

Timing Belt Guide

Material Properties and Application Examples of Long Timing Belts

■ **Features:** A guide to prevent belts from flexure and wandering during conveying.

BTG (No Hole)

BTGZ (1 Row of Counterbored Holes)

Details of Hole Dimensions

Counterbored Hole

| Screw Nominal Dia. | 4 | 5 | 6 |
|--------------------|-----|-----|-----|
| d | 4.5 | 5.5 | 6.5 |
| d1 | 8 | 9.5 | 11 |
| h | 5 | 6 | 7 |

Accuracy Standards

| Dimension | Tolerance |
|---------------|-----------|
| A, B, C, D, E | ±0.2 |
| L | ±1.0 |

Ⓜ Material UHMWPE

| Part Number Type | Nominal | L 10mm Increment | P (Hole Pitch) 5mm Increment | H Number of Holes | K Hole Machining Nominal Dia. Selection | Applicable Belt Type | A | B | C | D | E |
|------------------|---------|------------------|------------------------------|-------------------|---|----------------------|----------------------|---|----------|--------|------|
| | | | | | | | BTG (No Hole) | 100 150 150A 200 200A 250 250B 300 400 500 | 200~1800 | 50~500 | 2~10 |

⚠ Applicable to belts not listed in "Applicable Belt Type". Make sure of the width and the height of teeth before use.
⚠ Belt Nominal Width 100 is not available for BTGZ.

Ordering Example

Part Number: **BTG** - **150** - **300**
BTGZ - **200A** - **1200** - **P160** - **H8** - **K5**

ex LTBN-T10400 (P.1474)

TPPA30T10400 (P.1419)

■ **Body Price**

| Part Number Type | Nominal | Body Price | | | | |
|------------------|---------|------------|----------|----------|-----------|------------|
| | | L200~400 | L410~600 | L610~900 | L910~1200 | L1210~1500 |
| BTG | 100 | | | | | |
| | 150 | | | | | |
| | 150A | | | | | |
| | 200 | | | | | |
| | 200A | | | | | |
| | 250 | | | | | |
| | 250B | | | | | |
| | 300 | | | | | |
| | 400 | | | | | |
| | 500 | | | | | |

■ **Hole Machining Charge**

| Number of Holes | BTGZ (1 Row of Counterbored Holes) |
|-----------------|------------------------------------|
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |

Material Properties of Long Timing Belts (P.1473, P.1474)

Chemical Resistance (Long Timing Belts Iron Rubber® P.1473)

○: With Resistibility
△: With Limited Resistibility
×: Non-resistant

| Chemical | Resistibility | Chemical | Resistibility | Chemical | Resistibility |
|---------------------------------------|---------------|---|---------------|----------------------------|---------------|
| Acetic Acid 5% | × | Aqueous Sodium Hydroxide Solution 5% | × | n-Hexane | △ |
| Glacial Acetic Acid (38°C) | × | Aqueous Sodium Hydroxide Solution 10% | × | Hydrazine | × |
| Non-Glacial Acetic Acid | × | Aqueous Potassium Hydroxide Solution 5% | × | N-Methylpyrrolidone | × |
| Hydrochloric Acid 5% | × | Seawater | △ | Isocetane | △ |
| Nitric Acid 10% | × | Acetone | × | Isopropyl Alcohol | △ |
| Sulfuric Acid 20% | × | Methyl Ethyl Ketone | × | Kerosene | △ |
| Fuming Sulfuric Acid 20% | × | Ethyl Alcohol | × | Gasoline | △ |
| Sulfurous Acid | × | Methyl Alcohol | × | Jet Fuel | △ |
| Formic Acid | × | Ethyl Acetate | × | Linseed Oil | ○ |
| Hydro Cyanic Acid | × | Carbon Tetrachloride | × | Ricin | ○ |
| Hydrofluoric Acid 10% | × | Benzene | × | Naphthalene | △ |
| Hydrogen Sulfide | × | Carbon Bisulfide | × | Soybean Oil | ○ |
| Chlorine Gas | × | Diethyl Phthalate | ○ | Beer | ○ |
| Aqueous Trisodium Phosphate Solution | ○ | Chloroethane | × | Phenol | × |
| Aqueous Citric Acid Solution | ○ | Ethylene Glycol | △ | Ethylene Tetrachloride | × |
| Anhydrous Bromine (Solution) | × | Ethylene Oxide | △ | Xylene | × |
| Aqueous Acetic Boric Acid Solution | ○ | Fluosiolic Acid | △ | Fuel Oil A | △ |
| Aqueous Ammonium Chloride Solution | △ | Formaldehyde 40% | × | Fuel Oil B | × |
| Aqueous Calcium Chloride Solution | ○ | Chlorobenzene | × | Fuel Oil C | × |
| Aqueous Calcium Hypochlorite Solution | ○ | Cyclohexane | △ | Dimethylformamide | × |
| Aqueous Sodium Chloride Solution | ○ | Dibutyl Phthalate | ○ | Tetrahydrofuran | × |
| Aqueous Ammonium Sulphate Solution | △ | Glycerin | ○ | Toluene | × |
| Aqueous Ammonium Hydroxide Solution | × | | | Hydrogen Peroxide Solution | × |

⚠ The effects are just for reference and tests are required before use. Check compatibility before using as belts.

Chemical Resistance (Long Timing Belts Polyurethane P.1474)

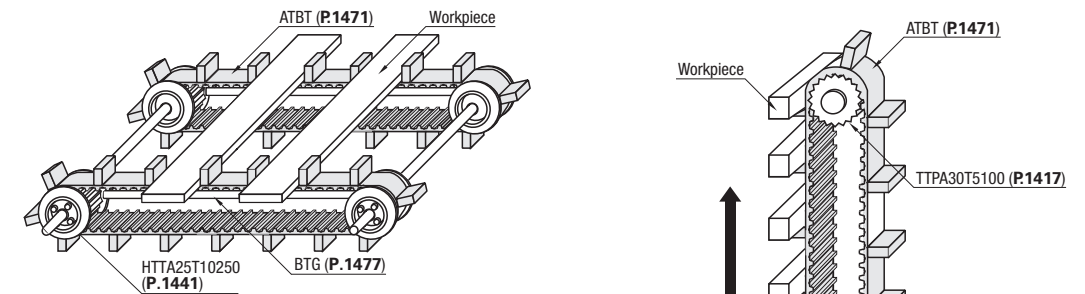
○: With Resistibility
△: With Limited Resistibility
×: Non-resistant

| Chemical | Resistibility | Chemical | Resistibility |
|---------------------------------|---------------|----------------------------------|---------------|
| Acetic Acid | △ | Kerosene | ○ |
| Acetone | △ | Grease | ○ |
| Aluminum Chloride (5% Moisture) | ○ | Methanol | △ |
| Ammonia Water (10%) | ○ | Methanol / Gasoline (15 / 85) | △ |
| Aniline | × | Methyl Ethyl Ketone | △ |
| ASTM No.1 Oil | ○ | Chloromethane | △ |
| ASTM No.2 Oil | ○ | Nitric Acid 20% | × |
| ASTM No.3 Oil | △ | Regular Gasoline | △ |
| Benzene | △ | Super Gasoline | △ |
| Butyl Alcohol | △ | Saline Solution | ○ |
| Butyl Acetate | × | Seawater | ○ |
| Carbon Tetrachloride | × | Aqueous Sodium Chloride Solution | ○ |
| Cyclohexanol | △ | Sodium Hydroxide | △ |
| Diesel Oil | ○ | Tetrahydrofuran | × |
| Dimethylformamide | × | Toluene | × |
| Ethanol | △ | Trichloroethylene | × |
| Ethyl Acetate | × | Water | ○ |
| Ethylether | ○ | | |
| n-Heptane | ○ | | |
| 20% Hydrochloric Acid | △ | | |
| Iron Chloride (Moisture 5%) | △ | | |
| Isopropanol | △ | | |

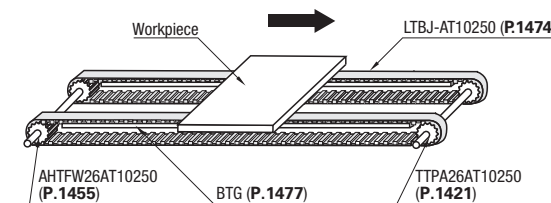
⚠ Not applicable when temperature is above 40°C or belts are immersed in solution or liquid.

App. Example of Long Timing Belt / Open End Belt (P.1473~1476)

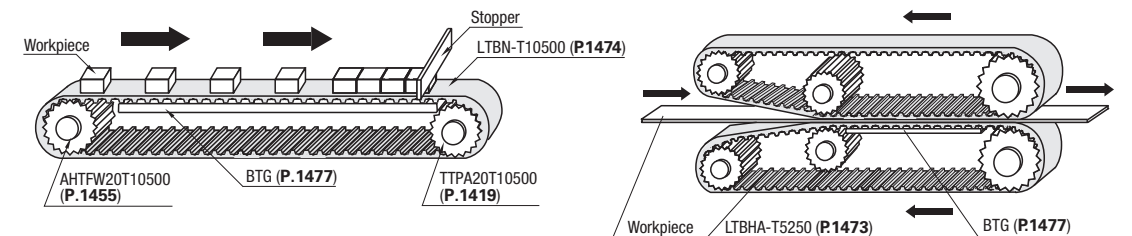
- Simultaneous Conveyance (Conveying workpieces at regular intervals using attachments)
- Vertical Conveyance (Conveying light workpieces using attachments)



- Circuit Board Conveyance (Conveying boards on two timing belts)



- Accumulation Conveyance (Using the Cloth Lined Type to reduce friction coefficient)
- Tractor Conveyance (Sandwiching workpieces between belts)



- Linear Drive (Reciprocating motion with open end belts)

