



# BANDO



**PT. BANDO INDONESIA**

***DOING MORE on the new frontier***



**BANDO**

*Breakthroughs for the future*



**BANDO CHEMICAL INDUSTRIES, LTD.**  
Since **1906**

**P.T. BANDO INDONESIA**  
Since **1987**

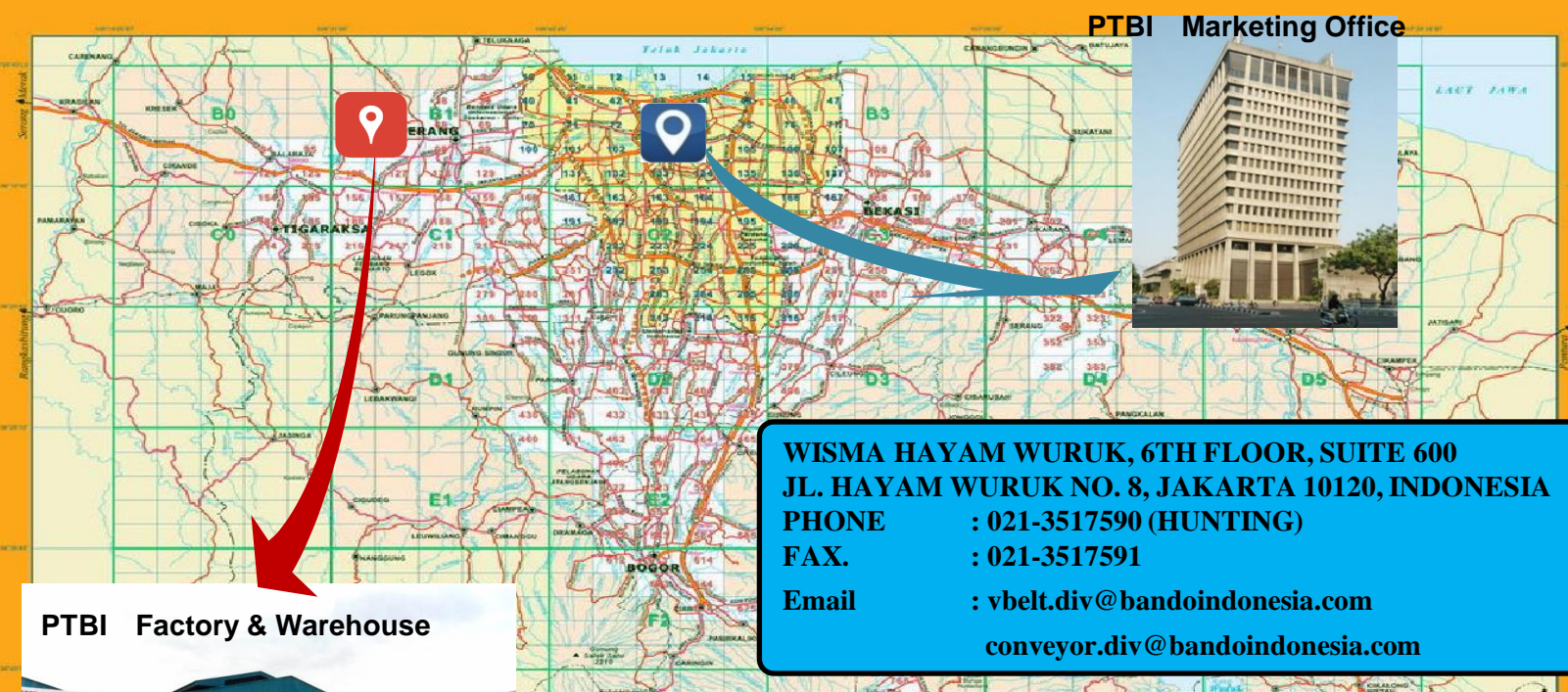
**ON THE RUN!**

### 1987 PT. BANDO INDONESIA


Joint venture Bando Chemical Industries Ltd.  
Japan with PT. Kreasi Utama Investama.

### Technical Cooperation


V-BELT, November 25th, 1987  
CONVEYOR, MAY 1<sup>ST</sup>, 1995



**PTBI Marketing Office**



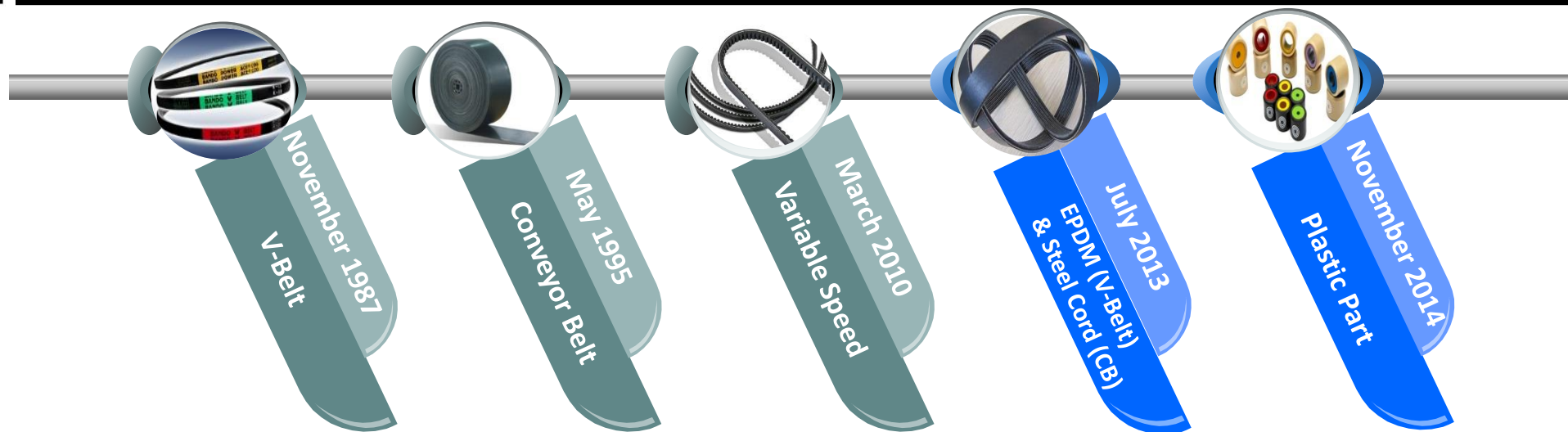
**PTBI Factory & Warehouse**



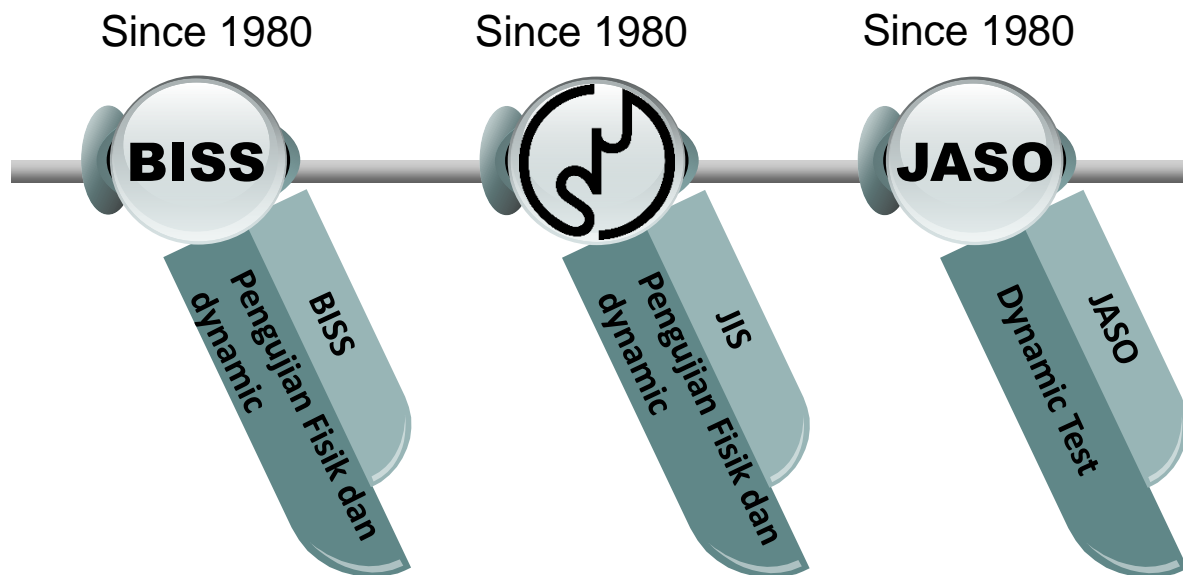
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**FAX. CONVEYOR : 021-5903937**

## COMPANY PROFILE



## STANDARD TEST



**BISS** : Bando Industrial Standard Specification

**JIS** : Japanese Industrial System

**JASO** : Japanese Automotive Standard Organization





1992 RECEIVED THE JIS K 6323 CERTIFICATION

1996 RECEIVED THE "QUALITY ASSURANCE" **ISO 9002** CERTIFICATION FROM SGS "V-BELT"

2000 RECEIVED THE "QUALITY ASSURANCE" **ISO 9002** CERTIFICATION FROM SGS "CONVEYOR BELT"

2001 RECEIVED THE "QUALITY MANAGEMENT SYSTEM" **ISO 9001** CERTIFICATION FROM SGS

2004 RECEIVED THE "ENVIROMENT MANAGEMENT SYSTEM" **ISO 14001** CERTIFICATION FROM SGS

2008 RECEIVED THE "ENVIROMENT MANAGEMENT SYSTEM" **ISO 9001** CERTIFICATION FROM SGS

2013 RECEIVED THE "HEALTH & SAFETY MANAGEMENT" **OHSAS 18001** CERTIFICATION FROM SGS

2016 RECEIVED THE "DESIGN & MANUFACTURE OF POWER TRANSMISSION BELTS" **IATF 16949** FROM SGS

2017 RECEIVED THE "OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM" **SMK3** CERTIFICATION FROM MINISTER OF EMPLOYMENT

2018 RECEIVED THE "**TKDN**" CERTIFICATION FROM MINISTRY OF INDUSTRY

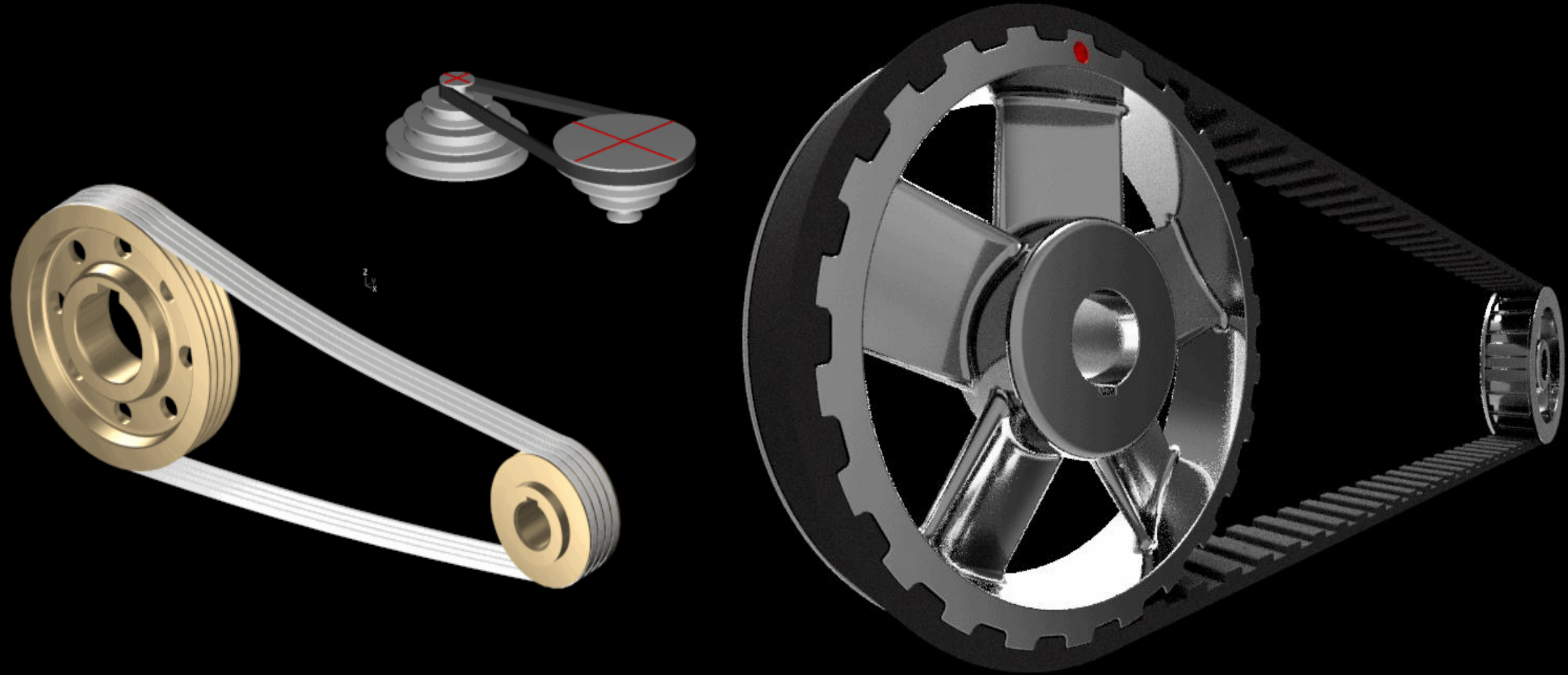
2018 RECEIVED THE "OCCUPATIONAL HEALTH AND SAFETY (OH&S) MANAGEMENT" **ISO 45001** CERTIFICATION FROM SGS

2020 RECEIVED THE "**SKUP**" CERTIFICATION FROM MINISTRY OF ENERGY AND MINERAL RESOURCES



# BANDO

## V-BELT DIVISION

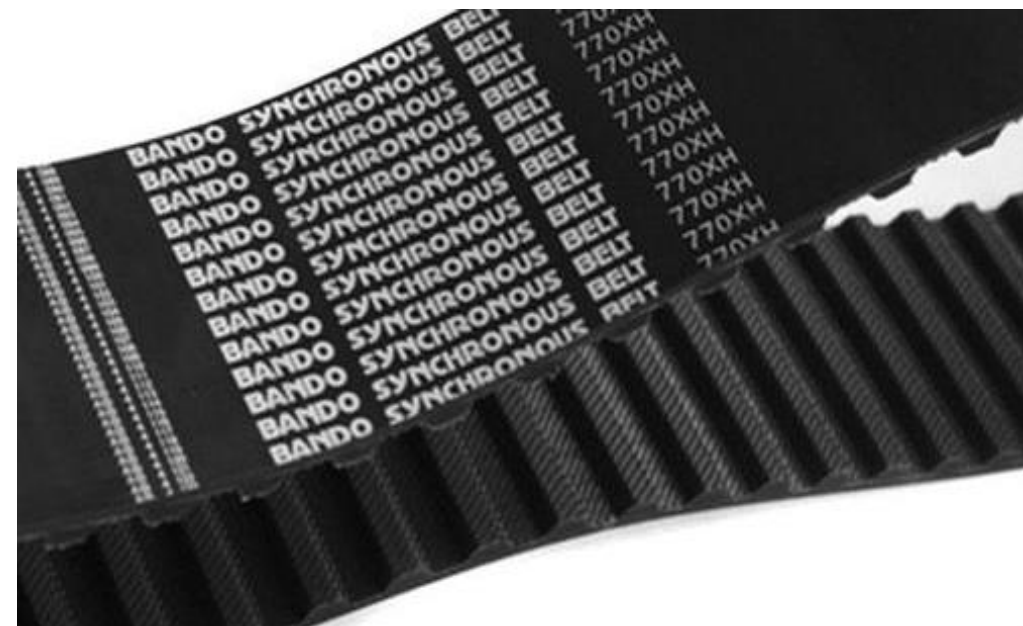


**MULTIPLE V-BELT****LOCAL**

- **WRAPPED V-BELT** **GREEN SEAL** **RED SEAL**
- **RAW EDGE V-BELT (COOGED)**
- **POWER SCRUM V-BELT (BANDED)**
- **DOUBLE V-BELT**

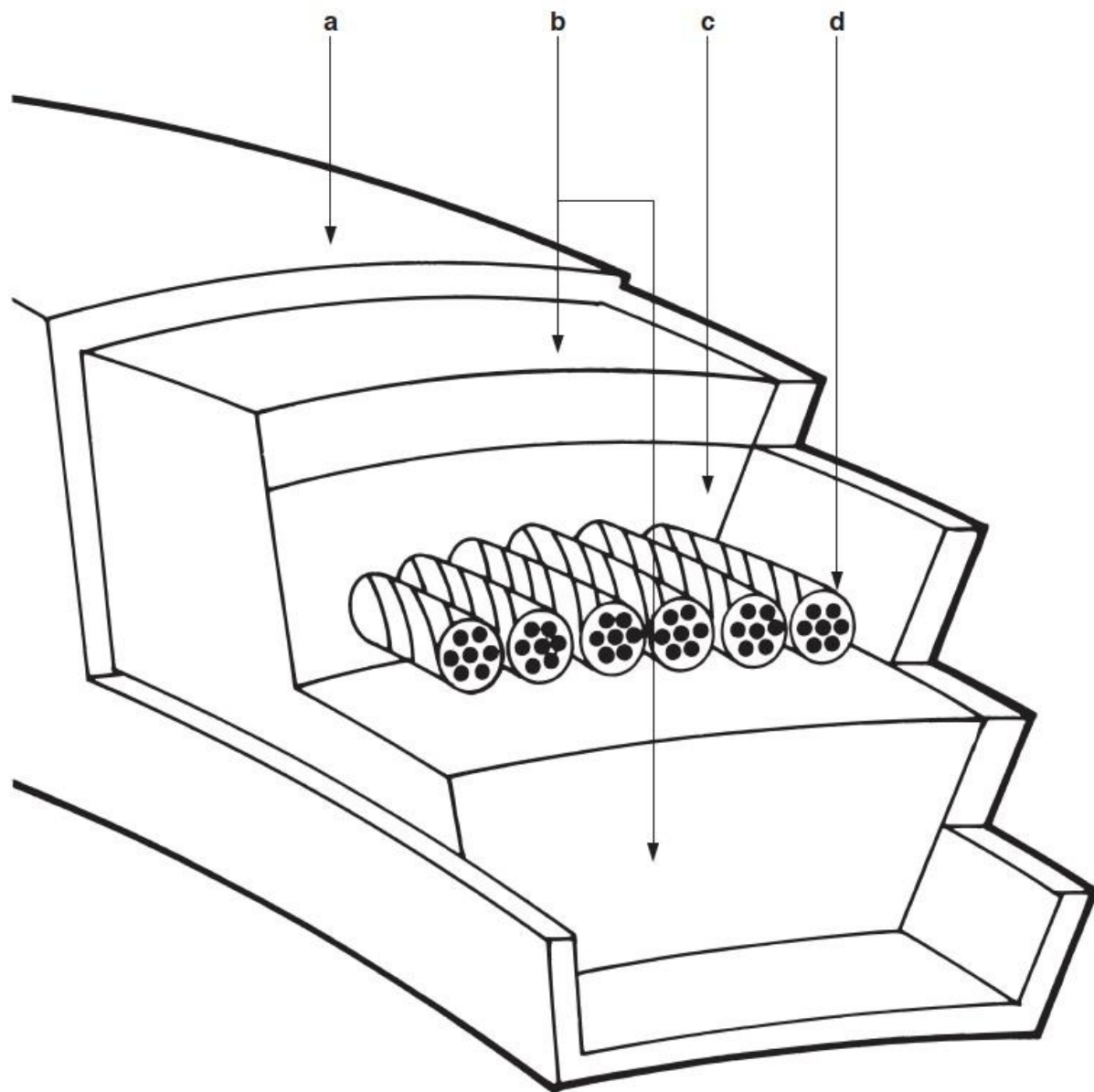
 **NARRROW V-BELT****LOCAL**

- **POWER ACE V-BELT**
- **SP-TYPE V-BELT**
- **RAW EDGE V-BELT (COOGED)**
- **POWER SCRUM V-BELT (BANDED)**

 **SYNCHRONOUS BELT****IMPORT**

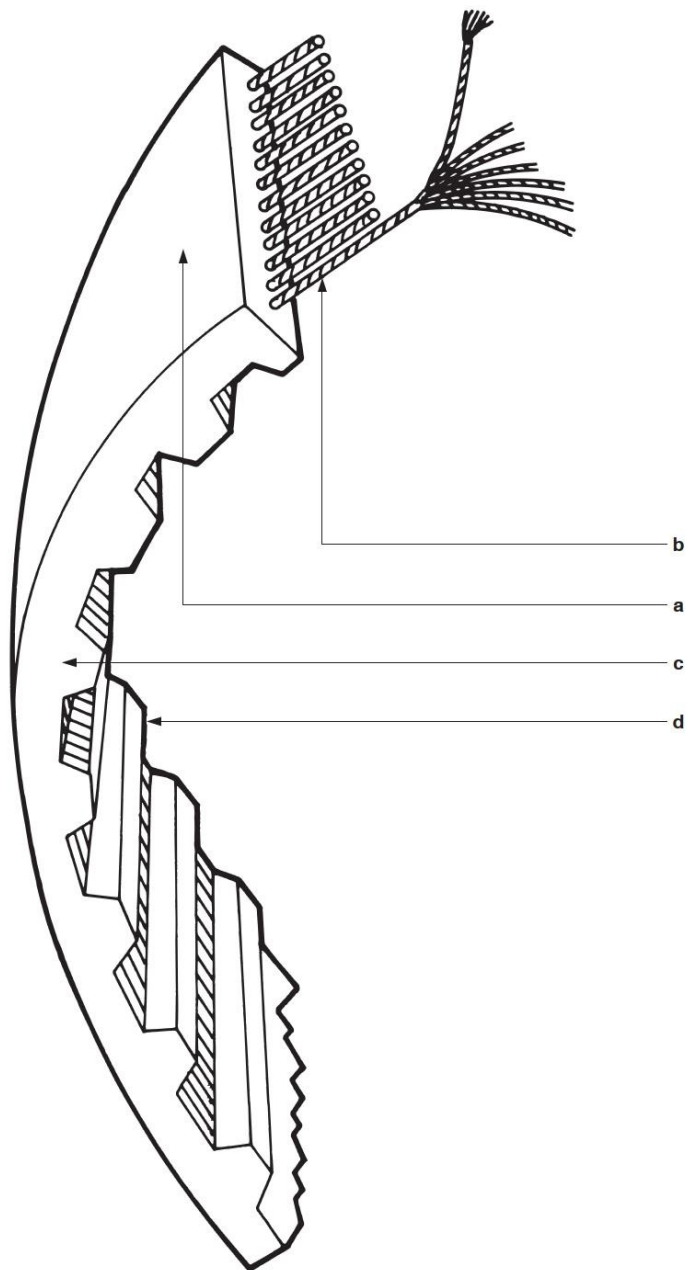
- **SYNCHRONOUS BELT (RUBBER / PU)**
- **SUPER TORQUE SYNCHRONOUS (STS)**
- **HIGH-PERFORMANCE STS (HP-STs)**
- **HIGH TORQUE SYNCHRONOUS (HTS)**



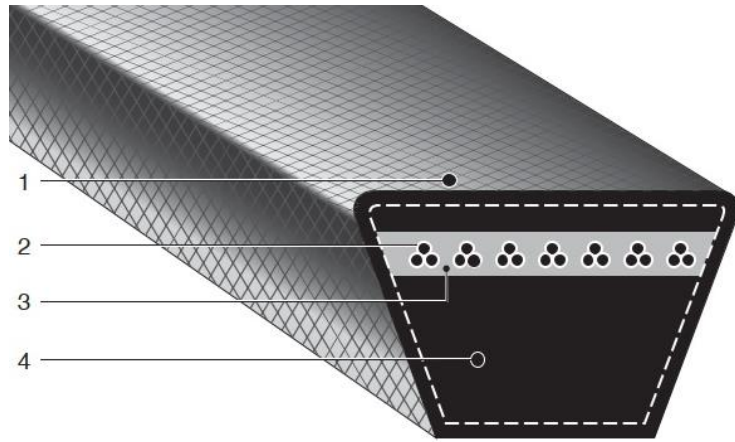


- a) **Cover:** A canvas cover is usually wrapped completely around the belt, sometimes only on the top and bottom. It provides the proper amount of traction and protects the internal components from oil, dust and other foreign materials. It also increases belt flexibility.
- b) **Cushion Rubber:** The material surrounding the Tensile Member. It absorbs the power from the drive pulley and helps transmit this power to the driven pulley. Its high elasticity allows smooth bending and flexing over even the smallest pulleys while preventing heat built-up. It is made of synthetic rubber.
- c) **Adhesion Rubber:** Sets the tensile cords in the right place and firmly bonds the cords with the cushion rubber.
- d) **Tensile Member:** Cord like material running through the belt. The 'muscles' of the belt, it transmits power from one pulley to the next.

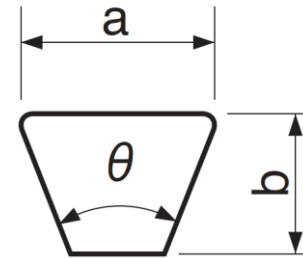




- a) **Rubber Backing:** A synthetic rubber layer which gives protection to the tensile member. It is tough and flexible and completely bonded to the tensile member. Its excellent wear resistant backing can also be used for light duty transportation.
- b) **Tensile Member:** Made of helically wound glass fiber cord, it is designed to transmit the power. The small diameter cord possesses high tensile strength, low stretch and high resistance to bending fatigue.
- c) **Rubber Teeth:** Special synthetic rubber which has high shear strength and adequate hardness. To ensure that the teeth are compatible with the pulley grooves, they are precision made with a highly accurate pitch. (When the teeth in mesh [TIM] is 6 or more, the teeth shear strength virtually exceeds the belt's tensile strength).
- d) **Nylon Facing:** A thin nylon cover cloth, which is tough and has excellent abrasion resistance, protects the belt teeth from wear caused by pulley contact. This gives long belt service life.



### □ Dimensions

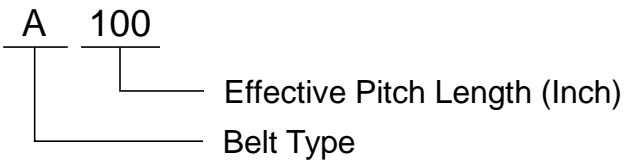


Type	Top Width a	Thickness b	Angle $\theta$	Size (Inch) JIS	Minimal Pulley Diameter
M	10.0 mm (0.38")	5.5 mm (0.22")	40°	14 – 60	50 mm
A	12.7 mm (0.50")	8.0 mm (0.31")	40°	17 – 810	75 mm
B	16.7 mm (0.66")	10.7 mm (0.41")	40°	20 – 1000	125 mm
C	22.2 mm (0.88")	13.5 mm (0.53")	40°	35 – 810	230 mm
D	32.0 mm (1.25")	20.0 mm (0.75")	40°	80 – 810	330 mm
E	40.0 mm (1.50")	25.5 mm (0.91")	40°	110 – 810	530 mm

### □ Construction

- 1: Rubber impregnated Canvas.
- 2: Polyester tensile members.
- 3: Chloroprene insulating rubber.
- 4: Natural compression rubber.

### □ Size Mark



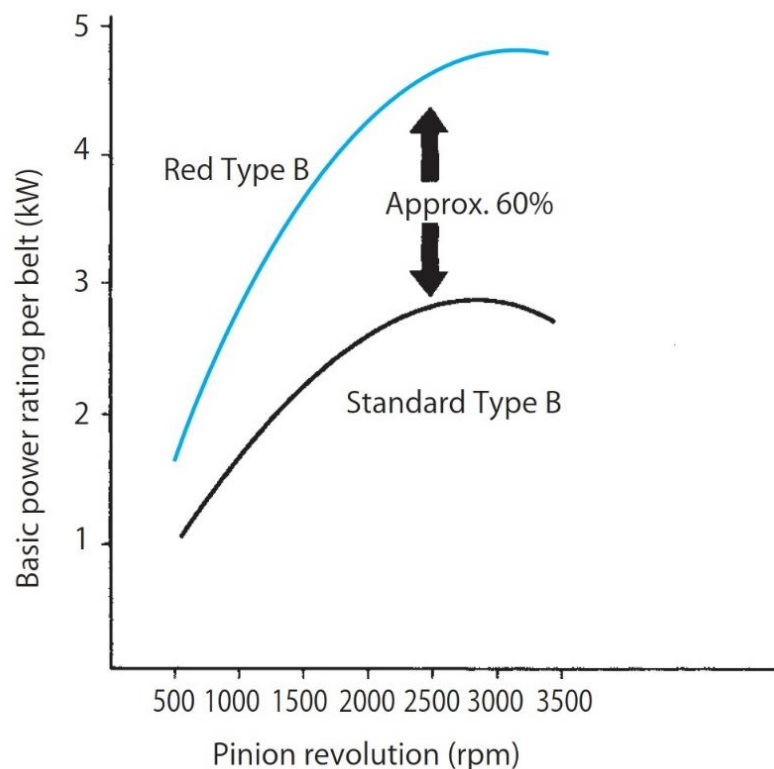
**GREEN SEAL**



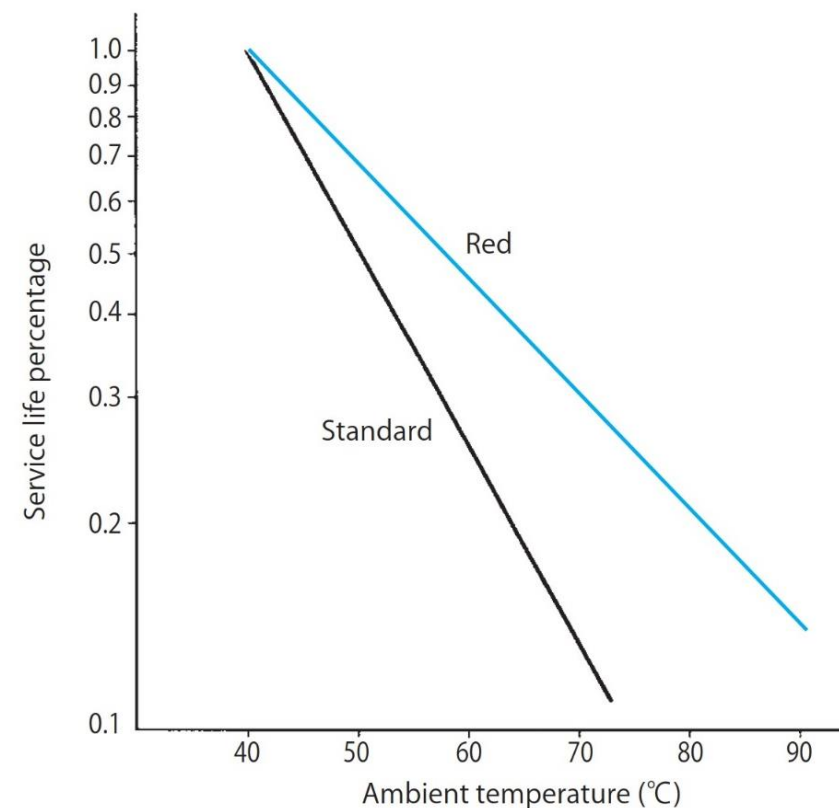
**RED SEAL**

**High Quality and High Power Transmission V-Belt**

- It employs polyester cords that are strong and have little elongation.
- Synthetic rubber compound.
- 60% higher power than the previous Standard.
- Excellent flame resistance.
- Bando Red has a lower reduction rate than Standard.



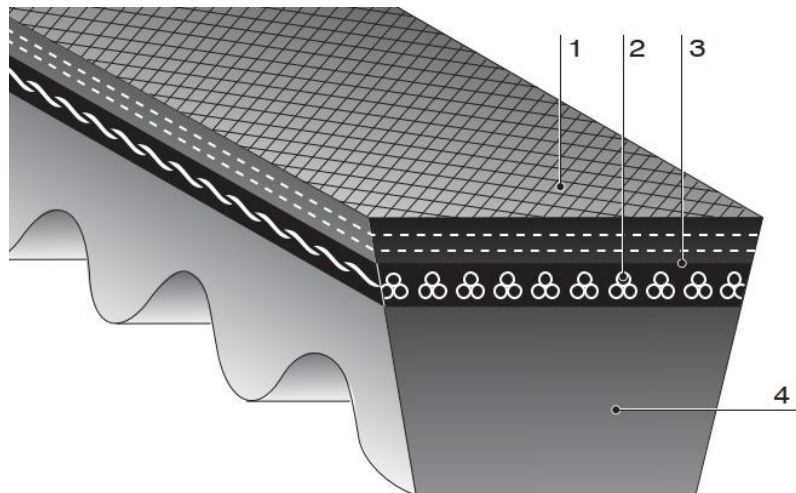
The transmission power per belt as compared to revolution when a Type B 125mm diameter pulley is used.



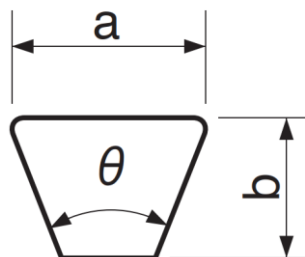
Generally, when the ambient temperature increases, the belt service life decreases as shown in the graph above.

Recommended to use Bando Red if the ambient temperature  $\geq 60^{\circ}\text{C}$





#### □ Dimensions



#### □ Features

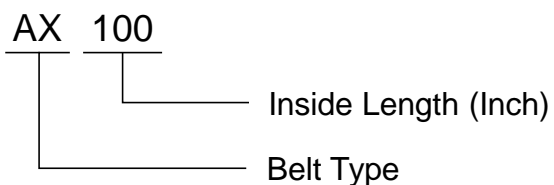
- Designed to make belts run cooler and last longer.
- Heat dissipating cogs.
- More efficient in higher RPM motor.

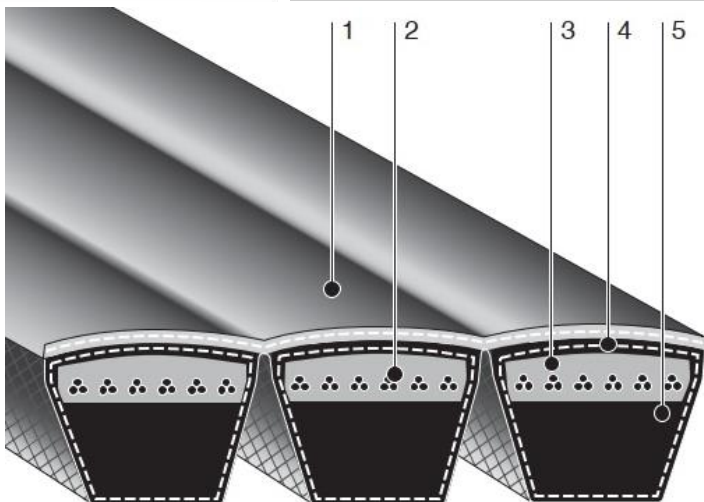
#### □ Construction

- 1: Rubber impregnated Special Woven.
- 2: Polyester tensile members.
- 3: Chloroprene insulating rubber.
- 4: Chloroprene compression rubber.

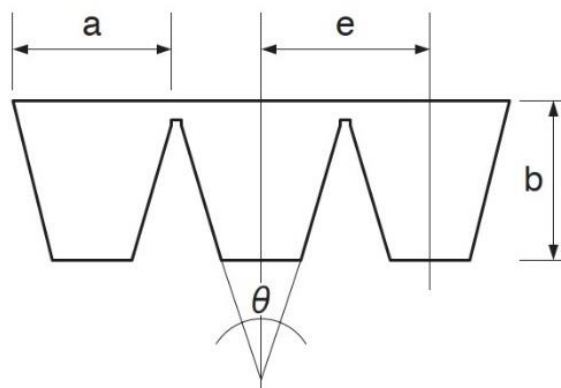
Type	Top Width a	Thickness b	Angle $\theta$	Size (Inch) RMA	Minimal Pulley Diameter
AX	13.0 mm (0.51")	8.0 mm (0.32")	38°	21 – 120	60 mm
BX	17.0 mm (0.67")	11.0 mm (0.43")	38°	20 – 120	90 mm
CX	22.0 mm (0.87")	14.0 mm (0.55")	38°	19 - 120	140 mm

#### □ Size Mark





### □ Dimensions



### □ Features

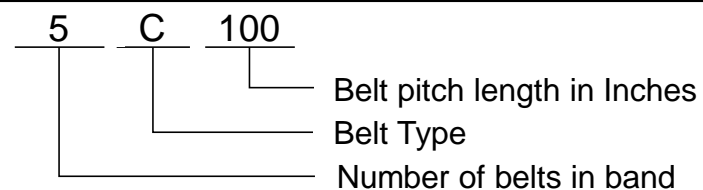
- Permanent matched set.
- No lateral whip, spin, or turn over.
- Deep pulley grooves are not required even on horizontal drives.
- Heat and oil resistant.

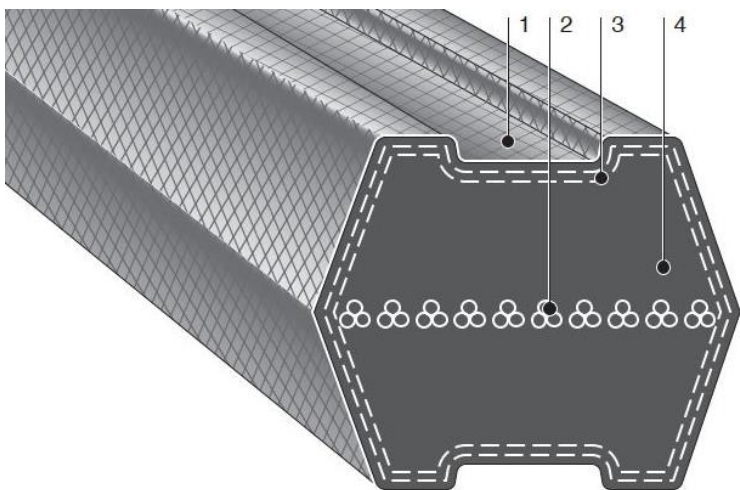
### □ Construction

- 1: Tie-band
- 2: Polyester tensile members
- 3: Chloroprene insulation rubber
- 4: Rubber impregnated canvas
- 5: Chloroprene compression rubber

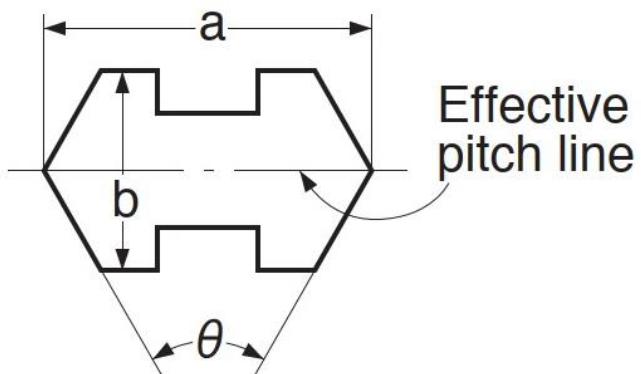
Type	Width a	Thickness b	Angle $\theta$	Pitch (e)	Size (Inch) JIS	Minimal Pulley Diameter
B	17.0 mm (0.67")	13.0 mm (0.51")	40°	19.0 mm (0.75")	45 – 810	125 mm
C	22.2 mm (0.87")	16.0 mm (0.63")	40°	25.5 mm (1.00")	80 – 810	230 mm
D	31.7 mm (1.25")	21.5 mm (0.85")	40°	37.0 mm (1.46")	105 - 810	330 mm

### □ Size Mark



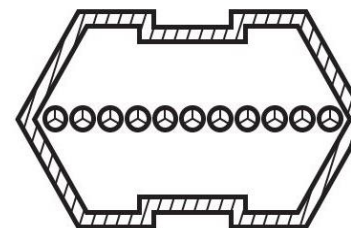


#### □ Dimensions

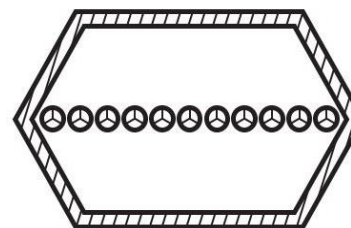


#### □ Features

New cross section



Conventional cross section

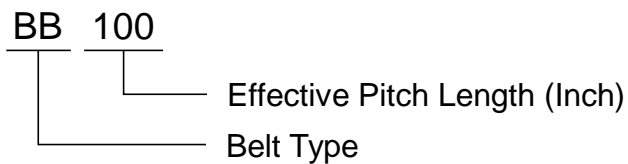


#### □ Construction

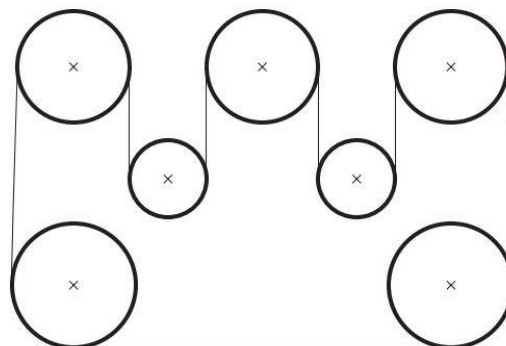
- 1: Rubber impregnated special woven canvas
- 2: Polyester tensile members
- 3: Chloroprene insulation rubber
- 4: Chloroprene compression rubber

Type	Width a	Thickness b	Angle $\theta$	Size (Inch) JIS
AA	12.5 mm (0.50")	10.3 mm (0.40")	40°	46 – 250
BB	16.5 mm (0.65")	13.5 mm (0.54")		60 – 810
CC	22.0 mm (0.87")	18.0 mm (0.71")		80 196

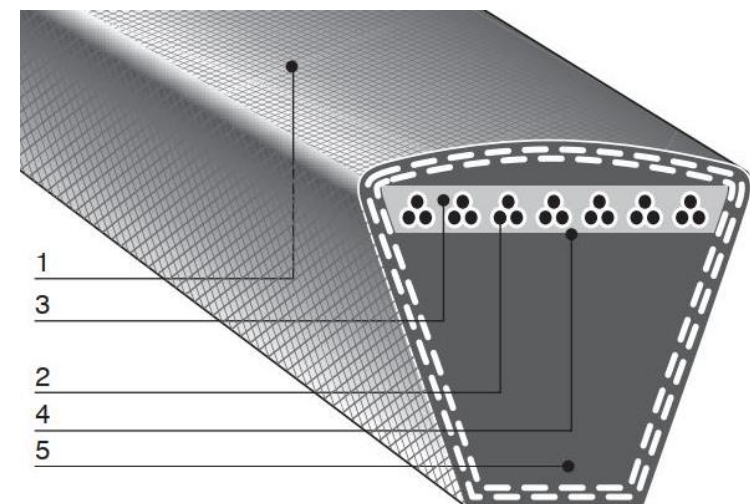
#### □ Size Mark



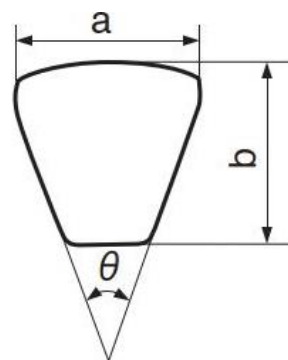
Typical reverse-bend serpentine drive







### □ Dimensions



### □ Features

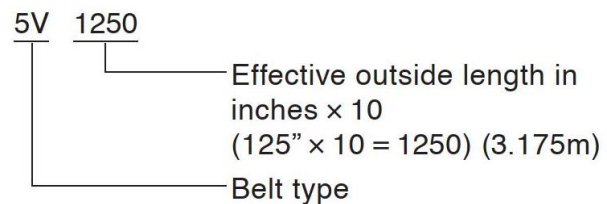
- High horsepower rating.
- Long life.
- High heat and oil resistant.
- Length stability  
(for matched set of Bando NARROW)

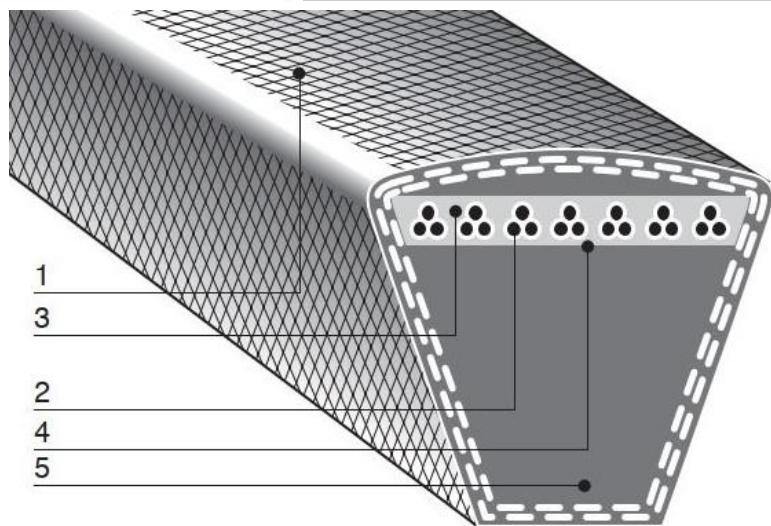
### □ Construction

- 1: Rubber impregnated canvas
- 2: Polyester tensile members
- 3: Chloroprene insulation rubber
- 4: Special lateral reinforcing cord
- 5: Chloroprene compression rubber

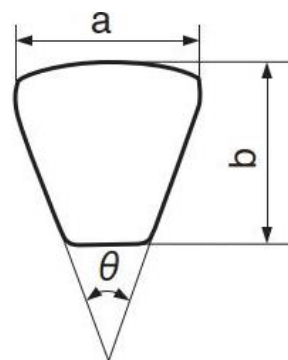
Type	Top Width a	Thickness b	Angle $\theta$	Size (Inch) DIN	Minimal Pulley Diameter
3V	9.5 mm (0.38")	8.0 mm (0.32")	40°	25 – 140	70 mm
5V	16.0 mm (0.62")	13.5 mm (0.54")	40°	50 – 810	180 mm
8V	25.5 mm (1.0")	23.0 mm (0.88")	40°	100 – 810	300 mm

### □ Size Mark





### □ Dimensions



### □ Features

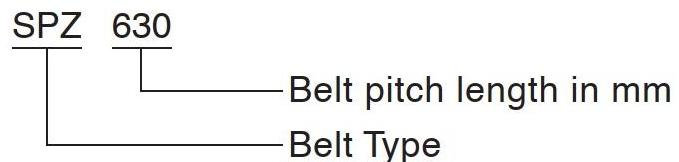
- High horsepower rating.
- Long life.
- High heat and oil resistant.
- Length stability  
(for matched set of Bando NARROW)
- Compared with conventional V-Belts, Bando Narrow V-Belts can handle high loads.

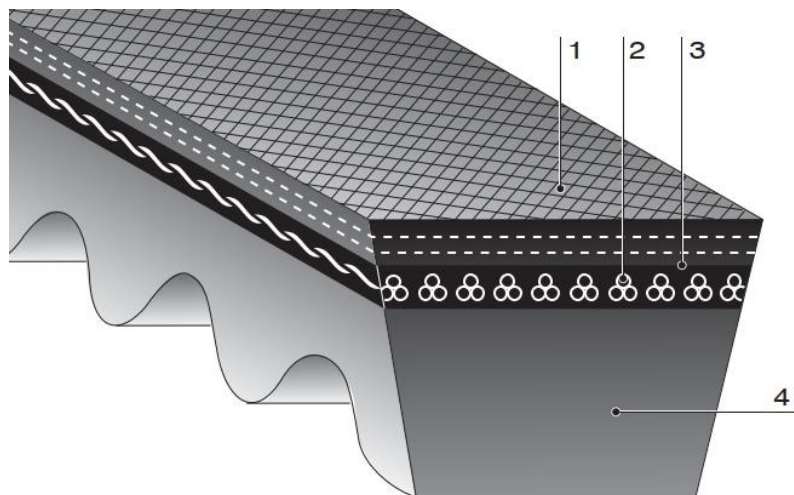
### □ Construction

- 1: Rubber impregnated canvas
- 2: Polyester tensile members
- 3: Chloroprene insulation rubber
- 4: Special lateral reinforcing cord
- 5: Chloroprene compression rubber

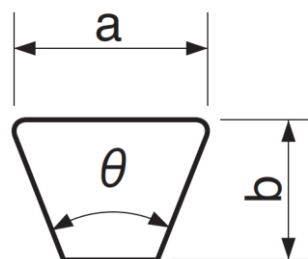
Type	Top Width a	Thickness b	Angle $\theta$	Size (mm) JIS	Minimal Pulley Diameter
SPZ	9.5mm (0.38")	8.0mm (0.32")	40°	582 – 3550	65 mm
SPA	12.5mm (0.50")	10.0mm (0.39")	40°	707 – 20500	90 mm
SPB	16.0mm (0.62")	13.5mm (0.54")	40°	1250 – 20500	140 mm
SPC	20.0mm (0.79")	18.0mm (0.71")	40°	2032 - 20500	225 mm

### □ Size Mark





#### □ Dimensions



#### □ Features

- Designed to make belts run cooler and last longer.
- Heat dissipating cogs.
- More efficient in higher RPM motor.

#### □ Construction

- 1: Rubber impregnated Special Woven.
- 2: Polyester tensile members.
- 3: Chloroprene insulating rubber.
- 4: Chloroprene compression rubber.

Type	Top Width $a$	Thickness $b$	Angle $\theta$	Size	Minimal Pulley Diameter
3VX	9.5 mm (0.37")	8.0 mm (0.32")	38°	23 – 125 (Inch) DIN	56 mm
5VX	15.7 mm (0.62")	13.0 mm (0.51")	38°	23 – 125 (Inch) DIN	112 mm
XPZ	9.7 mm (0.39")	8.0 mm (0.32")	38°	587 – 3160 (mm) JIS	60 mm
XPA	13 mm (0.51")	8.8 mm (0.35")	38°	592 – 3150 (mm) JIS	65 mm
XPB	16.3 mm (0.64")	12.5 mm (0.49")	38°	950 – 3150 (mm) JIS	80 mm

#### □ Size Mark

5VX 500

Effective outside length in Inch x 10  
(50" x 10 = 500)

Belt Type

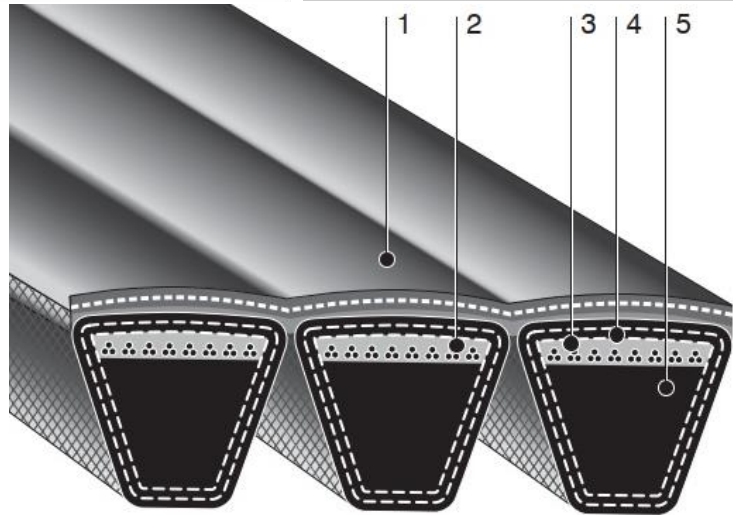
XPZ 3500

Effective pitch length (mm)

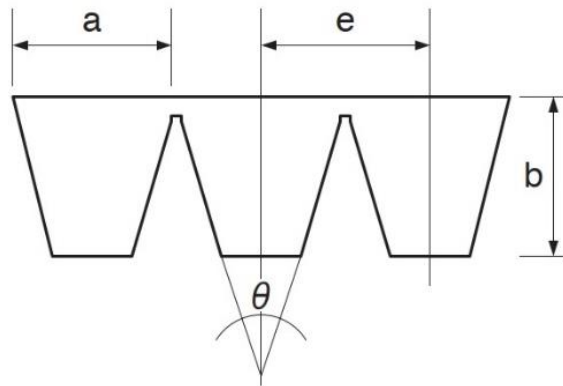
Belt Type







### □ Dimensions



### □ Features

- Permanent matched set.
- No lateral whip, spin, or turn over.
- Deep pulley grooves are not required even on horizontal drives.
- Heat and oil resistant.

### □ Construction

- 1: Tie-band
- 2: Polyester tensile members
- 3: Chloroprene insulation rubber
- 4: Rubber impregnated canvas
- 5: Chloroprene compression rubber

Type	Width a	Thickness b	Angle $\theta$	Pitch (e)	Size (Inch) DIN
3V	9.5 mm (0.37")	10.0 mm (0.39")	40°	10.3 mm (0.41")	40 – 150
5V	15.9 mm (0.63")	16.0 mm (0.63")	40°	17.5 mm (0.69")	60 – 810
8V	25.4 mm (1.00")	25.0 mm (0.98")	40°	28.6 mm (1.12")	106 - 810

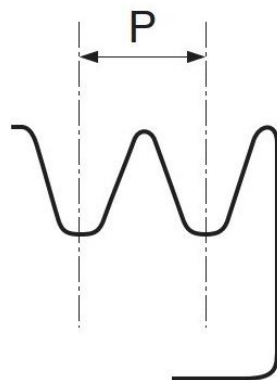
### □ Size Mark

5 - 5V 1250

- Outside length in Inches x 10 (125" x 10 = 1250)
- Belt Type
- Number of belts in band



❑ **Recommended pulley groove pitch**



Type	Pulley pitch P	
	mm	inch
3V	10.3	0.41
5V	17.5	0.69
8V	28.6	1.13

❑ **For more than 6 ribs we use a combination of belts**

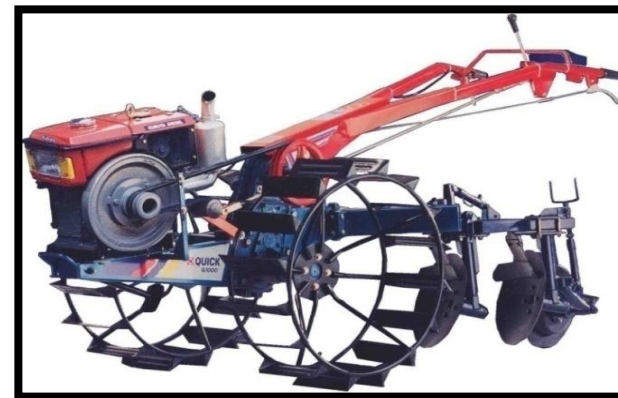
Number of ribs	Standard combination	Number of ribs	Standard combination
-	-	11	4+3+4
2	2	12	4+4+4
3	3	13	4+5+4
4	4	14	5+4+5
5	5	15	5+5+5
6	3+3	16	4+4+4+4
7	3+4	17	4+4+5+4
8	4+4	18	5+4+4+5
9	4+5	19	5+4+5+5
10	5+5	20	5+5+5+5

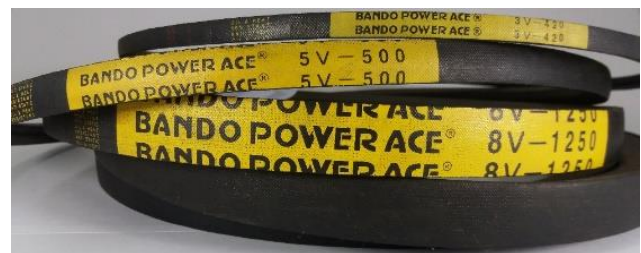






Application →





Application



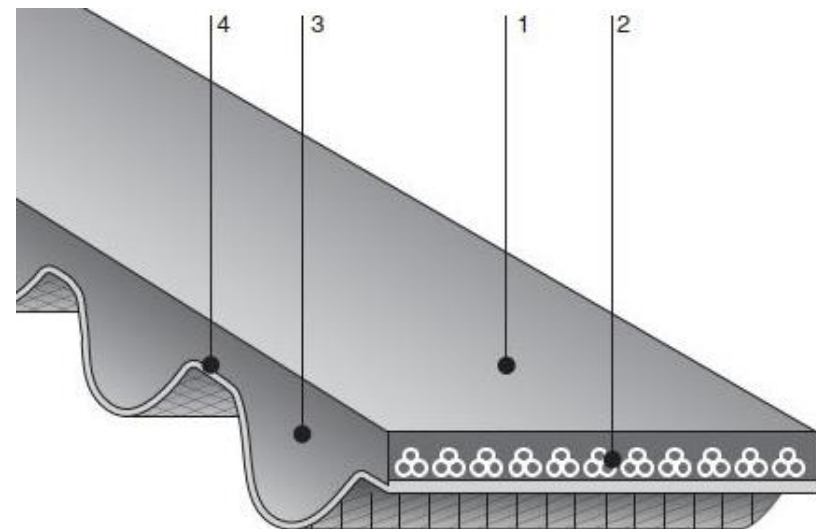




Application







#### Construction

- 1: Chloroprene rubber backing
- 2: Glass fiber tensile member
- 3: Chloroprene rubber teeth
- 4: Nylon canvas

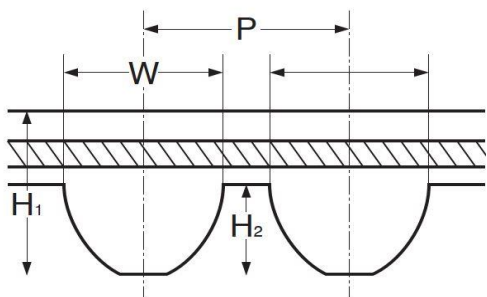
#### Size Mark



#### Features

- Lower Noise Level
- Long Service Life
- No Maintenance
- Space Saving

#### Dimensions

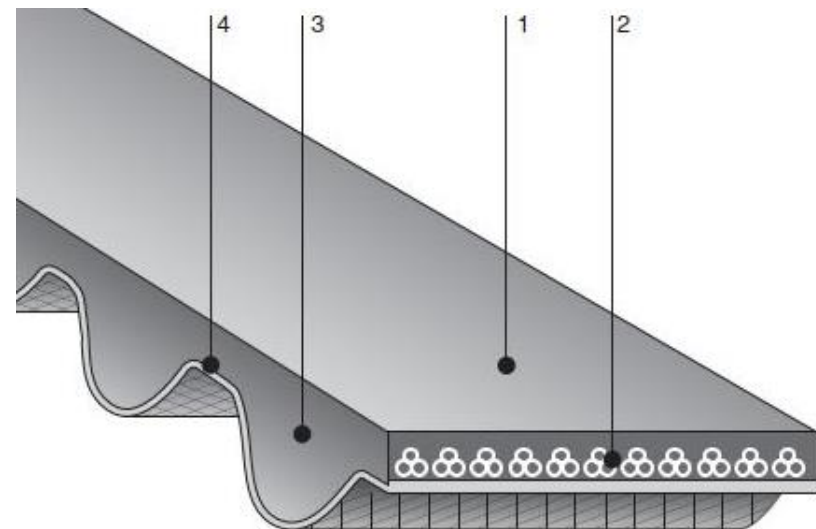


Type	P	H <sub>1</sub>	H <sub>2</sub>	W
S1.5M	1.5mm	1.12mm	0.57mm	0.98mm
S2M	2.0mm (0.078")	1.31mm (0.052")	0.76mm (0.029")	1.3mm (0.051")
S3M	3.0mm (0.118")	2.1mm (0.083")	1.14mm (0.044")	1.95mm (0.076")
S4.5M	4.5mm (0.177")	2.70mm (0.106")	1.71mm (0.067")	2.93mm (0.115")

#### Standard Belt Width

Width Mark	40	60	100	150	200	250	400	600	800	1000
Width (mm)	4	6	10	15	20	25	40	60	80	100
S1.5M	●	●	●							
S2M	●	●	●	●	●					
S3M		●	●	●						
S4.5M		●	●	●						

BELT TYPE	BELT PITCH (mm)	BELT NUMBER (PITCH LENGTH mm)
S1.5M (Rubber)	1.5	92, 93, 95, 98, 99, 101, 102, 108, 119, 134, 150, 158, 161, 164, 165, 168, 174, 180, 185, 186, 204, 206, 210, 224, 225, 236, 240, 255, 261, 263, 273, 281, 288, 290, 303, 305, 315, 335, 390, 441, 444, 480, 1116
S2M (Rubber)	2.0	74, 76, 80, 84, 86, 88, 90, 92, 94, 98, 100, 102, 104, 106, 108, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 138, 140, 142, 144, 148, 150, 152, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 190, 192, 194, 198, 200, 202, 204, 210, 212, 214, 216, 218, 220, 222, 224, 226, 230, 232, 234, 236, 238, 240, 242, 244, 248, 250, 254, 256, 258, 260, 262, 264, 266, 272, 274, 278, 280, 282, 284, 286, 288, 290, 292, 296, 300, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 338, 340, 342, 344, 350, 360, 364, 370, 372, 374, 376, 380, 386, 390, 396, 400, 406, 408, 416, 420, 426, 428, 438, 448, 452, 454, 460, 468, 474, 486, 490, 494, 500, 520, 530, 532, 540, 550, 558, 560, 572, 580, 594, 596, 600, 604, 606, 620, 630, 632, 650, 652, 656, 668, 676, 692, 700, 710, 742, 752, 754, 766, 796, 800, 810, 826, 898, 900, 940, 946, 950, 984, 1000, 1032, 1036, 1066, 1074, 1100, 1110, 1136, 1154, 1166, 1224, 1228
S3M (Rubber)	3.0	93, 99, 108, 120, 123, 129, 144, 150, 156, 159, 162, 168, 171, 174, 177, 180, 183, 186, 189, 192, 195, 198, 201, 204, 207, 210, 213, 219, 222, 225, 228, 234, 237, 240, 243, 246, 249, 252, 255, 258, 264, 267, 270, 273, 276, 279, 282, 285, 288, 291, 297, 300, 303, 309, 312, 315, 318, 324, 327, 330, 333, 336, 339, 342, 351, 354, 360, 363, 366, 369, 372, 375, 378, 384, 387, 390, 396, 399, 402, 405, 408, 417, 420, 423, 426, 432, 438, 444, 447, 453, 459, 468, 471, 474, 480, 486, 489, 492, 498, 501, 507, 513, 516, 519, 522, 525, 534, 537, 540, 549, 552, 555, 564, 573, 579, 588, 597, 600, 609, 621, 633, 648, 657, 660, 666, 681, 690, 699, 726, 735, 741, 750, 768, 771, 789, 804, 810, 825, 852, 882, 885, 888, 900, 918, 927, 936, 990, 1119, 1134, 1146, 1188, 1299, 1419, 1530
S4.5M (Rubber)	4.5	162, 180, 198, 225, 239, 252, 279, 284, 315, 324, 351, 383, 396, 450, 491, 504, 518, 558, 563, 612, 630, 711, 729, 801, 1031, 2111



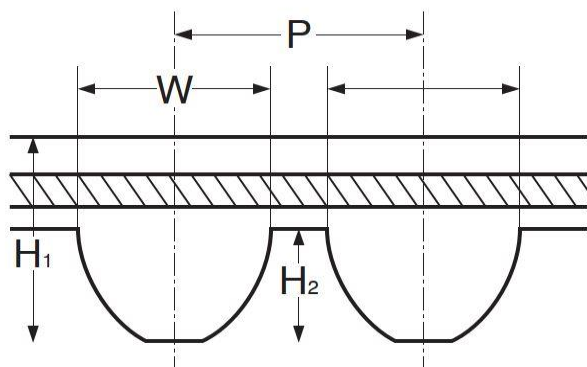
#### Construction & Members

- 1. 3. Rubber:**  
Using synthetic rubber results in less tooth deformation and a high level of hardness.
- 2. Tensile member:**  
Use of fiber glass tensile members with consideration given to dimensional stability and flexibility.
- 4. Tooth canvas:**  
The tooth canvas has asperities on the surface and provides a low friction coefficient, accomplishing a low noise level in operation.

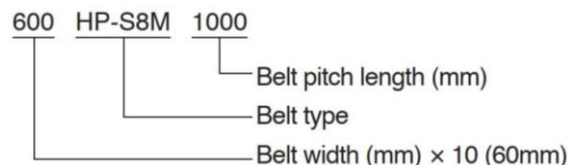
#### Features

- Exceptionally high power transmission capacity this "high performance STS belt" achieves power transmission approximately 1.4 to 1.8 times higher than with conventional STS belts.
- **Compact Design**  
The high power transmission can minimize belt width thus making system design as compact as possible.
- **Low noise level**  
The high power transmission can minimize belt width, thus accomplishing a low noise operation.

#### Dimensions



#### Size Mark



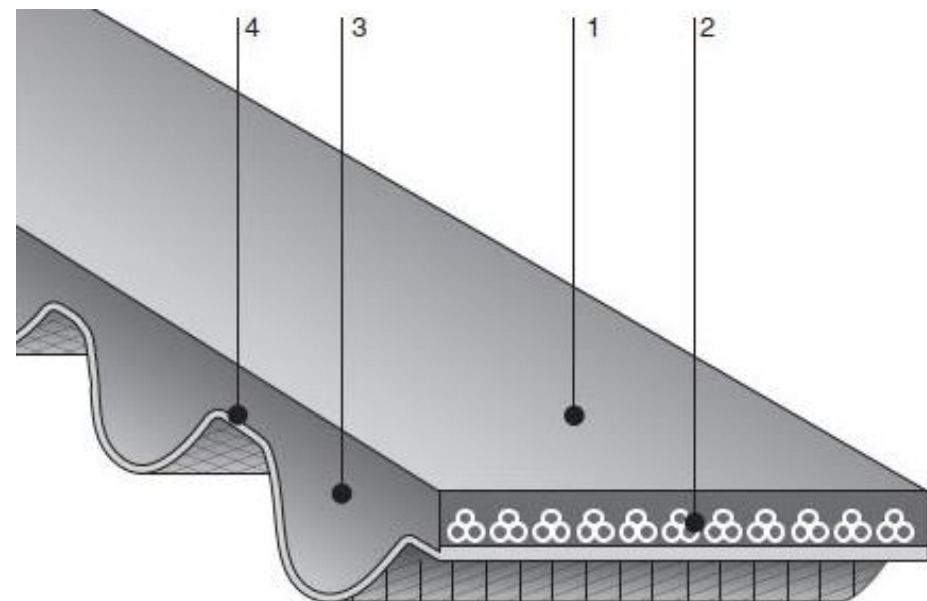
Type	P	H1	H2	W
HP-S5M	5.00mm	3.61mm	1.91mm	3.25mm
HP-S8M	8.00mm	5.00mm	3.05mm	5.20mm
HP-S14M	14.00mm	3.70mm	5.30mm	9.10mm



#### Standard Belt Width

Width Mark	100	150	200	250	400	600	800	1000	1200
Width (mm)	10	15	20	25	40	60	80	100	120
HP-S5M	●	●	●						
HP-S8M		●		●	●	●			
HP-S14M					●	●	●	●	●

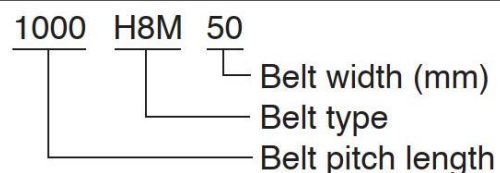
BELT TYPE	Material		BELT NUMBER (PITCH LENGTH mm)
HP-S5M	R	100, 150, 200, 250	225, 230, 255, 275, 285, 295, 300, 305, 320, 325, 350, 375, 380, 390, 400, 410, 420, 425, 435, 440, 445, 450, 475, 490, 500, 520, 525, 550, 560, 565, 570, 575, 600, 625, 635, 645, 650, 665, 670, 675, 695, 700, 710, 725, 740, 750, 765, 770, 775, 780, 800, 810, 830, 850, 860, 870, 900, 920, 940, 950, 965, 975, 1000, 1025, 1050, 1085, 1125, 1135, 1145, 1195, 1225, 1250, 1260, 1270, 1295, 1350, 1420, 1595, 1715, 1800, 2000
HP-S8M	R	150, 250, 400, 600	352, 384, 408, 424, 456, 480, 520, 528, 560, 584, 600, 632, 640, 656, 672, 680, 712, 720, 728, 760, 800, 824, 840, 848, 880, 888, 896, 920, 944, 960, 976, 984, 1000, 1032, 1040, 1056, 1096, 1120, 1136, 1152, 1160, 1184, 1192, 1200, 1216, 1224, 1240, 1248, 1272, 1280, 1296, 1312, 1344, 1352, 1384, 1392, 1400, 1424, 1440, 1480, 1520, 1552, 1600, 1728, 1760, 1776, 1800, 1808, 1880, 1952, 2000, 2040, 2120, 2160, 2240, 2304, 2400, 2496, 2560, 2600, 2800, 2880, 2944, 3200, 3600, 3720, 3904, 4400
HP-S14M	R	400, 600, 800, 1000, 1200	1008, 1120, 1190, 1246, 1400, 1540, 1610, 1652, 1778, 1806, 1890, 1904, 1960, 2002, 2100, 2240, 2310, 2380, 2450, 2506, 2590, 2660, 2800, 3150, 3248, 3500, 3556, 3850, 4004, 4060, 4326, 4508, 5012



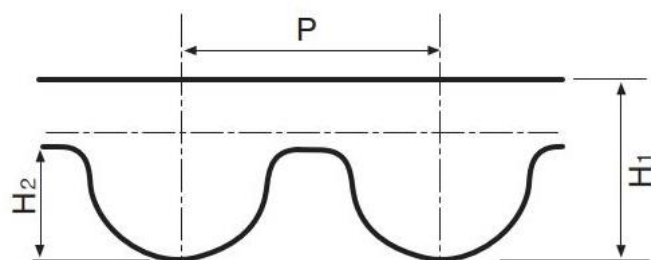
#### Construction

- 1: Chloroprene rubber backing
- 2: Glass fiber tensile member
- 3: Chloroprene rubber teeth
- 4: Nylon canvas

#### Size Mark



#### Dimensions



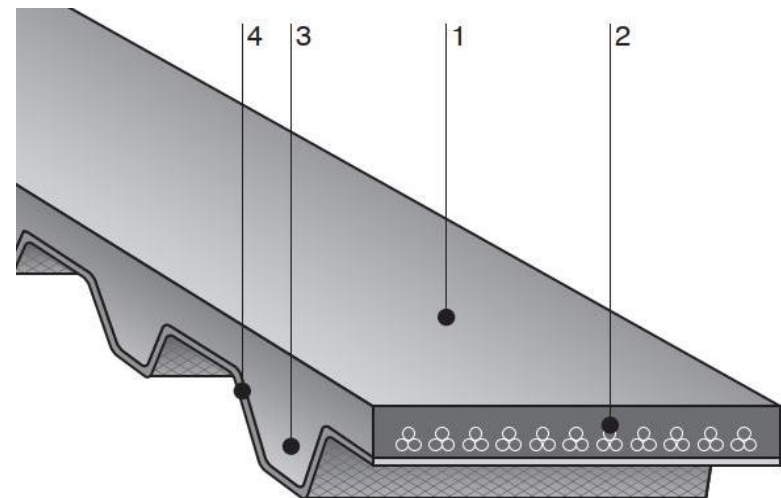
Type	P	H <sub>1</sub>	H <sub>2</sub>
H8M	8.0mm	5.3mm	3.5mm
H14M	14.0mm	10.2mm	6.0mm

#### Standard Belt Width

Width(mm)	20	25	30	40	50	55	60	70	85	100	115	130	150	170
H8M	●	●	●	●	●	-	●	-	●	-	-	-	-	-
H14M	-	-	●	●	-	●	-	●	●	●	●	●	●	●

Belt Type	Belt number (Pitch length mm)
H8M	384, 424, 480, 560, 600, 624, 640, 656, 680, 720, 760, 800, 840, 856, 880, 896, 920, 960, 1000, 1040, 1056, 1064, 1080, 1120, 1152, 1160, 1184, 1192, 1200, 1224, 1248, 1264, 1280, 1304, 1360, 1392, 1400, 1424, 1440, 1480, 1512, 1520, 1584, 1600, 1680, 1728, 1760, 1800, 1904, 2000, 2056, 2064, 2080, 2104, 2120, 2160, 2180, 2240, 2248, 2272, 2304, 2360, 2400, 2432, 2504, 2584, 2600, 2648, 2660, 2720, 2800, 2904, 2940, 3000, 3048, 3072, 3152, 3200, 3248, 3280, 3352, 3360, 3448, 3552, 3600, 3648, 3752, 3872, 4000, 4120, 4248, 4368, 4400, 4504, 4624, 4752, 4872, 5000
H14M	966, 1092, 1190, 1344, 1400, 1456, 1540, 1610, 1680, 1778, 1890, 2002, 2058, 2100, 2114, 2184, 2198, 2240, 2296, 2310, 2366, 2436, 2450, 2506, 2576, 2590, 2646, 2716, 2800, 2898, 2996, 3066, 3150, 3248, 3346, 3360, 3444, 3500, 3556, 3654, 3752, 3850, 3864, 4004, 4116, 4256, 4326, 4368, 4494, 4578, 4620, 4746, 4872, 4956, 4998





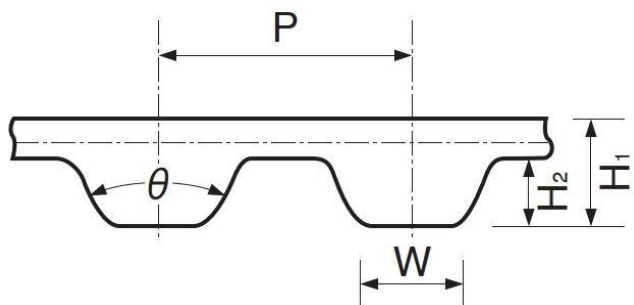
#### Construction

- 1: Chloroprene rubber backing
- 2: Glass fiber tensile member
- 3: Chloroprene rubber teeth
- 4: Nylon canvas

#### Features

- Non-slip  
Accurate tooth dimensions and monomial elongation virtually eliminate slippage and speed variation.
- No maintenance  
No lubrication is required.
- No high initial tension, thus keeping the bearing load very low.
- Space saving  
utilizes small pulleys and short center distances.

#### Dimensions



#### Size Mark

(MXL)  
 140 MXL 9.5  
 ———— Belt width in mm  
 ———— Belt type  
 ———— Number of teeth

(XL, L, H, XH, XXH)  
 140 XL 025  
 ———— Belt width 0.25" (1/4")  
 ———— Belt type  
 ———— Pitch length in inches × 10 (14"×10-140)

Type		P	W	H <sub>1</sub>	H <sub>2</sub>	θ
MXL	Mini Synchro	2.032mm (0.080")	(0.76) 0.030	(1.1) 0.043	(0.51) 0.020	40°
XL	Extra Light	5.08mm (0.200")	(1.35) 0.054	(2.25) 0.09	(1.25) 0.050	50°
L	Light	9.525mm (0.375")	(3.2) 0.128	(3.5) 0.14	(1.9) 0.075	40°
H	Heavy	12.7mm (0.500")	(4.4) 0.175	(4.3) 0.17	(2.3) 0.090	40°
XH	Extra Heavy	22.225mm (0.875")	(8.0) 0.313	(11.3) 0.44	(6.3) 0.250	40°
XXH	Double Extra Heavy	31.75mm (1.250")	(12.2) 0.477	(15.8) 0.62	(9.6) 0.375	40°

### ☐ Standard Belt Width

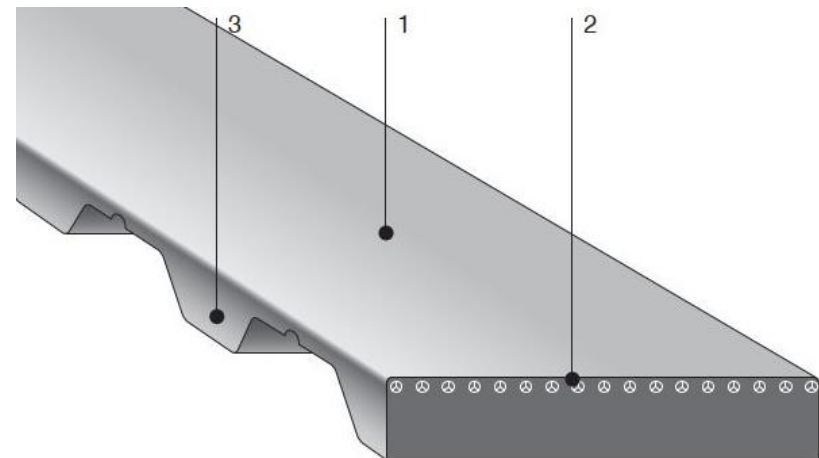
Nominal Width	BELT WIDTH													
			025	031	037	050	075	100	150	200	300	400	500	600
inch	1/8	3/16	1/4	5/16	3/8	1/2	3/4	1	1-1/2	2	3	4	5	6
mm	3.2	4.8	6.4	7.9	9.5	12.7	19.0	25.4	38.1	50.8	76.2	101.6	127.0	152.4
MXL	●	●	●		●	●								
XL			●	●	●	●	●							
L						●	●	●	●	●				
H							●	●	●	●	●			
XH										●	●	●	●	●
XXH										●	●	●	●	●

BELT TYPE	PITCH	BELT NUMBER
MXL※ (Rubber)	2.032mm (0.080")	44, 45, 48, 50, 52, 53, 54, 55, 56, 57, 59, 60, 61, 62, 63, 64, 65, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 108, 109, 110, 112, 114, 115, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 134, 135, 137, 138, 140, 142, 144, 145, 146, 148, 150, 151, 155, 158, 159, 160, 162, 163, 164, 165, 169, 170, 175, 177, 180, 184, 188, 190, 192, 195, 196, 200, 204, 205, 208, 210, 212, 215, 220, 221, 222, 224, 225, 226, 228, 230, 232, 234, 236, 239, 240, 245, 248, 249, 250, 251, 255, 256, 260, 262, 265, 268, 271, 273, 275, 280, 281, 285, 288, 290, 295, 297, 300, 305, 308, 310, 312, 315, 318, 320, 323, 326, 328, 330, 332, 334, 336, 337, 347, 350, 354, 355, 358, 359, 360, 364, 365, 371, 372, 380, 388, 397, 400, 402, 405, 410, 413, 425, 431, 434, 435, 440, 448, 453, 464, 468, 473, 475, 480, 487, 493, 498, 500, 516, 522, 524, 525, 535, 550, 591, 612, 665
XL (Rubber)	5.08 (0.200")	50, 60, 64, 68, 70, 72, 74, 76, 78, 80, 84, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 188, 190, 194, 196, 198, 200, 202, 206, 208, 210, 212, 214, 216, 220, 222, 224, 228, 230, 234, 240, 244, 248, 250, 260, 262, 266, 270, 276, 280, 282, 290, 300, 310, 314, 320, 322, 330, 340, 344, 348, 352, 356, 360, 364, 370, 372, 376, 384, 386, 388, 390, 396, 400, 408, 424, 430, 450, 456, 460, 470, 490, 496, 510, 540, 564, 592, 608, 630, 638, 686, 828, 860, 888, 900, 908, 914, 926, 1014, 1020

BELT TYPE	PITCH	BELT NUMBER
L (Rubber)	9.525mm (0.375")	98, 109, 124, 135, 150, 165, 169, 172, 187, 203, 210, 218, 225, 240, 248, 255, 263, 270, 277, 285, 300, 304, 315, 320, 322, 334, 337, 345, 360, 367, 375, 382, 390, 394, 420, 427, 436, 439, 446, 450, 465, 480, 510, 514, 525, 540, 548, 581, 600, 605, 619, 630, 640, 653, 660, 697, 728, 731, 767, 780, 788, 806, 855, 863, 881, 915, 919, 938, 1294
H (Rubber)	12.700mm (0.5")	185, 225, 230, 240, 245, 270, 280, 300, 310, 315, 320, 330, 340, 350, 360, 370, 375, 390, 400, 410, 420, 430, 450, 465, 480, 490, 510, 530, 540, 560, 565, 570, 580, 600, 605, 630, 640, 650, 660, 680, 700, 730, 750, 760, 770, 800, 810, 820, 840, 850, 860, 880, 900, 950, 985, 1000, 1020, 1050, 1100, 1130, 1140, 1250, 1325, 1350, 1400, 1680, 1700
XH (Rubber)	22.225mm (0.875")	507, 560, 630, 700, 735, 770, 840, 875, 927, 980, 1120, 1260, 1400, 1540, 1750
XXH (Rubber)	31.750mm (1.250")	700, 800, 900, 1000, 1200, 1400, 1600, 1800, 1915

※ For MXL (only) belt number equals number of teeth. All others refer to pitch length in inches.





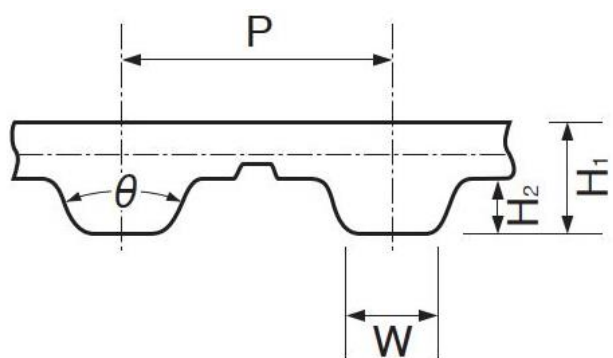
### Features

- Non-slip  
Accurate tooth dimensions and steel cord ensures minimal stretching, no slippage and constant speeds.
- High oil and ozone resistance.
- Special backside surfaces are available.  
Bando can mould virtually any special configuration on the belt's backside surface.

We recommend Bando Bancollan Synchronous Belts are ideal for the following conditions.

- For improved performance from the belt i.e. as a conveyor or print drive, special shapes or indications can be formed on the backside.
- High oil or ozone resistance.
- High shock load applications.

### Dimensions

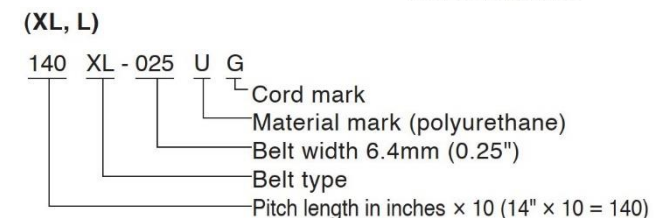
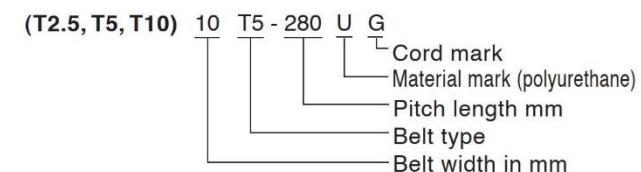
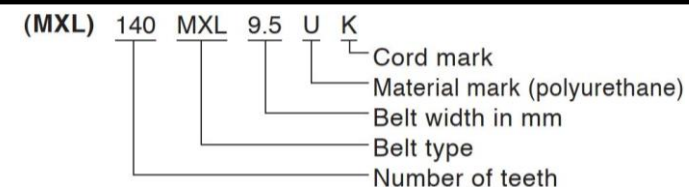


### Construction

- 1 : Polyurethane backing
- 2 : Glass Fiber tensile members  
(For MXL, Aramid tensile members)
- 3 : Polyurethane teeth

Type	P	W	H <sub>1</sub>	H <sub>2</sub>	θ
MXL	2.032mm (0.080")	0.76mm (0.030")	1.2mm (0.043")	0.51mm (0.020")	40°
XL	5.08mm (0.200")	1.35mm (0.053")	2.25mm (0.089")	1.25mm (0.049")	40°
L	9.525mm (0.375")	3.2mm (0.126")	3.5mm (0.138")	1.9mm (0.075")	40°
T2.5	2.5mm (0.098")	1.0mm (0.039")	1.3mm (0.051")	0.7mm (0.028")	40°
T5	5.0mm (0.197")	1.80mm (0.071")	2.2mm (0.087")	1.2mm (0.047")	40°
T10	10.0mm (0.394")	3.5mm (0.138")	4.5mm (0.177")	2.5mm (0.098")	40°

### Size Mark



For XL type, Aramid cord (K) is available.



BELT TYPE	P(mm)	NOMINAL WIDTH	BELT NUMBER (NO OF TEETH)
T2.5 (Polyurethane)	2.500	3, 5, 7, 10, 13	120, 145, 160, 177.5, 200, 230, 245, 265, 285, 305, 317.5, 330, 380, 420, 480, 492.5, 500, 600, 620, 650, 780, 915, 950
T5 (Polyurethane)	5.000	5, 10, 15, 20, 25	165, 185, 200, 215, 220, 225, 245, 250, 255, 260, 270, 275, 280, 295, 300, 305, 325, 330, 340, 350, 355, 365, 375, 390, 400, 410, 420, 425, 450, 455, 465, 475, 480, 500, 510, 525, 545, 550, 560, 575, 600, 610, 620, 630, 640, 650, 660, 675, 690, 695, 700, 720, 750, 780, 800, 815, 840, 850, 900, 940, 990, 1000, 1075, 1100, 1140, 1215, 1380, 1440
T10 (Polyurethane)	10.000	15, 20, 25, 30, 50	260, 370, 400, 410, 440, 450, 500, 530, 560, 610, 630, 660, 690, 700, 720, 750, 780, 810, 840, 880, 890, 900, 920, 960, 970, 980, 1000, 1010, 1080, 1110, 1140, 1150, 1210, 1240, 1250, 1300, 1320, 1350, 1390, 1400, 1420, 1440, 1450, 1460, 1500, 1560, 1610, 1750, 1780, 1880, 1960, 2250
MXL (Polyurethane)	2.032	3.2, 4.8, 6.4, 9.5, 12.7	30, 35, 37, 40, 41, 42, 45, 48, 50, 52, 53, 54, 55, 56, 57, 60, 63, 65, 67, 68, 70, 71, 72, 73, 75, 76, 79, 80, 81, 82, 83, 85, 87, 88, 90, 91, 94, 95, 97, 98, 100, 102, 103, 106, 110, 112, 114, 115, 118, 120, 123, 125, 126, 128, 130, 132, 134, 136, 140, 144, 150, 155, 157, 160, 165, 170, 175, 180, 184, 190, 194, 195, 200, 205, 210, 212, 215, 220, 225, 230, 236, 240, 250, 255, 260, 265, 270, 280, 295, 300, 305, 310, 330, 336, 340, 347, 350, 360, 438, 453, 468, 579, 660
BELT TYPE	P(mm)	NOMINAL WIDTH	BELT NUMBER (PITCH LENGTH INCHES × 10)
XL (Polyurethane)	5.080	025, 031, 037, 050, 075	60, 70, 80, 84, 90, 96, 100, 110, 114, 120, 130, 140, 150, 154, 156, 160, 166, 168, 170, 176, 180, 190, 198, 200, 202, 210, 212, 220, 230, 236, 240, 250, 254, 260, 270, 290, 300, 320, 330, 376, 396, 414, 430, 460, 478, 480, 490, 512, 564, 630, 670, 686, 730
L (Polyurethane)	9.525	050, 075, 100, 150, 200	124, 150, 165, 187, 210, 225, 240, 255, 270, 285, 300, 322, 345, 360, 367, 390, 420, 450, 480, 510, 540, 600



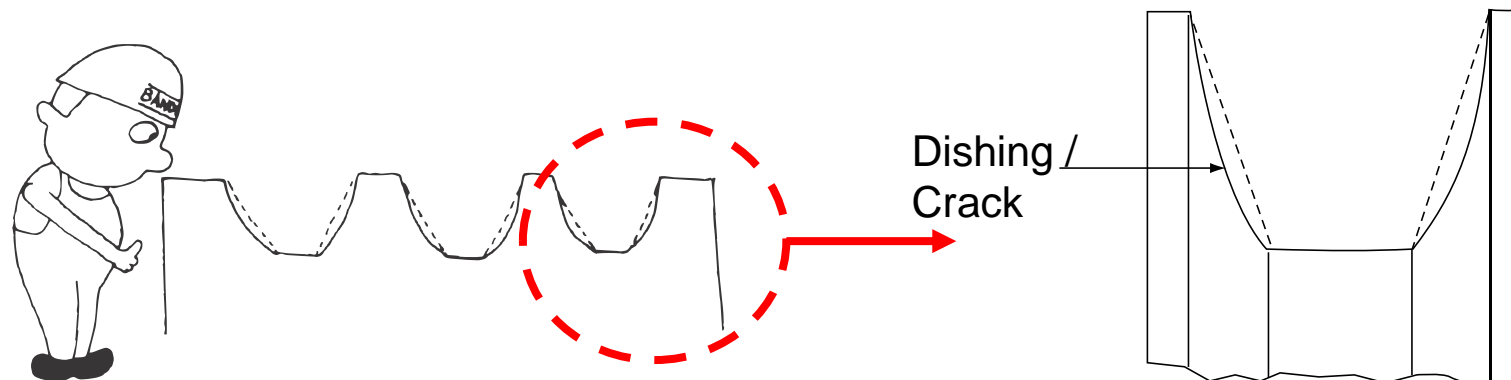
**BANDO**



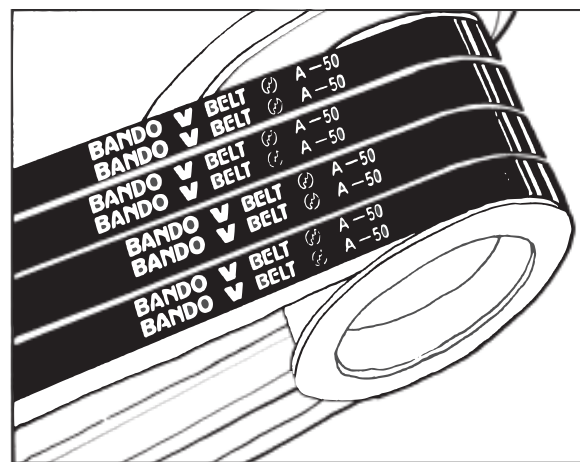
**PT. BANDO INDONESIA**

**V-BELT INSTALATION**

- ❑ Pulley should be checked. Any rust should be removed from the pulley surface. Paint and Wax should never be applied to the pulley grooves.

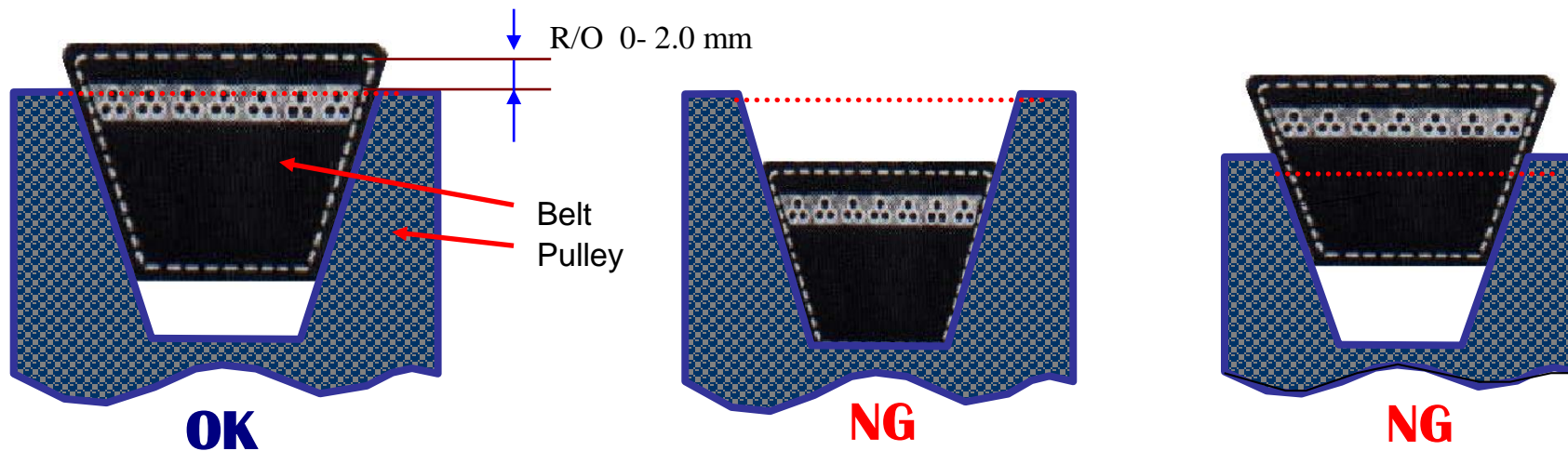


- ❑ Use a matched set from the same manufacturer. Belts from different manufacturers can have different characteristics. When installing new belts, always replace all the belts. If old and new belts are mixed, the new belts will do more work.

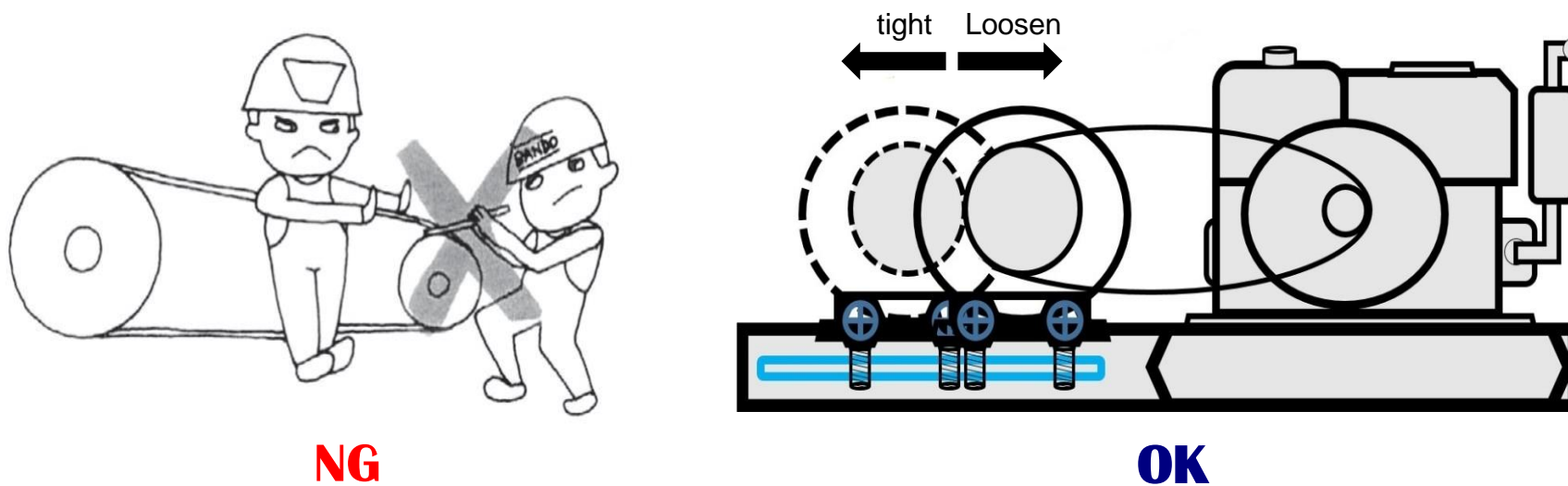




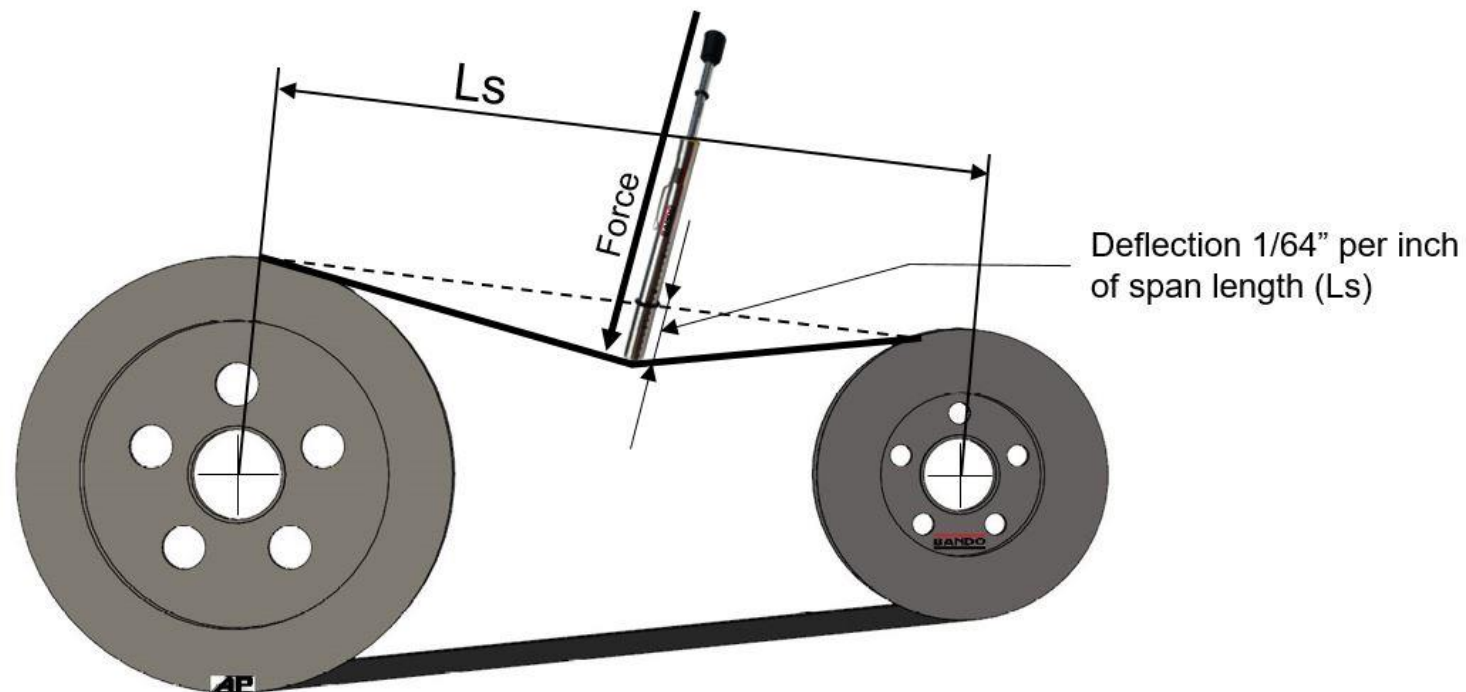
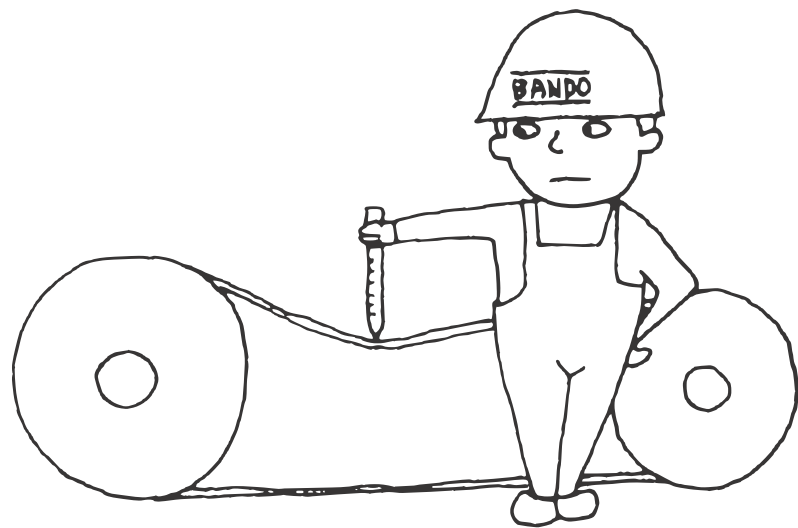
- ❑ Installation type of V-Belt must match with the type of pulley.



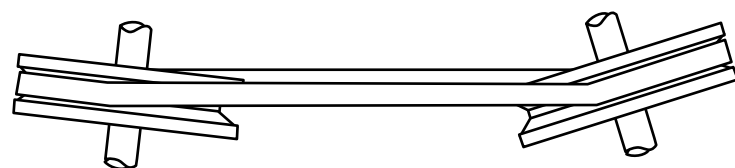
- ❑ Use adjuster pulley for remove and install the Belts.



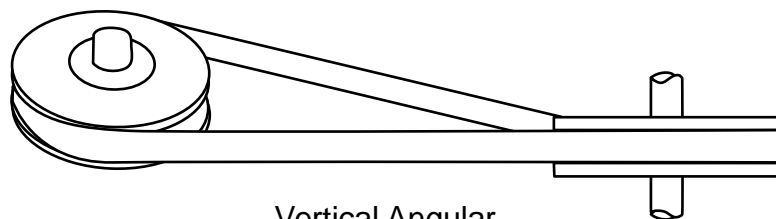
- ❑ Check the tension of belts. The optimum tension is the lowest tension. Over or under-tensioning causes, respectively, damage to the shaft bearings and belt slippage. To maintain performance, re-check belt tension after 24-48 hours.



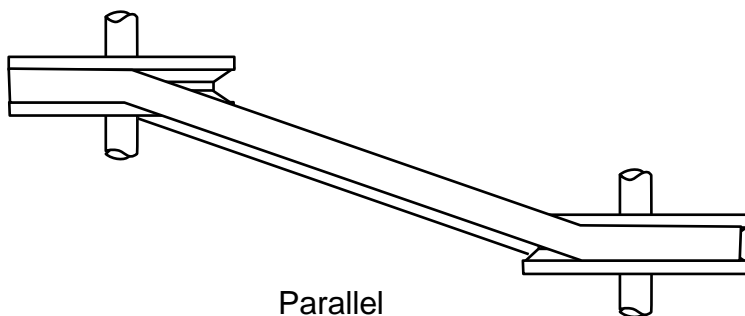
- ❑ Check alignment pulley. Unless belts enter and leave pulley in relatively straight line, wear is accelerated. Use a steel straight edge to ensure correct pulley.



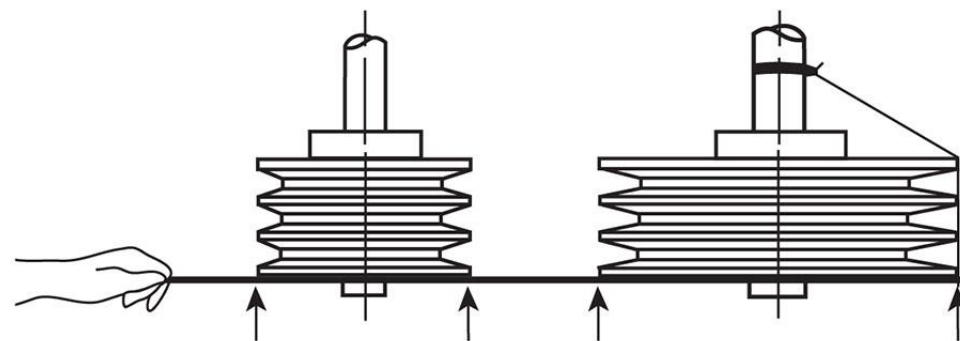
Horizontal Angular



Vertical Angular

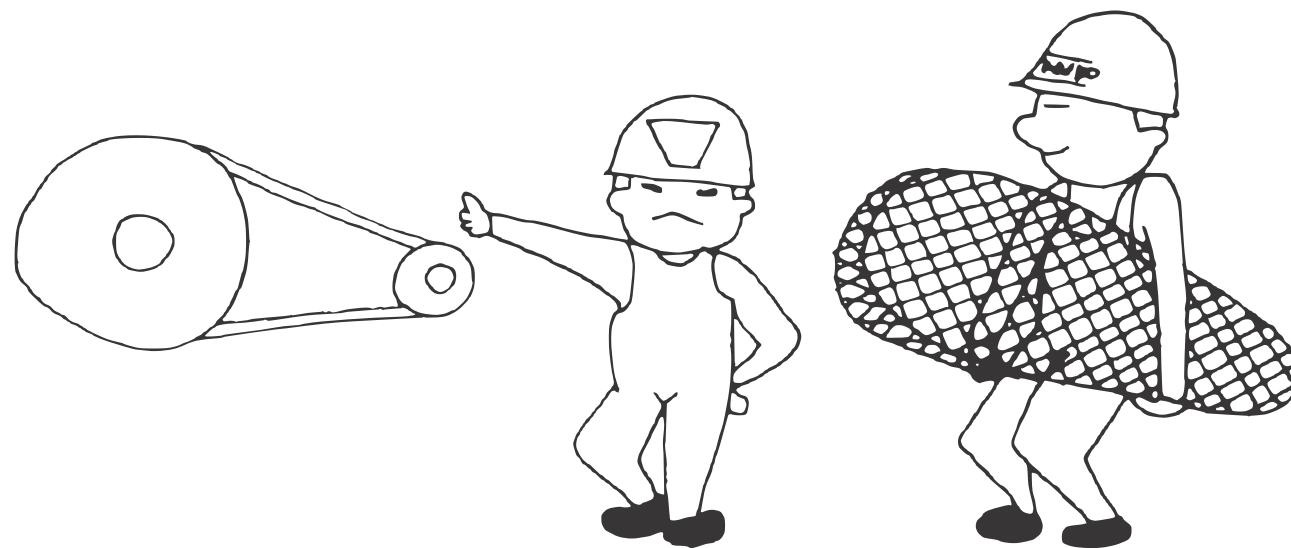


Parallel

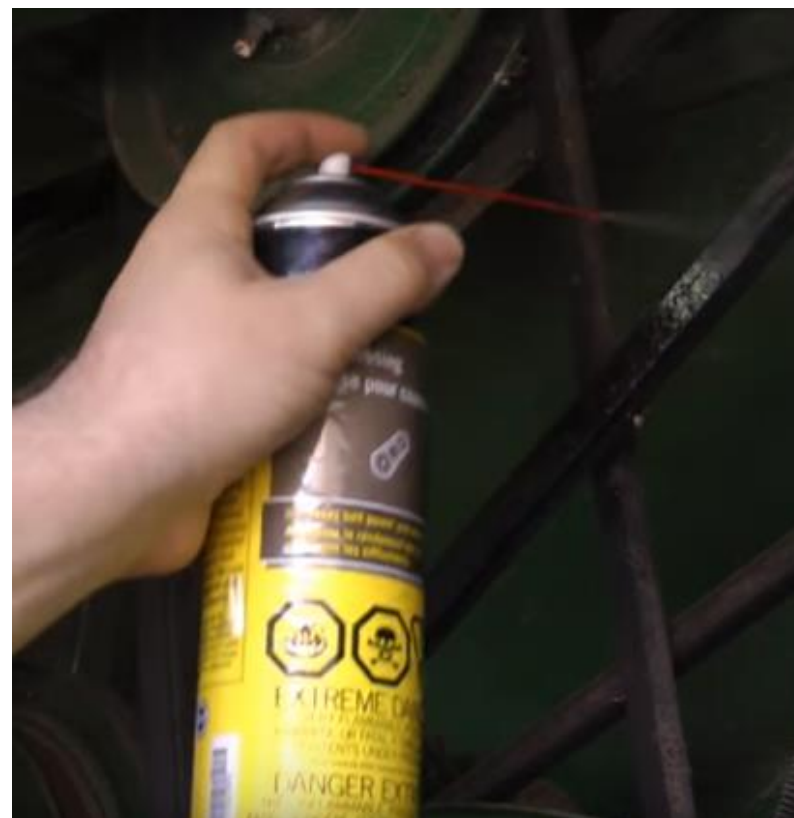




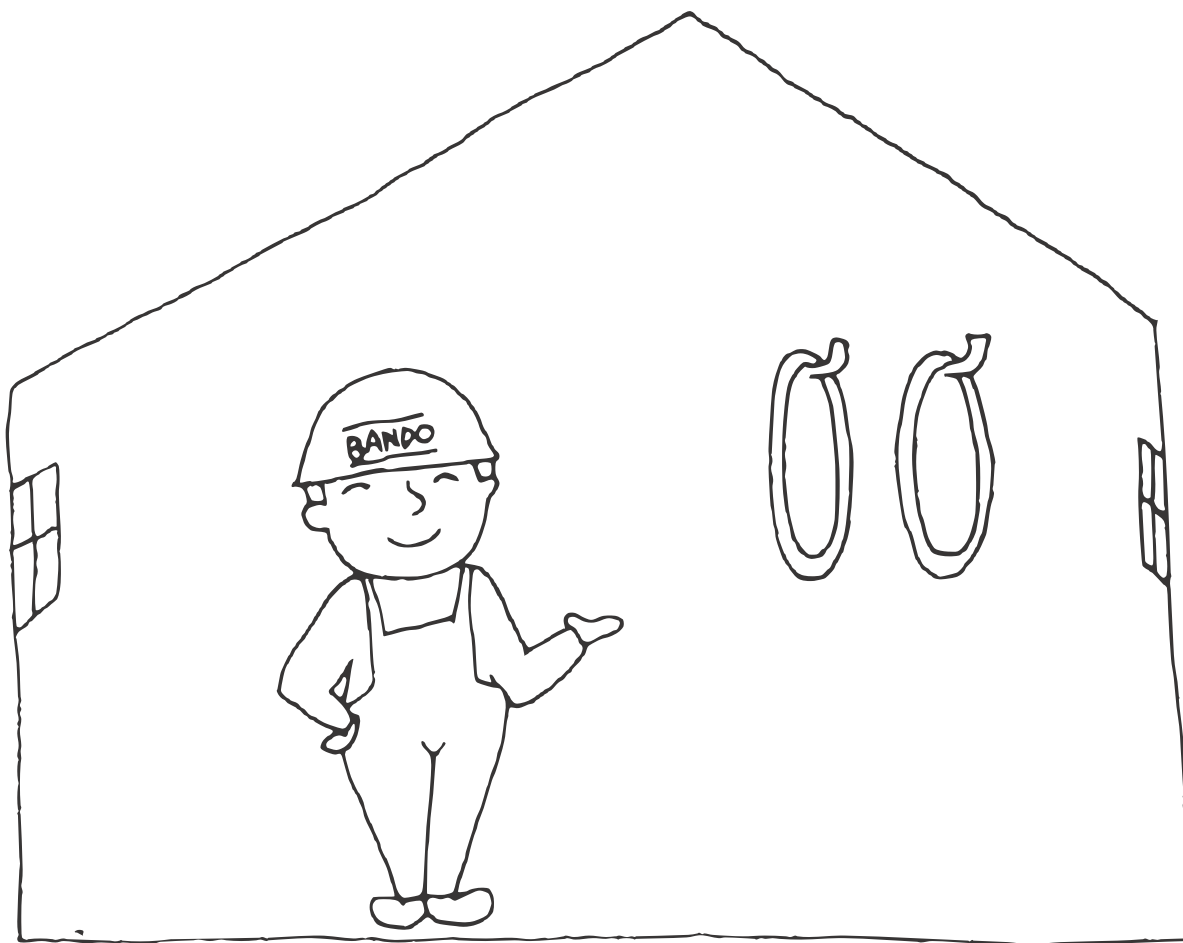
- ❑ The drive should be fully protected by a guard.  
This also protects the drive from debris and keeps the belt running smoothly



- ❑ Not recommended using belt dressing to clean the belts or eliminates noise from the belts.



- ❑ Belts should be stored in a cool dark place, away from heaters and direct sunlight. Heat will dry out the belts and cause them to become brittle and hard. Optimum conditions, temperature below 30°C and relative humidity below 70%.







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**THANK YOU**