

Tenter Clip And Chain Application Information Sheet

Customer Information

Submitted By _____ Date _____

Contact Name _____ Title/Function _____

Company _____ End User OEM

Address _____ Plant Location _____

City _____ State _____ Zip _____

Phone _____ Fax/E-Mail _____

Required Items and Quantity

Requested Delivery: _____

(1) New clips for spares* _____ pcs
 (2) New chain for spares* _____ pcs
 (3) Rebuild clips** _____ pcs
 (4) Rebuild chains _____ pcs

*For new parts, please send us samples or drawings

**For rebuilds, please send us 10 pcs in the worst condition

After evaluating the samples we will provide a proposal for rebuild or overhaul including any new parts for exchange.

Attached drawing No. _____

Details of Manufacturing Machines

Year Installed _____ No. of Units _____

Film: BOPP _____ BOPET _____ Other _____

Film thickness (in microns): Min. _____ Max. _____

Production line: Length (m) _____ Clips per line _____ [pcs]

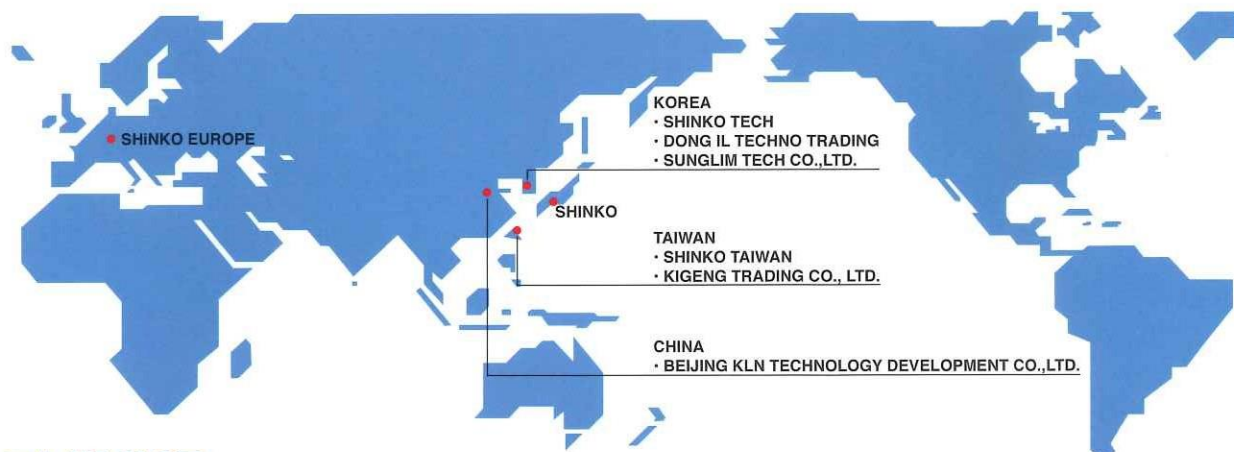
Oven temperature: Max. _____ [°C] Normal operating _____ [°C]

Clip Chain type: Slide _____ Bearing _____ Other _____

Line speed (m/min): Min. _____ Max. _____

Other Manufacturing Machines:

Manufacturer	Year Installed	Production line length	No. of units



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Tenter Clips & Chains

for Biaxially Oriented Film Manufacturing Machine



You can count on **SHINKO**, the leading manufacturers of **Tenter Clips and Chains!**

for Biaxially Oriented Film Manufacturing Machine

- We are enjoying top market share in Japan and Asian countries for Clips and Chains of Biaxially Oriented Film Manufacturing Machine.
- Our control of production quality and delivery with speedy responses have been highly rated by numbers of film manufacturers and equipment makers.
- We have good supply record as established and specialized manufacturers of Clips and Chains.

1 Accurate chucking and smooth running

Clip performance is dependent on these two factors. The flap grabbing components are designed for each individual film utilizing our proven proprietary software. Each clip is subjected to rigorous 100% accurate chucking and smooth running performance inspection.

2 Stable performance for a extended periods

Our advanced designs and precision manufacturing ensure stable performance for extended periods. Under most normal operating conditions, our clips and chains may be operated continuously for two years. If normal consumable parts are maintained and replaced properly, these products may be used for 20 years or more.

3 Designed and manufactured to withstand extreme conditions

Available types of maximum tolerance;

- 500m/min. maximum line speed
 - 450°C maximum oven temperature
- * Please inquire any other special conditions.

4 Potential problems are easily resolved

- Lubricant splash
 - Film powder
 - Short maintenance intervals
 - Difficult maintenance of bushings and so on
- * Please ask question about your any other problems.

5 Clips and chains for special applications are available

- Clean room
- Simultaneous bi-axially oriented film manufacturing machines
- Submerged running
- Length contraction

Our advanced know-how under broad supply record contributes to productivity and working efficiency improvements of your plants.



Our clips and chains are applicable to production of:

- 1 BOPP film
- 2 BOPET film
- 3 Polyimide film
- 4 Nylon film
- 5 Ion sensitive film for lithium battery
- 6 Optical film
- 7 Other special film

● Sliding Type Clips & Chains



[Single Flap Type]



[Double Flap Type]

Features

- May be utilized for any type or thickness of film.
- Designed for compatibility with size and structure of the tenter rail
- Improved running smoothness and solutions for lubricant splashes and loss of oil supply

● Flap Reversing Clips



[closed position]



[reversed position]

Features

- Easy Tip Cleaning
Flap can be easily reversed to remove contaminants and restore proper clamping

● Bearing Type Clips and Chains



[Single Flap Type]



[Double Flap Type]



[Heavy Type]



[Super Heavy Type]

Features

- May be utilized for any type or thickness of film.
- Designed for compatibility with size and structure of the tenter rail
- Improved running smoothness and solutions for lubricant splashes and loss of oil supply

● Plastic Sliding Type Pin Link Chains



Features

- Pin link chains provide high speed, durability and decreased oil supply requirements
- High performance plastic for increased sliding and high tolerance for abrasion
- Up to 500m/min. line speed

● Clips & Chains for Clean Room



Features

- Specially designed for use in clean rooms without contamination from dust, oil or rust
- Ideal for electronics industry
- Custom designs available to meet a variety of clean room classes and specifications

● and Various Other Types



Features

Please feel free to inquire any other types of clips and chains. We have enough experience and ability to design and manufacture your requirements.

Maintenance

- Proper maintenance can eliminate film breaks, film slip-off, film debris, chain run errors and speed decreases.
 - Please send us 10 pieces of your worst condition clips and chains.
 - We will measure, analyze and diagnose any abrasion or deterioration.
 - We will provide a report on proposed maintenance specifications and advise on parts changes.
- If requested, we can provide a maintenance and/or modification plan.

Following troubles can be solved;

- 1 Frequent film break which causes production volume decrease.
- 2 Slip and coming off of film makes production yield down.
- 3 Fault of chain run.
- 4 Film debris prevent quality improvement.
- 5 Difficult to make a speedup.

[before maintenance]



[after maintenance]



[before maintenance]



[after maintenance]



Contact us with your specific requirements!
We can design and manufacture clips and chains optimized for your process!

- **SHINKO** is the number one supplier in Japan and Asia of clips and chains for bi-axially oriented film manufacturing machines.
- Most film and equipment manufacturers purchase or specify our products because of our experience, outstanding quality control and timely delivery.
- Our reputation as established and specialized manufacturers and rebuilders of clips and chains is unchallenged.