5</td>
<td>12.0</td>
<td>3.97</td>
<td>8.25</td>
<td>9.95</td>
<td></td>
<td></td>
<td></td>
<td>14.7 (1500)</td>
<td>2.65 (270)</td>
<td>0.64</td>
</tr>
<tr>
<td>RS50-NEP</td>
<td>15.875</td>
<td>10.16</td>
<td>9.53</td>
<td>2.0</td>
<td>15.0</td>
<td>5.09</td>
<td>10.3</td>
<td>12.0</td>
<td></td>
<td></td>
<td></td>
<td>23.5 (2400)</td>
<td>4.31 (440)</td>
<td>1.04</td>
</tr>
<tr>
<td>RS60-NEP</td>
<td>19.03</td>
<td>11.91</td>
<td>12.70</td>
<td>2.4</td>
<td>18.1</td>
<td>5.96</td>
<td>12.85</td>
<td>14.75</td>
<td></td>
<td></td>
<td></td>
<td>35.3 (3600)</td>
<td>6.28 (640)</td>
<td>1.53</td>
</tr>
<tr>
<td>RS80-NEP</td>
<td>25.40</td>
<td>15.88</td>
<td>15.8</td>
<td>3.2</td>
<td>24.1</td>
<td>7.94</td>
<td>16.25</td>
<td>19.25</td>
<td></td>
<td></td>
<td></td>
<td>60.8 (6200)</td>
<td>10.7 (1090)</td>
<td>2.66</td>
</tr>
<tr>
<td>RS100-NEP</td>
<td>31.75</td>
<td>19.05</td>
<td>19.05</td>
<td>4.0</td>
<td>30.1</td>
<td>9.54</td>
<td>19.75</td>
<td>22.85</td>
<td></td>
<td></td>
<td></td>
<td>93.2 (9500)</td>
<td>17.1 (1740)</td>
<td>3.99</td>
</tr>
</tbody>
</table>

---

**Selection/Handling**

- *All other pins are riveted, regardless of whether attachment is present or not.

---

**Operating Temperature Range:**

- 

---

**Precautions in Use**

- Galvanic corrosion may occur when steel chains are used with stainless steel sprockets, promoting premature wear. Avoid mutual contact as much as possible. In house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.

- Uses a different surface treatment than other parts in order to reduce the size of film flakes during roller engagement or sliding.

- Do not use if there is a risk that the chain will come into direct contact with food, or if film flakes or wear debris will mix in with food. Install a cover when using in non-food environments where film flakes and wear dust will be problems, or contact a Tsubaki representative regarding chain selection.

---

**TSUBAKI Chain Number**

<table>
<thead>
<tr>
<th>Chain Number</th>
<th>Pitch P</th>
<th>Roller Diameter R</th>
<th>Inner Width of Inner Link W</th>
<th>Plate Thickness T</th>
<th>Height H</th>
<th>Diameter D</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>Minimum Allowable Load kN (kgf)</th>
<th>Approximate Mass kg/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS40-NEP</td>
<td>12.7</td>
<td>7.92</td>
<td>7.95</td>
<td>1.5</td>
<td>12.0</td>
<td>3.97</td>
<td>8.25</td>
<td>9.95</td>
<td></td>
<td></td>
<td>14.7 (1500)</td>
<td>2.65 (270)</td>
</tr>
<tr>
<td>RS50-NEP</td>
<td>15.87</td>
<td>10.16</td>
<td>9.53</td>
<td>2.0</td>
<td>15.0</td>
<td>5.09</td>
<td>10.3</td>
<td>12.0</td>
<td></td>
<td></td>
<td>23.5 (2400)</td>
<td>4.31 (440)</td>
</tr>
<tr>
<td>RS60-NEP</td>
<td>19.03</td>
<td>11.91</td>
<td>12.7</td>
<td>2.4</td>
<td>18.1</td>
<td>5.96</td>
<td>12.85</td>
<td>14.75</td>
<td></td>
<td></td>
<td>35.3 (3600)</td>
<td>6.28 (640)</td>
</tr>
<tr>
<td>RS80-NEP</td>
<td>25.40</td>
<td>15.88</td>
<td>15.8</td>
<td>3.2</td>
<td>24.1</td>
<td>7.94</td>
<td>16.25</td>
<td>19.25</td>
<td></td>
<td></td>
<td>60.8 (6200)</td>
<td>10.7 (1090)</td>
</tr>
<tr>
<td>RS100-NEP</td>
<td>31.75</td>
<td>19.05</td>
<td>19.0</td>
<td>4.0</td>
<td>30.1</td>
<td>9.54</td>
<td>19.75</td>
<td>22.85</td>
<td></td>
<td></td>
<td>93.2 (9500)</td>
<td>17.1 (1740)</td>
</tr>
</tbody>
</table>

---

1. All models made-to-order.

2. O is marginally smaller.

3. The dimensions given above are nominal dimensions and may differ from actual dimensions.

---

**Notes**


---

**Diagram**

- A1 Attachment
- K1 Attachment
- SA1 Attachment
- SK1 Attachment
NEPTUNE™
Double Pitch Chain

Specifications and Drawings

Connecting link: Spring clip: RF2040-NEP – RF2060-NEP Cotter pin: RF2080-NEP, RF2100-NEP
*All other pins are riveted, regardless of whether attachment is present or not.
*Sizes over RF2080-NEP have cotter pins on both ends of the offset link.

<table>
<thead>
<tr>
<th>TSUBAKI Chain Number</th>
<th>Roller Type</th>
<th>Pitch</th>
<th>Roller Dia.</th>
<th>Pin</th>
<th>Approximate Mass/kg/m</th>
<th>Minimum Tensile Strength (kN/kgf)</th>
<th>Maximum Allowable Load (kN/kgf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS32B-NEP-1</td>
<td>S, R</td>
<td>25.40</td>
<td>7.92</td>
<td>15.88</td>
<td>7.94</td>
<td>3.97</td>
<td>2.65 (270)</td>
</tr>
<tr>
<td>RS12B-NEP-2</td>
<td></td>
<td>31.75</td>
<td>10.16</td>
<td>19.05</td>
<td>9.53</td>
<td>5.09</td>
<td>4.33 (440)</td>
</tr>
<tr>
<td>RS08B-NEP-2</td>
<td></td>
<td>38.10</td>
<td>11.91</td>
<td>22.23</td>
<td>12.70</td>
<td>5.96</td>
<td>5.28 (640)</td>
</tr>
<tr>
<td>RS10B-NEP-1</td>
<td></td>
<td>50.80</td>
<td>15.88</td>
<td>28.58</td>
<td>15.88</td>
<td>7.94</td>
<td>6.08 (6200)</td>
</tr>
<tr>
<td>RS20B-NEP-1</td>
<td></td>
<td>63.50</td>
<td>19.05</td>
<td>39.69</td>
<td>19.05</td>
<td>9.54</td>
<td>9.32 (9500)</td>
</tr>
<tr>
<td>RS28B-NEP-1</td>
<td></td>
<td>75.2</td>
<td>23.2</td>
<td>44.2</td>
<td>27.14</td>
<td>11.11</td>
<td>9.72 (10900)</td>
</tr>
<tr>
<td>RS12B-NEP-2</td>
<td></td>
<td>9.525</td>
<td>31.75</td>
<td>69.3</td>
<td>32.1</td>
<td>13.7</td>
<td>11.11 (17400)</td>
</tr>
</tbody>
</table>

Operating Temperature Range:
-10°C - 150°C (Use a high temperature lubricant when using above 60°C. Contact a Tsubaki representative when using in temperatures beyond the ranges given.)

Selection/Handling
Refer to the Tsubaki Small Size Conveyor Chain catalog for information on selection and handling.

Precautions in Use
* Galvanic corrosion may occur when steel chains are used with stainless steel sprockets, promoting premature wear. Avoid mutual contact as much as possible. In-house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.
* Uses a different surface treatment than other parts in order to reduce the size of film flakes during roller engagement or sliding.
* Do not use if there is a risk that the chain will come into direct contact with food, or if film flakes or wear debris will mix in with food. Install a cover when using in non-food environments where film flakes and wear dust will be problems, or contact a Tsubaki representative regarding chain selection.
Specifications and Drawings

NEPTUNE™
BS/DIN Drive Chain

<table>
<thead>
<tr>
<th>Tsubaki Chain Number</th>
<th>Pitch</th>
<th>Roller Dia. (Bushing Dia.)</th>
<th>Inner Width of Inner Link (W)</th>
<th>Plate Thickness</th>
<th>Height</th>
<th>Height</th>
<th>Diameter</th>
<th>Offset Link Length</th>
<th>Pitch</th>
<th>Transverse Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS08B-NEP-1</td>
<td>9.525</td>
<td>6.35</td>
<td>5.72</td>
<td>1.0</td>
<td>1.3</td>
<td>8.2</td>
<td>8.2</td>
<td>3.27</td>
<td>13.8</td>
<td>7.7</td>
</tr>
<tr>
<td>RS08B-NEP-2</td>
<td>12.70</td>
<td>8.51</td>
<td>7.75</td>
<td>1.6</td>
<td>1.6</td>
<td>11.8</td>
<td>10.4</td>
<td>4.45</td>
<td>18.4</td>
<td>10.0</td>
</tr>
<tr>
<td>RS10B-NEP-1</td>
<td>15.875</td>
<td>10.16</td>
<td>9.65</td>
<td>1.5</td>
<td>1.5</td>
<td>14.7</td>
<td>13.7</td>
<td>5.08</td>
<td>20.8</td>
<td>11.25</td>
</tr>
<tr>
<td>RS10B-NEP-2</td>
<td>19.05</td>
<td>12.07</td>
<td>11.68</td>
<td>1.8</td>
<td>1.8</td>
<td>16.1</td>
<td>16.1</td>
<td>5.72</td>
<td>24.1</td>
<td>13.0</td>
</tr>
<tr>
<td>RS12B-NEP-1</td>
<td>25.40</td>
<td>15.88</td>
<td>17.02</td>
<td>3.2</td>
<td>3.0</td>
<td>21.0</td>
<td>21.0</td>
<td>8.28</td>
<td>37.7</td>
<td>19.95</td>
</tr>
<tr>
<td>RS12B-NEP-2</td>
<td>31.75</td>
<td>19.05</td>
<td>19.56</td>
<td>3.4</td>
<td>3.4</td>
<td>26.0</td>
<td>26.0</td>
<td>10.19</td>
<td>43.0</td>
<td>23.1</td>
</tr>
<tr>
<td>RS20B-NEP-1</td>
<td>38.10</td>
<td>25.40</td>
<td>25.4</td>
<td>5.6</td>
<td>5.6</td>
<td>33.4</td>
<td>31.2</td>
<td>14.63</td>
<td>58.5</td>
<td>26.65</td>
</tr>
<tr>
<td>RS20B-NEP-2</td>
<td>44.45</td>
<td>27.94</td>
<td>30.99</td>
<td>6.3</td>
<td>6.3</td>
<td>36.4</td>
<td>36.4</td>
<td>15.90</td>
<td>69.9</td>
<td>32.45</td>
</tr>
<tr>
<td>RS28B-NEP-1</td>
<td>50.80</td>
<td>29.21</td>
<td>30.99</td>
<td>6.3</td>
<td>6.3</td>
<td>42.2</td>
<td>41.6</td>
<td>17.81</td>
<td>69.8</td>
<td>32.1</td>
</tr>
</tbody>
</table>

**Chain Numbering Example**

RS08B-NEP-1

- **NEP**
- **Chain size**
- **No. of strands**

**Offset Link**

**Operating Temperature Range:**
- **-10°C** to **150°C**. (Use a high temperature lubricant when using above **60°C**. Contact a Tsubaki representative when using in temperatures beyond the ranges given.)

**Selection/Handling**
- Refer to the Tsubaki Drive Chains & Sprockets catalog for information on selection and handling.

**Precautions in Use**
- Galvanic corrosion may occur when steel chains are used with stainless steel sprockets, promoting premature wear.
- Avoid mutual contact as much as possible. In-house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.
- Uses a different surface treatment than other parts in order to reduce the size of film flakes during roller engagement or sliding.
- Do not use if there is a risk that the chain will come into direct contact with food, or if film flakes or wear debris will mix in with food. Install a cover when using in non-food environments where film flakes and wear dust will be problems, or contact a Tsubaki representative regarding chain selection.

---

1. Maximum allowable load is 65% of the above values when using a one-pitch offset link.
2. 2POL is not available.
3. The dimensions given above are nominal dimensions and may differ from actual dimensions.
### Specifications and Drawings

**NEPTUNE™**  
**BS/DIN Attachment Chain**

**Chain Numbering Example**  
**RS08B-NEP-1LA1**

**Specifications and Drawings**

<table>
<thead>
<tr>
<th>TSUBAKI Chain Number</th>
<th>Pitch</th>
<th>Roller Diameter</th>
<th>Inner Width of Inner Link</th>
<th>Plate Thickness</th>
<th>Pin Diameter</th>
<th>Minimum Tensile Strength</th>
<th>Approximate Mass kg/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS08B-NEP</td>
<td>12.70</td>
<td>8.51</td>
<td>7.75</td>
<td>1.6</td>
<td>1.6</td>
<td>11.8</td>
<td>10.4</td>
</tr>
<tr>
<td>R10B-NEP</td>
<td>15.87</td>
<td>10.16</td>
<td>9.65</td>
<td>1.5</td>
<td>1.5</td>
<td>14.7</td>
<td>13.7</td>
</tr>
<tr>
<td>RS12B-NEP</td>
<td>19.05</td>
<td>12.07</td>
<td>11.68</td>
<td>1.8</td>
<td>1.8</td>
<td>16.1</td>
<td>16.1</td>
</tr>
<tr>
<td>R16B-NEP</td>
<td>25.40</td>
<td>15.88</td>
<td>17.02</td>
<td>4.0</td>
<td>3.2</td>
<td>21.0</td>
<td>21.0</td>
</tr>
</tbody>
</table>

**Attachments**

<table>
<thead>
<tr>
<th>TSUBAKI Chain Number</th>
<th>C</th>
<th>C'</th>
<th>N</th>
<th>O</th>
<th>S</th>
<th>X</th>
<th>X0</th>
<th>X5</th>
<th>USA Attachments</th>
<th>VBA Attachments</th>
<th>Links per Unit kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS08B-NEP</td>
<td>11.9</td>
<td>12.7</td>
<td>11.4</td>
<td>4.2</td>
<td>8.9</td>
<td>19.05</td>
<td>17.15</td>
<td>19.3</td>
<td>0.002</td>
<td>0.004</td>
<td>240</td>
</tr>
<tr>
<td>R10B-NEP</td>
<td>15.9</td>
<td>15.9</td>
<td>12.7</td>
<td>5.0</td>
<td>10.2</td>
<td>22.25</td>
<td>20.6</td>
<td>22.9</td>
<td>0.003</td>
<td>0.006</td>
<td>192</td>
</tr>
<tr>
<td>RS12B-NEP</td>
<td>19.05</td>
<td>22.2</td>
<td>16.5</td>
<td>7.1</td>
<td>13.5</td>
<td>29.85</td>
<td>27.8</td>
<td>32.05</td>
<td>0.006</td>
<td>0.012</td>
<td>160</td>
</tr>
<tr>
<td>R16B-NEP</td>
<td>23.8</td>
<td>23.9</td>
<td>24.3</td>
<td>6.7</td>
<td>15.2</td>
<td>37.35</td>
<td>34.4</td>
<td>34.1</td>
<td>0.014</td>
<td>0.028</td>
<td>120</td>
</tr>
</tbody>
</table>

1. All models made-to-order.  
2. O is marginally smaller.  
3. The dimensions given above are nominal dimensions and may differ from actual dimensions.

**Operating Temperature Range:**  
-10°C - 150°C (Use a high temperature lubricant when using above 60°C. Contact a Tsubaki representative when using in temperatures beyond the ranges given.)

**Selection/Handling**  
Refer to the Tsubaki Small Size Conveyor Chain catalog for information on selection and handling.

**Precautions in Use**

- Galvanic corrosion may occur when steel chains are used with stainless steel sprockets, promoting premature wear. Avoid mutual contact as much as possible. In-house tests have shown that the middle links of multi-strand chains have slightly less corrosion resistance than with single-strand chains.
- Uses a different surface treatment than other parts in order to reduce the size of film flakers during roller engagement or sliding.
- Do not use if there is a risk that the chain will come into direct contact with food, or if film flakes or wear debris will mix in with food. Install a cover when using in non-food environments where film flakes and wear dust will be problems, or contact a Tsubaki representative regarding chain selection.
# Chain Inquiry Form

**Company name:**

**Your name:**  **Date:**

**Tel:**  **Fax:**

*Fill in 1 – 3 if you have already determined this information.

<table>
<thead>
<tr>
<th>1</th>
<th>Chain no:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Sprocket no. of teeth:</td>
</tr>
<tr>
<td>3</td>
<td>No. of links:</td>
</tr>
<tr>
<td>4</td>
<td>New  Replacement  (circle one)</td>
</tr>
<tr>
<td>5</td>
<td>Application:  (drive  hanging  conveyance)</td>
</tr>
<tr>
<td>6</td>
<td>Equipment:</td>
</tr>
<tr>
<td>7</td>
<td>Layout diagram (use a separate sheet if necessary)</td>
</tr>
</tbody>
</table>

| 8 | Atmosphere:  Temperature:  Abrasive dust present? Yes  No |
|---|---|---|---|
| 9 | Corrosive liquids or gases present? Yes  No  *If “Yes,” fill in the following.* |

- **Chemical name:**
- **Concentration:**
- **pH**

- **Frequency liquid or gas will contact chain (Always  Sometimes  Rarely)  times / day / week / month**
If you do not have the instruction manual, contact a Tsubaki representative with the product name, series name, and chain/model number to receive the manual. Always ensure that the final customer receives the instruction manual.

Minimum tensile strength refers to the failure point when a load is applied to the chain once and does not refer to the allowable operational load.

Always regularly inspect and maintain your chains and sprockets. When installing chains and sprockets, inspect them in advance to confirm that they have not been damaged in transport. Only handle chains and sprockets after thoroughly understanding their structure and specifications.

The warranty period for Products manufactured by Tsubakimoto Chain Co. (“Products”) is warranted against defects in materials and workmanship for eighteen months from the date the Products are first placed into operation. The warranty period is as follows:

- (1) 12 months from the date of shipment from the factory
- (2) 18 months from the date of shipment from the factory
- (3) Twelve (12) months from the date of product delivery to the customer
- (4) Twelve (12) months from the date of product delivery to the customer
- (5) Twelve (12) months from the date of purchase

Regardless of the warranty period, Tsubakimoto Chain will provide investigation, repair, and/or manufacture of the Products for a fee should the Products experience problems or anomalies under the following situations.

- (1) Placement, installation (including connecting and disconnecting), and allowances not in accordance with Tsubakimoto Chain’s catalogs, installation manuals (including documents specially prepared and provided to the customer), or the like.
- (2) Use of the Products (including operating conditions, environment, etc.) and replacement of the defective Products with new ones.
- (3) Inappropriate disassembly, modification, or processing of the Products by the customer.
- (4) Use of the Products with damaged or worn products.
- (5) Use of the Products in conditions other than what have been discussed.
- (6) Use of the Products with damaged or worn products.
- (7) Use of the Products in conditions other than what have been discussed.
- (8) When secondary damage occurs to the Products due to initial or primary damage or failure to the customer’s equipment.
- (9) Damage or failure of the Products due to forces majeure such as natural disasters.
- (10) Damage or failure of the Products due to unlawful conduct by third parties.
- (11) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (12) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (13) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (14) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (15) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (16) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (17) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (18) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.

During the warranty period, if defects arise in the Products when the Tsubakimoto Chain will repair or replace such defective Products thereof free of charge upon confirmation of said defect by Tsubakimoto Chain.

(3) Any consequential or indirect damages or loss of profits or their like.

Tsubakimoto Chain’s catalogs, installation manuals (including documents specially prepared and provided to the customer) and the like, as well as any associated installation costs.

(7) When consumables such as bearings, oil seals, and lubricant in the Products manufactured by Tsubakimoto Chain Co. (“Products”) are prepared and provided to the customer:

- (8) When secondary damage occurs to the Products due to initial or primary damage or failure to the customer’s equipment.
- (9) Damage or failure of the Products due to forces majeure such as natural disasters.
- (10) Damage or failure of the Products due to unlawful conduct by third parties.
- (11) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (12) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (13) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (14) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (15) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (16) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (17) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.
- (18) Damage or failure of the Products due to causes not attributable to primary damage or failure to the customer’s equipment.

Observe the following points to prevent hazardous situations.

- Always turn off the power switch to the equipment beforehand and make sure that it cannot be turned on accidentally.
- When installing, removing, inspecting, maintaining, and lubricating the chain:
- When heating or cutting the chain with a torch, remove the links immediately adjacent and do not use them again.
- Do not weld the chain, as the heat may cause cracking or a reduction in strength.
- Never electroplate the chain or its parts, as this may cause cracking due to hydrogen embrittlement.
- Do not anneal the various parts of the chain.
- Never perform additional work on the chain.
- Do not use chains or accessories (peripheral devices and parts) for anything other than their original purpose.
- When installing, removing, inspecting, maintaining, and lubricating the chain:
- Install protection equipment for safety on the equipment side when using chain on personnel transport devices or lifting equipment.
- Only experienced personnel should replace chains and sprockets.
- Wear clothing and protective gear (safety glasses, gloves, safety shoes, etc.) that are appropriate for the work.
- When installing chains and sprockets, inspect them in advance to confirm that they have not been damaged in transport.
- Only handle chains and sprockets after thoroughly understanding their structure and specifications.
- When heating or cutting the chain with a torch, remove the links immediately adjacent and do not use them again.
- Do not weld the chain, as the heat may cause cracking or a reduction in strength.
- Never electroplate the chain or its parts, as this may cause cracking due to hydrogen embrittlement.
- Do not anneal the various parts of the chain.
- Never perform additional work on the chain.
- Do not use chains or accessories (peripheral devices and parts) for anything other than their original purpose.
- When heating or cutting the chain with a torch, remove the links immediately adjacent and do not use them again.
- Do not weld the chain, as the heat may cause cracking or a reduction in strength.
- Never electroplate the chain or its parts, as this may cause cracking due to hydrogen embrittlement.
- Do not anneal the various parts of the chain.
# For Safe Use

**Warning**

- Do not use chains or accessories (peripheral devices and parts) for anything other than their original purpose.
- Never perform additional work on the chain.
- Do not anneal the various parts of the chain.
- Do not clean the chain with acids or alkalis, as they may cause cracking.
- Never electroplate the chain or its parts, as this may cause cracking due to hydrogen embrittlement.
- Do not weld the chain, as the heat may cause cracking or a reduction in strength.
- When heating or cutting the chain with a torch, remove the links immediately adjacent and do not use them again.
- When there is a need to replace a damaged (fractured) portion of a chain, always replace the whole chain with a new product rather than replacing only the damaged or fractured portion.
- When using a chain and sprocket on suspension equipment, establish a safety fence and strictly prevent entry to the area directly below the suspended object.
- Always install hazard protection devices (safety covers, etc.) for the chain and sprocket.
- Immediately stop using the chain if it comes into contact with a substance that can cause embrittlement cracking (acid, strong alkali, battery fluid, etc.) and replace with a new chain.
- When installing, removing, inspecting, maintaining, and lubricating the chain:
  - Perform the work according to the instruction manual or this catalog.
  - Always turn off the power switch to the equipment beforehand and make sure that it cannot be turned on accidentally.
  - Secure the chain and sprocket so that they cannot move freely.
  - Use a press or other special tool to cut and connect chain, and cut and connect using the proper procedures.
  - Wear clothing and protective gear (safety glasses, gloves, safety shoes, etc.) that are appropriate for the work.
  - Only experienced personnel should replace chains and sprockets.
  - Install hazard protection devices (safety equipment, etc.) on suspension equipment using Leaf Chain to prevent hazard or injury in the event of chain failure.
  - Install protection equipment for safety on the equipment side when using chain on personnel transport devices or lifting equipment.

**Caution**

- Only handle chains and sprockets after thoroughly understanding their structure and specifications.
- When installing chains and sprockets, inspect them in advance to confirm that they have not been damaged in transport.
- Always regularly inspect and maintain your chains and sprockets.
- Chain strength varies according to manufacturer. When selecting a chain based on a Tsubaki catalog always use the corresponding Tsubaki product.
- Only experienced personnel should replace chains and sprockets.
- Install hazard protection devices (safety equipment, etc.) on suspension equipment using Leaf Chain to prevent hazard or injury in the event of chain failure.
- Install protection equipment for safety on the equipment side when using chain on personnel transport devices or lifting equipment.

---

## Warranty

### 1. Warranty Period

Products manufactured by Tsubakimoto Chain Co. ("Products") are warranted against defects in materials and workmanship for eighteen (18) months from the date of shipment from the factory or twelve (12) months from the date the Products are first placed into operation (calculated from the date the Products have been installed on the customer's equipment), whichever comes first.

### 2. Scope of Warranty

During the warranty period, if defects arise in the Products when installed, used, and maintained correctly in accordance to Tsubakimoto Chain's catalogs, installation manuals (including any documents specially prepared and provided to the customer) and the like, Tsubakimoto Chain will repair or replace such defective Products thereof free of charge upon confirmation of said defect by Tsubakimoto Chain. This warranty shall only apply to Products received, and Tsubakimoto Chain shall not be liable for the following costs and/or damages (including installation manuals or other documents specially prepared and provided to the customer):

1. Costs required for removing the defective Products from or re-installing the replacement Products on the customer's equipment for replacement or repair of the defective Product, as well as any associated installation costs.
2. Costs required to transport the customer's equipment, if needed, to a repair shop or the like.
3. Any consequential or indirect damages or loss of profits or benefits the customer may incur due to the defects or repair of the Products.

### 3. Out of Warranty Service and Repair

Regardless of the warranty period, Tsubakimoto Chain will provide investigation, repair, and/or manufacture of the Products for a fee should the Products experience problems or anomalies under the following situations.

1. Placement, installation (including connecting and disconnecting), lubrication, or maintenance of the Products not in accordance with Tsubakimoto Chain’s catalogs, installation manuals (including documents specially prepared and provided to the customer), or the like.
2. Use of the Products (including operating conditions, environment, and allowances) not in accordance with Tsubakimoto Chain’s catalogs, installation manuals (including documents specially prepared and provided to the customer), or the like.
3. Inappropriate disassembly, modification, or processing of the Products by the customer.
4. Use of the Products with damaged or worn products. (Example: Use of the Products with a worn sprocket, drum, rail, or the like.)
5. When the operating conditions exceed the performance of the Products as selected using the Tsubakimoto Chain selection method.
6. Use of the Products in conditions other than what have been discussed.
7. When consumables such as bearings, oil seals, and lubricant in the Products deplete, wear, or degrade.
8. When secondary damage occurs to the Products due to initial or primary damage or failure to the customer’s equipment.
9. Damage or failure of the Products due to forces majeure such as natural disasters.
10. Damage or failure of the Products due to unlawful conduct by third parties.
11. Damage or failure of the Products due to causes not attributable to Tsubakimoto Chain.

---

The logos, brand names, or product names in this catalog are trademarks or registered trademarks of Tsubakimoto Chain Co. in Japan and other countries.
Note: In accordance with the policy of TSUBAKIMOTO CHAIN CO. to constantly improve its products, the specifications in this catalog are subject to change without notice.

Catalog No: ME1506   ©2017/10 TSUBAKIMOTO CHAIN CO. Printed in Japan #2,000