鋼索輸送橡膠帶

STEEL CORD CONVEYOR BELT

ISO 9001:2000 REGISTERED . ISO14001 CERTIFICATE

三五 SWR

經驗豐富的現代化工廠

A Modernized Rubber Belt Factory but With Much Experience

三五公司成立於民國三十五年，是台灣橡膠帶的製造先驅；也是台灣首家取得ISO9002品質保證制度(1994.11)和ISO14001環境管理系統(1998.09)認證合格的橡膠帶製造廠。
本公司對於各種傳動帶、輸送帶及工業用橡膠製品的製造已有五十餘年的經驗，全體員工皆本「誠實、和敬、負責、創新」的公司訓，熱誠幫助顧客解決有關傳動和輸送的難題。產品暢銷國內各界並外銷歐美、加拿大等。為因應工業發展的需要，每年皆有增置製造、品管、研發用設備，可說是經驗豐富的現代化工廠。

A forerunner of manufacturing of Rubber Belt, San Wu Rubber Mfg. Co., Ltd., was founded in Taiwan at the year of 1946. Now in Taiwan San Wu also is the first rubber belt factory whom acquired both the certificate of "ISO 9002 Quality Guarantee System"(1994.11)&"ISO 14001 Environmental Management System"(1998.09).
With the experience for over 50 years, we produce a variety of Rubber Belts such as V-Belt, Transmission Belt and Conveyor Belt. In here every member devotes himself in obeying the company's principles which are Sincerity, Courtesy, Responsibility, and Creativity and would like to do their utmost to help & solve any problems you met in transmitting and conveying with enthusiasm. Belts that we produce are well known and sold not only locally but also internationally such as United States, Canada, Europe etc. At the same time, to catch the market development, San Wu expends most up-to-date facility to improve its production, quality control and R & D every year.This is a modernized new factory but with much experience in the field of Rubber Belts.

三五鋼索輸送帶

San Wu Steel Cord Conveyor Belt

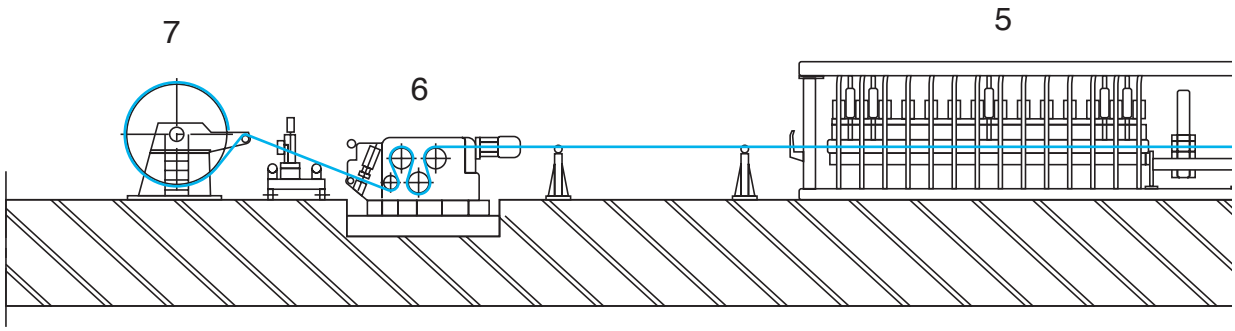
三五鋼索輸送帶係採用最先進的德國Siempelkamp鋼索輸送帶生產系統，配合高品質的鋼索心體材料，及特別的膠料所精心製造的輸送帶，品質符合國際水準。與原有的三五鋼索簾布輸送帶同樣廣受鋼鐵、煤炭、電力、港口、水泥、肥料等業界的肯定與好評。

San Wu steel cord conveyor belt made by the machine from German "Siempelkamp",the most advanced production system for making steel cord conveyor belt. By choosing a high quality of steelcord as a material of carcass, with our special-designed rubber compounds, the quality of our products is to meet the international standard. This newly developing conveyor belt along with out current product "San Wu STF Steel Conveyor Belts" are both well recognized and reputable among the conveyor belt business and are widely used in the areas of Steel Mill, Coal Mining, Power Station, Harbor, Cement Mill and Fertilizer Mill etc.

電廠輸送線
Conveyor Line at Power Station

Steelcord Belt Building Lines

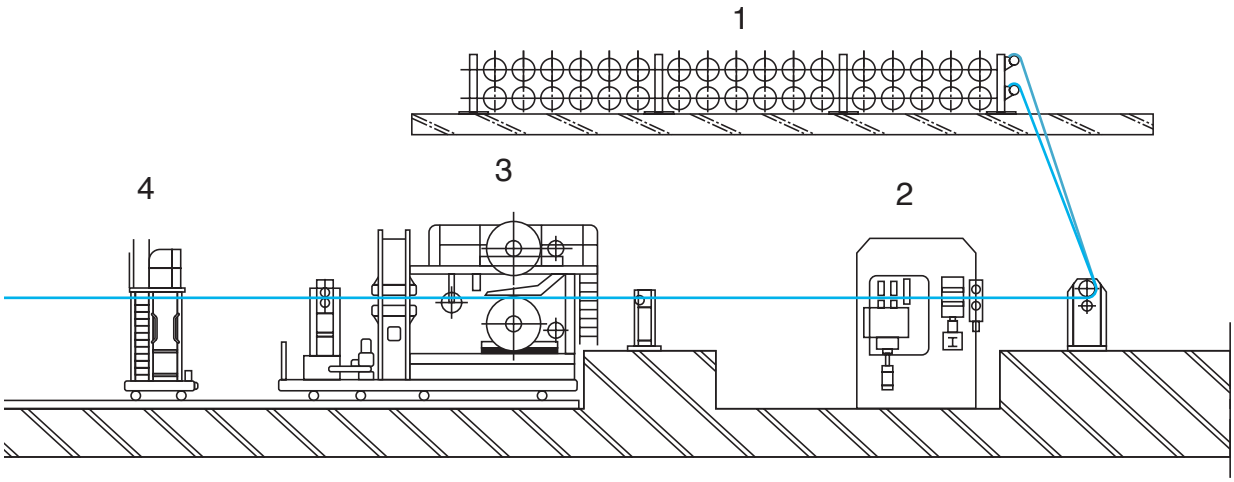
1 creel stand
2 hydraulic clamping and cable tensioning station
3 compactor lorry
4 working lorry
5 main press
6 pull-roll stand
7 conveyor belt wind-up device



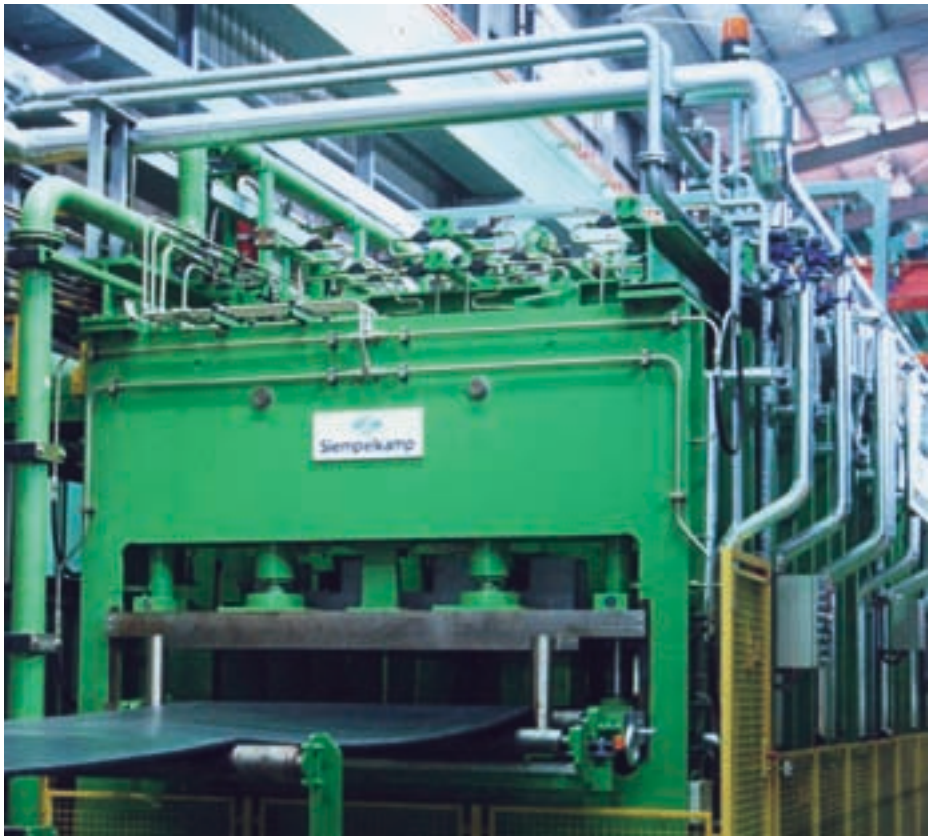
TENSIONER

鋼索輸送帶製程

1 鋼索芯體材料架
2 夾具及鋼索張力液壓裝置
3 膠料貼合機
4 膠料檢視工作台
5 硫化機
6 拉捲站
7 成品捲取裝置



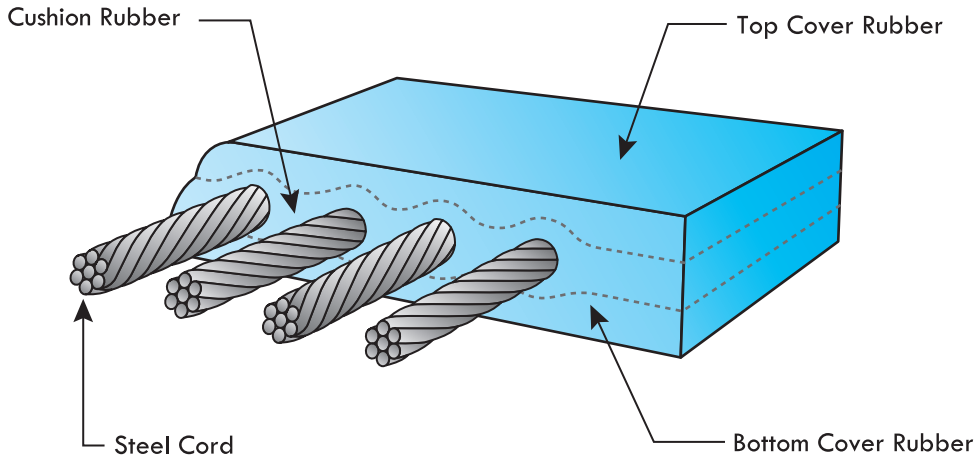
PRESS



三五鋼索輸送帶參考*DIN22131*的標準製造。若有符合其他規格的替代結構亦可承製。製造最大寬度*2200mm*，最大強度*ST-4500*。

The specifications of San Wu's Steel Cord Conveyor Belt are compliance with the requirements of DIN 22131. Other alternations are available also upon customer's requests. The max. belt width & strength are 2200mm & ST-4500 respectively.

斷面圖 Cross Section



規格表示 Specification

ST-1000 DIN(Y):1200 X 6.5 X 5.0 X 200

- 構造型別 structure type
- 輸送帶強度 N/mm conveyor belt strength
- 被覆橡膠品質 covered rubber quality
- 輸送帶寬度 mm conveyor belt width
- 上被覆膠厚度 mm top covered rubber thickness
- 下被覆膠厚度 mm bottom covered rubber thickness
- 輸送帶長度 m conveyor belt length

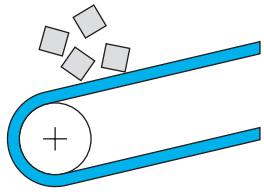
特點

Features

●優越的耐衝擊性 Superior impact resistance

高強度的鋼索配合極富彈撓特性的橡膠，可抵抗極大的衝擊。

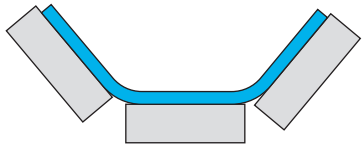
Strong steel cords and very flexible rubber that make our belts are capable of withstanding to very high impact application.



●優越的凹槽性 Excellent troughability

鋼索以單層式縱向均勻排列，配合適度的面膠厚度，凹槽性優越。除了確保輸送帶的直行，亦可避免輸送帶的局部早期磨耗。

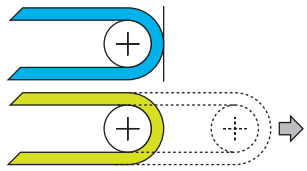
The cords in a layer, covered with adequate thickness of rubber, are assembled proportionately in longitudinal directions giving the belt an excellent troughability. This good feature ensures not only belt's straightness in running but also freeing it from any partial abrasion at an early stage.



●伸長率小 Low stretch

在配重衝程設計受到限制時，更能顯出其優越性。

More significant performance when take-up travel is restricted.



●適合長距離輸送 Suitable for long-distance transportation

高強度的鋼索結構比傳統化纖心體輸送帶更能承擔更高的工作要求，適合長距離輸送用途。

Strong steel structure can stand higher working requirements than synthetic fabric belt, it is particularly suitable for long-distance transportation.

●使用壽命長 Long working life

選用不易生鏽的鍍鋅綱索，包覆優質的層膠，不易生鏽，可長期使用。

A not corrosive-easily, zinc-coated steel cord is chosen to be covered by a layer of cushion rubber, which will protect it from corrosion and be worked for long time.

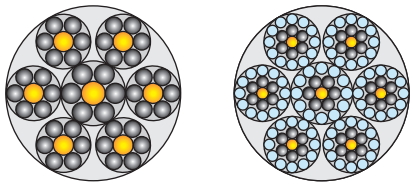
鋼索

Steel Cord

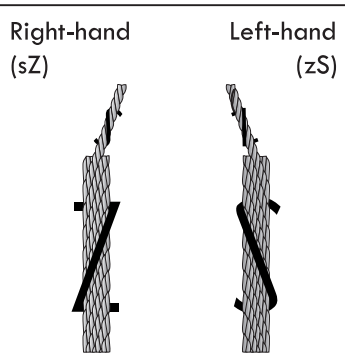
三五鋼索輸送帶使用的鋼索是由高碳鋼發展出來的。製造輸送帶時，單層式縱向（經向）鋼索在預先拉緊情況下維持高張力，能確保適當的準度。所使用之鋼索結構為7×7與7×19等。這些鋼索外層鍍鋅以防止鋼索鏽蝕，並確保鋼索與橡膠之間有較好的黏結效果。構成鋼索的細鋼線具有較低的伸長性和較高的曲撓性。鋼索直徑至外側股線的比率設計能讓橡膠充分穿透進入鋼索的細縫。「穿透」具有多種效果，可避免股線之間的磨損，增加抗腐蝕性，增加強度，降低伸展性。採S撚和Z鋼索交替排列，可以消除殘餘扭力的累積。

The cord used in San Wu is made of specially developed High Carbon Steel. When manufacturing the belts, the high tensile strength cord is held longitudinally in a single layer under pre-tension to ensure proper alignment. The standard constructions steel cord used are 7×7and 7×19. These cords are coated suitably with zinc to protect the same from corrosion as well as to ensure superior bonding between cord and rubber. Filaments constituting the cord have lower elongation and high flexibility. Ratio of diameter of core to outer strand are so designed that penetration of rubber into the cord interstices is maximized. The penetration has multifold effect e.g notching effect of the wire against one another is prevented, corrosion resistance is increased, strength is increased, elongation is reduced. Alternate application of S & Z lay cord eliminates the accumulation of residual torsion.

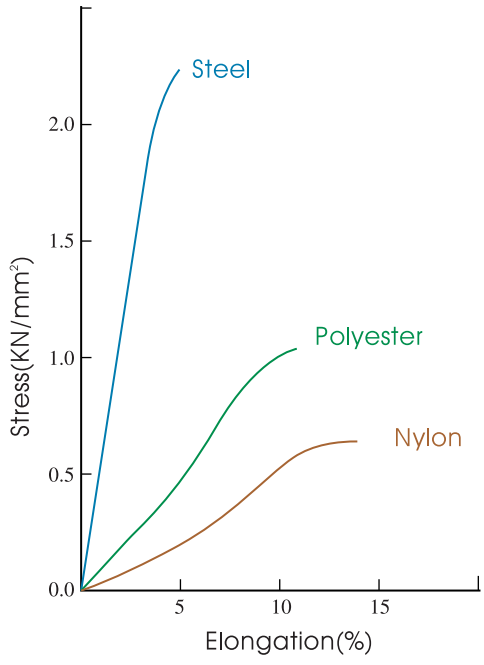
鋼索結構
Typical Configurations of Steel Cord



鋼索撚法
Regular lay
cord design



應力與伸長 Stress and Elongation



輸送帶之被覆橡膠

The Cover Rubber of the Conveyor Belts

三五輸送帶的面膠性能優越，具有高抗拉強度、高耐磨性和低伸長性，符合顧客所要求的國家標準或國際標準。除此之外，還有耐熱、耐油用途之面膠，能提供顧客之需要。常用被覆橡膠種類與選用參考如下。

Only Superior cover rubber will be used in San Wu. In our factory, there are lots of cover rubbers that can be selected to meet your requirements such as Superior Tensile Strength, Superior Abrasion Resistance, Low Elongation and/or your National or International standards. Besides, other cover rubbers like Heat Resistant and Oil Resistant are also available. Further information for cover rubbers, please refer to the following:

被覆橡膠之標準與性能 The standard and property of cover rubber

標準 Standard	等級 Grade	最小抗拉強度 min T.S		最小斷點伸長率 min Elong. at Break (%)	最大磨耗 max Abrasion (mm^3)	同級標準 Equal Standard
		(N/mm^2)	(kg/cm^2)			
CNS	A	13.73	140	400	150	JIS-A
CNS	S	17.65	180	450	200	JIS-S. RMA-N
ISO	D	18.04	184	400	100	JIS-D. DIN-W
ISO	H	24.02	245	450	120	JIS-H. DIN-X. RMA-M

用途說明：

- A級主要適用於易磨耗之輸送線。
- S級主要適用於易割傷之輸送線。
- D級主要適用於礦山採掘用途高磨耗之輸送線。
- H級主要適用於礦山採掘用途易磨耗之輸送線。
- 上表以外，其他標準之被覆橡膠亦可承製，歡迎洽詢。

Application:

- A grade is for abrasion resistant conveyor line.
- S grade is for cut resistant conveyor line.
- D grade is for highly abrasion resistant conveyor line in mining industry.
- H grade is for abrasion resistant conveyor line in mining industry.
- We can also supply other standard cover rubber, your inquiry most welcome.

鋼索規格與被覆橡膠厚度

The specification and the cover rubber's thickness of steel cord conveyor belt

強度標稱 Strenght Code	鋼 索 steel cord				上/下被覆橡膠 Top/bottom Cover mm	輸送帶厚度 Belt Thickness mm	參考重量 Referred Belt weight kg/m²	工作張力 Working Tension min kN/m
	結 構 Structure	有效直徑 Effective Dia mm	最小抗拉強度 min-Tensile Strength kN/cord	鋼索間距 Cord Pitch mm				
ST-600	7x7	2.7	8.1	12.0	5/5	12.7	16.5	84
ST-800	7x7	3.6	14.0	15.0	5/5	13.6	18.4	112
ST-1000	7x7	3.6	14.0	12.0	5/5	13.6	19.0	140
ST-1250	7x7	4.4	20.1	14.0	5/5	14.4	20.9	176
ST-1400	7x7	4.4	20.1	13.0	6/6	16.4	23.5	197
ST-1600	7x7	5.4	28.4	15.0	6/6	17.4	25.6	225
ST-1800	7x7	5.4	28.4	14.0	6/6	17.4	26.0	253
ST-2000	7x7	5.4	28.4	12.0	6/6	17.4	26.9	281
ST-2500	7x19	6.9	41.2	15.0	7/7	20.9	32.2	351
ST-3150	7x19	7.6	51.2	14.5	8/7	22.6	36.2	442
ST-3500	7x19	8.6	59.9	15.0	8/7	23.6	39.5	491
ST-4000	7x19	8.8	67.6	15.0	8/7	23.8	40.7	561
ST-4500	7x19	9.6	79.2	16.0	8/7	24.6	42.8	631

- 標準安全率７倍。
- 依載物之負載條件及磨耗性，適當增加被覆橡膠厚度可延長使用壽命。
- 本表以外的強度標稱、鋼索直徑、鋼索強度、鋼索間距等亦可設計承製。

* Standard safety factor 7
* According to the weight and the abrasion of bearing goods, some increase in the thickness of top cover rubber can extend the use time.
* We can design and make other than those specified above , such as steel cord diameter, tensile strength thickness etc.

鋼索之最低拉拔強度標準

Standard of cord min pull-out strength

鋼索直徑 Cord Dia mm	拉 拔 強 度 Pull-Out Strength(min N/mm)	
	加熱前 Before Heating	加熱後 After Heating
~2.0	37.27	31.38
2.1~2.2	40.21	34.32
2.3~2.4	44.15	37.27
2.5~2.6	47.07	40.21
2.7~2.8	50.99	43.15
2.9~3.0	53.94	46.09
3.1~3.2	55.90	47.07
3.3~3.4	57.86	49.03
3.5~3.6	59.82	50.99
3.7~3.8	61.78	52.96
3.9~4.0	63.74	53.94
4.1~4.5	68.65	58.84

鋼索直徑 Cord Dia mm	拉 拔 強 度 Pull-Out Strength(min N/mm)	
	加熱前 Before Heating	加熱後 After Heating
4.6~5.0	73.55	62.76
5.1~5.5	78.45	66.69
5.6~6.0	83.36	70.61
6.1~6.5	88.26	75.51
6.6~7.0	93.16	79.43
7.1~7.5	98.07	83.36
7.6~8.0	102.97	87.28
8.1~8.5	107.87	92.18
8.6~9.0	112.78	96.11
9.1~9.5	117.68	100.03
9.6~10.0	122.58	103.95

Thermic Post-treatment:
During thermic post-treatment the samples are retreated for 150' at 145±5˚C ambient temperature.

緩衝布

Break Fabric

當輸送帶必須承受落料強烈的撞擊可能影響使用壽命時，採用這種緯線特別強化的化纖布，可以發揮緩衝的效果、減低落料對輸送帶的直接衝擊、確保長期使用。對防止異物插入造成輸送帶縱裂亦有其效果。

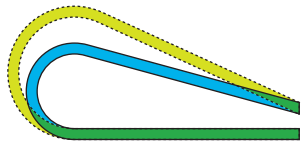
A fierce collision from material falling to the belt might shorten the life of service. A fabric with latitudinal reinforced can be functioned as a "Break" to minimize the influence from a direct impact and ensure the longevity of the belt. It might also be work against belt's slit for preventing an unidentified object from being insert.

適用最小輪徑

Recommended min. Pulley Diameters

鋼索由細鋼線撚成，細線間橡膠滲入。因此，鋼索柔軟屈曲疲勞少，可使用較小輪徑。

Our steel cords, very good rubber penetration, are twisted from fine steel cables. With excellent features of soften, flexibility and less fatigue, thus, smaller pulley diameters are also workable.



型別與適用最小輪徑

Type & min.Pulley Diameter *unit:mm*

型 別 Type	鋼索直徑 Diameter (≒)	驅動輪 頭輪 Drive pulley Head pulley	配重輪 尾輪 Take-up pulley Tail pulley	邊側輪 Snub pulley
ST-600	2.7	600	500	350
ST-800	3.6	800	650	500
ST-1000	3.6	800	650	500
ST-1250	4.4	950	750	550
ST-1400	4.4	950	750	550
ST-1600	5.4	1050	850	650
ST-1800	5.4	1050	850	650
ST-2000	5.4	1050	850	650
ST-2500	6.9	1250	1000	750
ST-3150	7.6	1450	1150	850
ST-3500	8.6	1450	1150	850
ST-4000	8.8	1600	1300	950
ST-4500	9.6	1750	1400	1050

接合方式
Splicing Methods

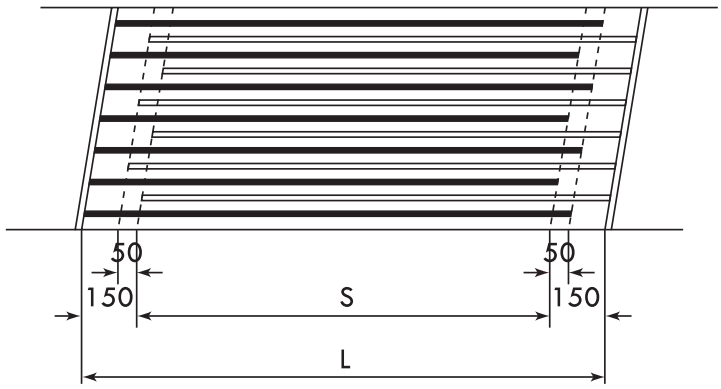
本公司研製的接合材料，能確保鋼索與面膠之間的良好黏結。接合方式採用段式接合。對於非標準結構之接合或結構近似抗拉強度不同之接合，亦有可能；若有這種情形，請與本公司聯絡。

San Wu's splicing materials can insure a good adhesion between steel cord and cover rubber. The means of multi-sectional splicing is adopted. It might also be possible to make a splice under the circumstances of non-standard structure or approximate structure which has different tensile strength. In case of this, please contact us.

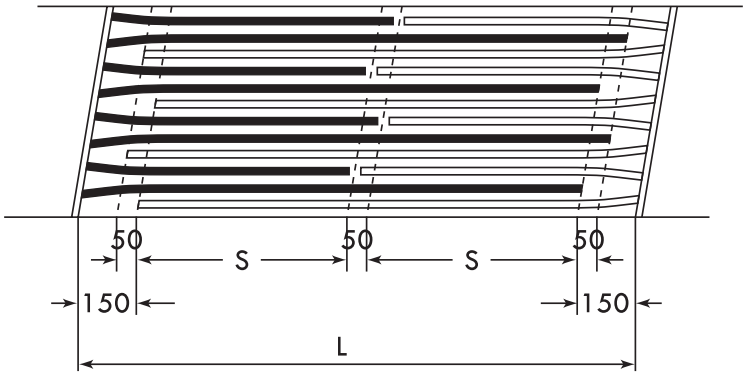
型別與接合方式
Type and Splicing Methods

型 別 Type	鋼索直徑 Cord Dia mm	長度 S Length mm	長度 L Length mm	接合方式 Connection Way
ST-600	2.7	300	600	一段式/1-step
ST-800	3.6	300	600	
ST-1000	3.6	300	600	
ST-1250	4.4	350	650	
ST-1600	5.4	450	750	
ST-2000	5.4	400	1150	二段式/2-step
ST-2500	6.9	500	1350	
ST-3150	7.6	650	2350	三段式/3-step
ST-3500	8.6	650	2350	
ST-4000	8.8	750	2650	
ST-4500	9.6	800	2800	

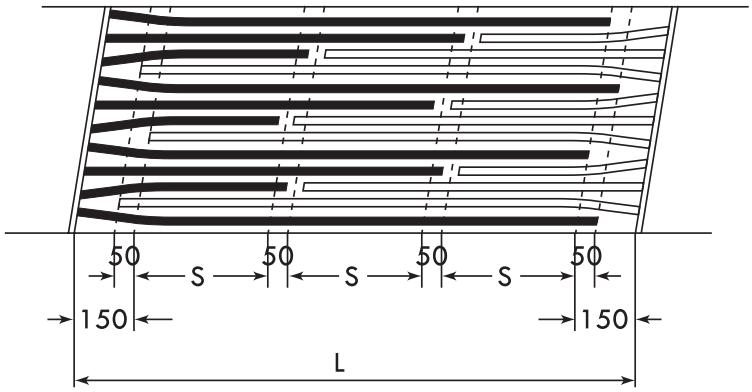
一段式
1-step splice
(sectional view)



二段式
2-step splice
(sectional view)



三段式
3-step splice
(sectional view)



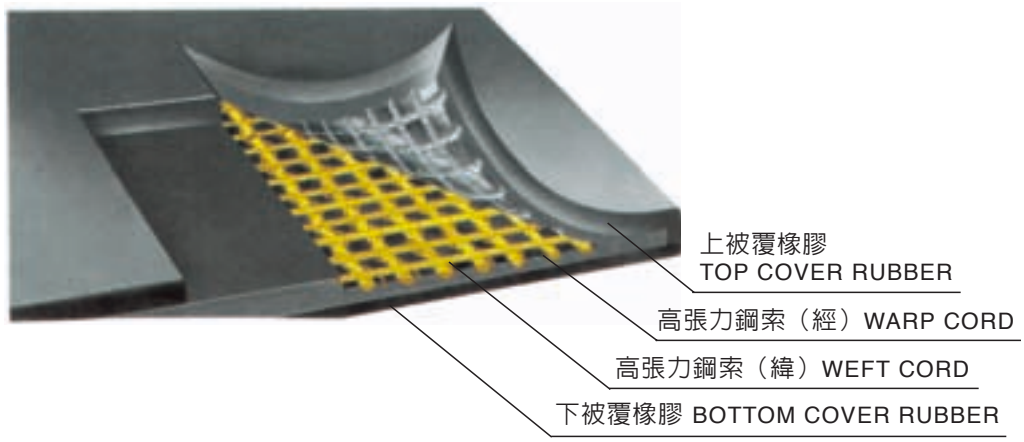
鋼索簾布輸送帶

STF CONVEYOR BELT

三五鋼索簾布輸送帶，採用有緯向鋼索之FLEXIMAT®Impact Metal Weft鋼索簾布製成，具有耐衝擊和耐撕裂的特性，能防止異物插入避免割裂事故發生可能造成的重大損失。
三五鋼索簾布輸送帶所使用的IW鋼索簾布，其經緯向鋼索以化纖索固定，採直徑織法，故鋼索簾布仍保持0.3～0.5%的低伸長率特性，同時具有良好的凹槽性和曲屈性。

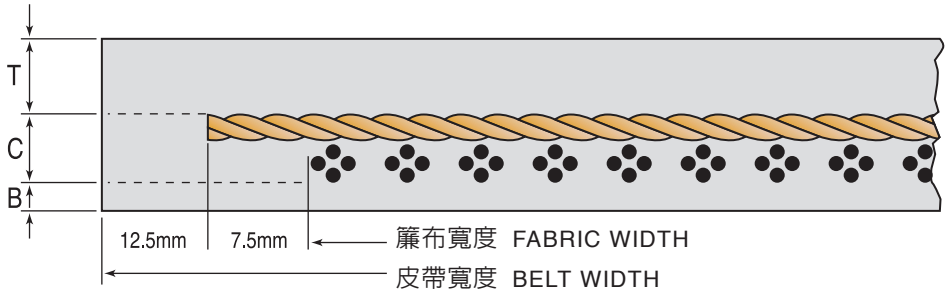
STF Steelcord conveyor belt is manufactured with Fleximat® Impact Metal Weft, which is a fabric consisting of brass coated steel warp and weft, both two are held together with RFL treated nylon yarns which are warping binder.
The outstanding merits of SAN WU'S STF Conveyor Belt are, longitudinal cutting resistance, high transversal and longitudinal flexibility, low elongation and single ply construction.

鋼索簾布輸送帶（圖）STF CONVEYOR BELT



鋼索簾布輸送帶之基本構造

CONSTRUCTION OF STF CONVEYOR BELT



T : TOP COVER RUBBER 上被覆橡膠　　B : BOTTOM COVER RUBBER 下被覆橡膠　　C : CARCASS 心　體

心體強度 STF CARCASS Strength (IW Type)

Belt range 鋼索輸送帶型別	STF (IW)	350	500	630	800	1000	1250	1400	1600
Strength 抗拉強度	Warp N/mm 經向(Kgf/cm)	350 (360)	500 (510)	630 (640)	800 (820)	1000 (1020)	1250 (1275)	1400 (1427)	1600 (1630)
	Weft N/mm 緯向(Kgf/cm)	90 (91)			125 (127)		175 (178)		
Fleximat 鋼索簾布	Mass 重量kg/m²	1.85	2.45	2.95	4.15	5.00	6.35	7.05	7.90
	Thickness 厚度mm	3.2			4.5		6.0		
WARP CORD 經向鋼索	DIAMETER 直徑mm	2.0			2.85		3.7		
	BREAK.LOAD 斷點強度N	3075			5600		9600		
	BREAK ELONG 斷點伸長率%	5							
	PITCH 間距mm	8.33	5.81	4.63	6.67	5.38	7.04	6.25	5.50
	DENSITY 密度cords/m	120	172	216	150	186	142	160	182
WEFTCORD 緯向鋼索	DIAMETER 直徑mm	1.52			2.02		2.40		
	BREAK LOAD 斷點強度N	1720			2900		3775		
	BREAK ELONG 斷點伸長率%	7.5							
	PITCH 間距mm	17.5			20				
	DENSITY 密度cords/m	57			50				

心體強度 STF CARCASS Strength (IWR Type)

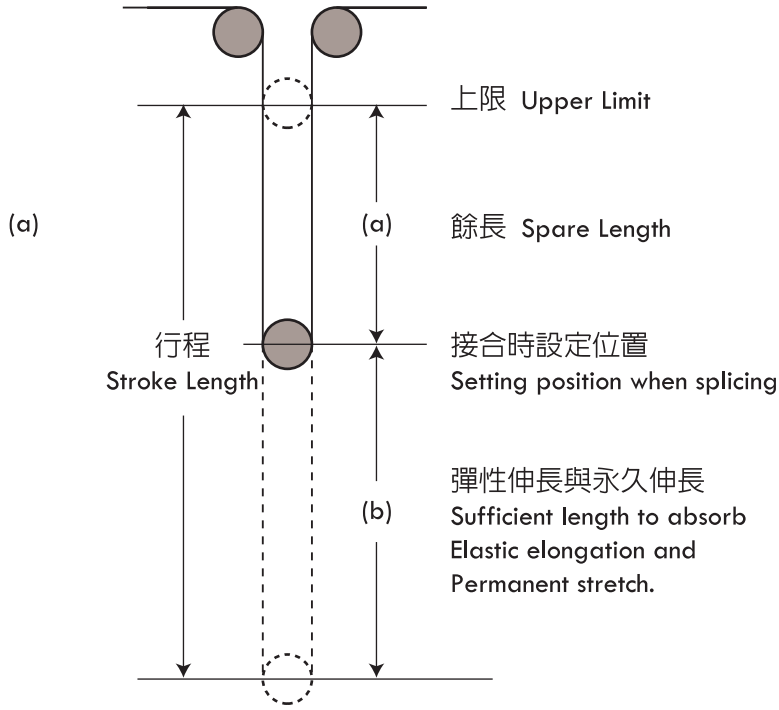
Belt range 鋼索輸送帶型別	STF (IW)	630R	800R	1000R	1250R	1400R	1600R	1800R	2000R
Strength 抗拉強度	Warp N/mm 經向(Kgf/cm)	630 (640)	800 (820)	1000 (1020)	1250 (1275)	1400 (1427)	1600 (1630)	1800 (1836)	2000 (2040)
	Weft N/mm 緯向(Kgf/cm)	200 (203)							
Fleximat 鋼索簾布	Mass 重量kg/m²	3.45	4.35	5.20	6.40	6.90	7.90	9.10	9.80
	Thickness 厚度mm	5.0	5.6		6.4		7.2		
WARP CORD 經向鋼索	DIAMETER 直徑mm	3.0	3.6		4.4		5.2		
	BREAK.LOAD 斷點強度N	9700	13500		19800		26700		
	BREAK ELONG 斷點伸長率%	2.5							
	PITCH 間距mm	14	15	12	14	13	15	13	12
	DENSITY 密度cords/m	71.4	66.7	83.3	71.4	76.9	66.7	76.9	83.3
WEFTCORD 緯向鋼索	DIAMETER 直徑mm	2.0							
	BREAK LOAD 斷點強度N	2900							
	BREAK ELONG 斷點伸長率%	7.5							
	PITCH 間距mm	14							
	DENSITY 密度cords/m	71.4							

配重行程

Take-Up Travel

鋼索輸送帶的伸長率約為化纖布的1/10，啓動時不會發生波浪現象，配重行程短，而且可節省配重設備空間。

The elongation of our steel cord is just about one tenth of synthetic fabrics. When starts running, no phenomenon of surging will be occurred and a small stroke lenght is necessary. This saves you large space of take-up equipment.



(a) = L × 0.2% + 1/2 Splicing Length

(b) = L × 0.3%

L × 0.2% : Min 150 mm

Max 1000 mm

L : Center to center distance

輸送帶的儲存

Storage of Belting

輸送帶儲存適當，可確保它的性能，及長期使用壽命。請參考我們的建議。
A good storage of conveyor belting could maintain belt's function and keep it in a long life working. Please refer to our suggestions.

- 請儲存於乾燥涼爽的場所
  Please stores belts in a dry and cool place.

- 請避免輸送帶直接接觸臭氧、強光、高溫、酸、鹼、油類、有機溶劑，和金屬銅、錳等對橡膠材質有影響的物質。同時避免受雨、雪、積水的浸蝕。
  No direct touch to ozone, strong light, high temperature, acid, alkali, oil, organic solvent, and some influential materials like cooper & manganese. Meanwhile, rain, snow & water must be avoided also.

- 長期儲存時，輸送帶捲心請安一橫軸心，離開地面放置在支撐架上。每隔一段時間，旋轉整捲輸送帶，避免內部壓力持續影響相同點。
  When storing for long periods the rolls shall be fitted with a transverse shaft and be placed on a frame. At intervals the rolls shall be turned in order that the inner pressure does not continuously affect the same spot.

服務

Service

本公司秉持「質優價實，顧客滿意」的理念，熱誠幫助顧客解決各種輸送與傳動上的難題，並且提供輸送帶接合、換帶施工，以及清潔器、滾輸包膠、緩衝襯墊、耐磨陶瓷等周邊設備的配套服務，為顧客的經濟效益改善做了貢獻。請就近與三五的服務處聯絡。

With the concept of "Superior quality, Reasonable prices & Making customers satisfied", every members in San Wu always work hard to try to help our customers solving any problems in conveyor & transmission. Except belts we supply also the equipment around conveyor line like Belt Cleaner, Pulley Lagging, Buffer Rubber, Rubberized Ceramic Liner, etc. and the services including Belt Splicing & Belt Installation. We contribute a lot to the save of customer's money. For further information, please contact San Wu right now.

輸送帶的維護

起先若無良好的預防保養計畫，則新設輸送系統帶給您無故障麻煩極高效率的蜜月期將很短暫。

一、一般清掃及結塊去除

* 能使系統運轉平順最重要的一件事就是定期清潔設備。清掃週期依粉塵掉物情況和各種操作及環境因素而異。每一輸送操作須有定期的檢點及清掃計畫。
* 滑輪及滾輪表面的結塊會使輸送帶蛇行。若完全偏離滑輪，可能摩擦甚至摺入機台結構，將使輸送帶造成損害。
* 輸送機之清掃，尤其滑輪及滾輪只能在停車時進行。

二、搬運物溢出及清掃

* 搬運物可能由輸送帶表面溢出，其中有些是沿回程線掉落。大多數掉落物在輸送線下方可收集到，特別是在裝載區，槽型滾輪極易因觸及溢出物而受損。
* 滾輪被溢出物塞住至無法轉動時，不斷受到帶面摩擦，使得滾輪外殼磨成尖銳鋸齒狀，反而使輸送帶的被覆橡膠及心體遭受嚴重的損害。此外，各壓緊輪及滑輪受溢物阻塞，也會增耗能源。

三、防護輸送帶免受外物侵擊

* 在尾輪及張緊輪區常發生塊物進入輸送帶及滑輪表面之間的侵擊現象。當塊物掉入輸送帶及滑輪之間，使得心體局部張力超過其額定張力而致穿破。此破壞現象將持續至塊物破碎或消失為止。滑輪表面於此過程常受損害。在壓緊輪或緊彎輪處，塊物粘附於裝載搬運面，可能使輸送帶造成同樣的損害。
* 避免溢出物侵擊的根本防護是適當的管理裝載環境：
  1.正確的裝載角度及落料。
  2.裝載速與帶速及裝載方向對輸送帶方向之適切配合。
  3.必要時網羅掉落物。

四、避免滾輪連會點劣化

* 槽型滾輪之連會點所受之緊迫力具有危險的影響。若力量作用於輸送帶，使其陷入滾輪連會處斷面，輸送帶可能經向斷裂，或於滾輪連會點之軌跡部位層間分離。空氣及砂粒會由輸送帶鼓起的氣泡滲入離層內部。結果，通常輸送帶在沿著滾輪連會點軌跡完全離層前，部分輸送帶將擠入輸送機支架，而由輸送帶本體完全扯裂。
* 許多因素形成滾輪連會點的緊迫力。凹槽角越深越能感受連會點的緊迫力，減少滾輪角度往往可使輸送帶減少在連會點的緊迫力。
* 輸送帶由平面轉為凹槽型(反之亦然)，此轉變距離或間格在每一終端滑輪務須足夠，否則輸送帶可能於滾輪連會區感受嚴重壓迫力，此壓迫力可能導致輸送帶於極短時間內損壞。

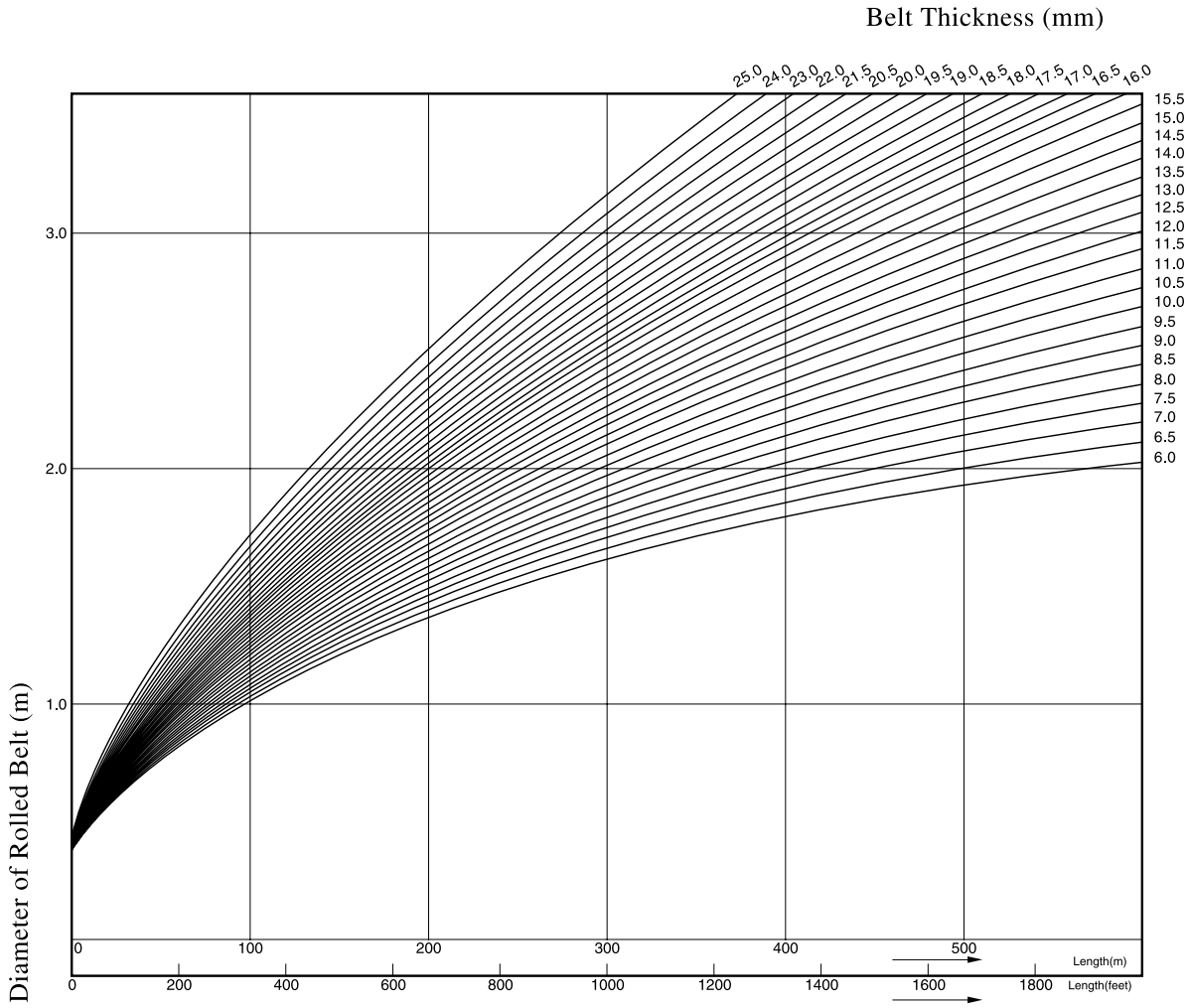
MAINTENANCE

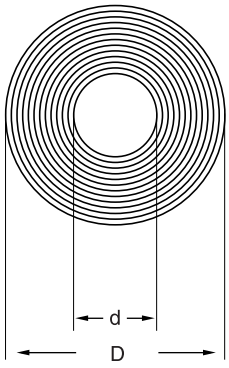
To get high efficiency & free of troubles of belt conveying system, it is important that a preventive maintenance program shall be well preformed since belt installation.

1. Cleaning & Removal of build-up
   - To maintain a well operation to belt conveying system, a good, periodical housekeeping to the belt is essential.
   - A build-up of material on pulleys & idlers will cause belt misalignment. If it is large enough, belt will strongly touch or even fold into the steel frames of conveyor line. This will damage belt seriously.
   - No one shall be allowed to attempt to remove material build-up unless the conveyor has been stopped completely.
2. Spillage of Material
   - While running, materials probably will spill and accumulated under the belt. Most of these accumulations can be removed and cleaned. But a special attention still has to be paid to the loading zone for preventing the spillage touch the idlers and probably will damage these idlers.
   - If idlers are frozen by spillage, the shells of idlers will become sharply because of continuous abrasion with the running belt. This will badly damage the cover rubber & carcasses of belt. Meanwhile, the power consumption will be increased, as jammed idlers and pulleys are blocked by spillage.
3. Impingement
   - In tail pulley & take-up zone, impingement occurred often between belt and pulleys. Once this situation occurred, belt's carcasses as well as pulley's surface will be broken as parts of their tensions now are over the rated tension of the belt. This impingement will be vanished only until the material build-up is broken or disappeared. Same damages to the belt in areas of jammed idlers & bending pulleys will be happened when a material build-up sticky on the belt's carried side.
   - A proper management to the loading will be helpful for preventing the impingement.
     1) Accurate surcharge angle and loading.
     2) Appropriate match to the running direction between loading speed and belt speed.
     3) Try to catch spillage if necessary.
4. Junction Points Protection
   - For trough idlers, the strain that occur in the Junction Points will be a dangerous influence to the belt and mire it into the space of these points. This influence will cause belt a longitudinal break or separate it into plies in the zone that corresponding to the Junction Points tracing area. Air, sands will easily enter into the belt from these separating bubbles. In the end, parts of belt will mire into the idlers and be destroyed by conveyor machine before they are separating along the tracing area.
   - Many factors will cause the strain being occurred in the Junction Points. Larger angle of trough idlers, then more strain will be occurred. It will be much help to less the strain, if the angle can be reduced.
   - Transition Distance also is an important factor. If this distance is not big enough, belt will suffer strong strains in these points and probably will be destroyed in a very short time.

輸送帶長度與捲起直徑之計算

Diameter of Rolled Belt-Related Curve between Belt Thickness, Length of Finished Belt and Diameter of Rolled Belt.





Calculation Method of Finished Belt Length

$$L = \frac{(D + d)\,\pi}{2}\ N$$

L : Finished Belt Length
d : Dia. of Core
D : Dia. of Rolled Belt.
N : No. of Times Rolled
t : Belt Thickness

Method of Calculating the Dia. of Rolled Belt.

$$D = \sqrt{\frac{4}{\pi}\ t \cdot L + d^2}$$

Belt Thickness	Dia. of core
6.0 ~ 10.0mm	0.18m
10.5 ~ 20.0mm	0.30m
20.5 ~ 25.0mm	0.40m

CONVEYOR BELTING DATA SHEET		CONTACT	
COMPANY		TEL	
ADDRESS		FAX	

CONVEYOR NO.		BELT WIDTH	mm,in,	BELT LENGTH	m,ft
LOCATION	☐ Indoor ☐ Outdoor ☐ With Shade ☐ In, a Pit ☐ Seashore				

CARRYING MATERIAL

MATERIAL		LUMP SIZE	Max. mm,in. Average: mm,in. ( )%		
FEATURES	☐ Slabby ☐ Dry ☐ Wet ☐ Sticky			BULK DENSITY	t/m³
TEMPERATURE OF MATERIAL	Max.: ℃ , Min.: ℃ , Average : ℃				
AMBIENT TEMPERATURE	Max.: ℃ , Min.: ℃ , Average : ℃				
TEMPERATURE OF BELT SURFACE	( ) ℃ , With water or not ☐ Yes ☐ NO				
CHEMICAL	☐ Oily ☐ Acid ☐ Alkaline				

OPERATING CONDITION

BELT SPEED	m/min, FPM	CAPACITY	Max.: Average: t/h		
HORIZ C - C	m,ft	VERTICAL LIFT	m,ft	INCLINING LENGTH	m,ft
INCLINATIONS	deg.	SPLICING	☐ Hot Vulc. ☐ Cold Vulc. ☐ Mechanical		

TYPE OF DRIVE

METHOD	☐ Single ☐ Tandem Drive ☐ Dual or Multi		
LOCATION AND SETTING MOTOR	☐ Head ☐ Near Head ☐ Tail ☐ Near Tail ☐ Intermediate ( )KW, HP X ( )Sets		
ARC OF CONTACT	deg.	PULLEY SURFACE	☐ Lagging ☐ Bare (☐ Wet ☐ Dry)

TYPE OF TAKE-UP

TYPE	☐ Screw ☐ Gravity ☐ Power Winch ☐ Others( )		
LOCATION	☐ Near Drive ☐ Head ☐ Tail ☐ Intermediate ☐ Others( )		
TRAVEL	m,ft	WEIGHT	kg,lbs

PULLEY & IDLER

PULLEY DIAMETER	Drive: mm,in., Head: mm,in., Tail: mm,in., Take-up: mm,in., Bend: mm,in., Snub: mm,in.,		
IDLERS	TROUGH IDLER PITCH	m,ft	DISTANCE BETWEEN PULLEY AND
	RETURN IDLER PITCH	m,ft	FIRST TROUGH IDLER: m,ft
	TROUGH ANGLE: deg.		

CONDITION OF CHUTE

FALLING HEIGHT	m,ft	DIRECT HEIGHT	m,ft	CHUTE ANGLE	deg.
IMPACT IDLERS	☐ Yes (Dia, mm). ☐ No				
TRIPPER	☐ Yes (☐ Fixed, ☐ Movable), ☐ No				

PREVIOUS BELT

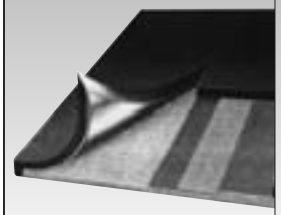
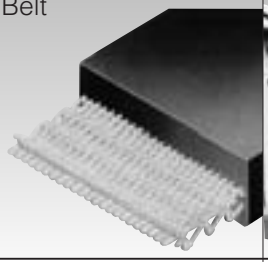
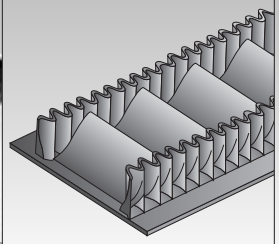
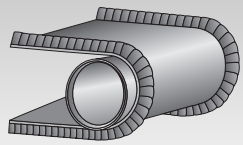
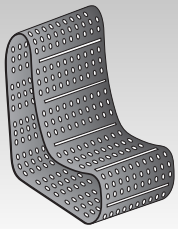
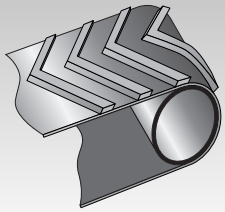
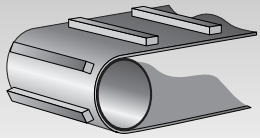
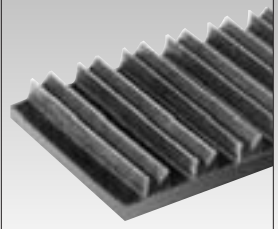
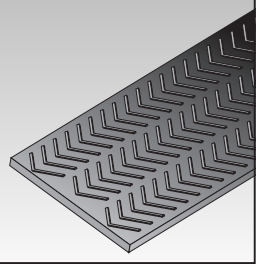
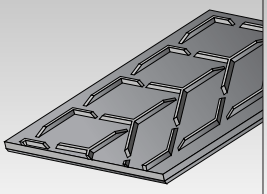
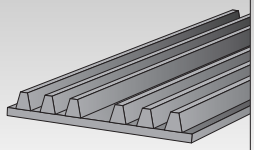
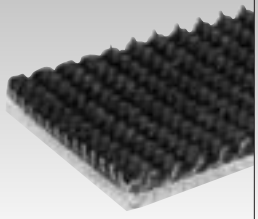
SPECIFICATIONS			
CARCASS	Kind: Grade:	GRADE OF COVER PUBBER	
MANUFACTURER		PREVIOUS BELT LIFE	
DAMAGED STATE			

註冊商標與其他製品

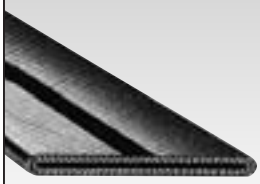
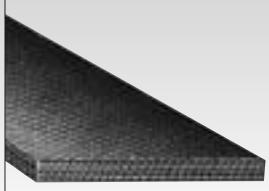
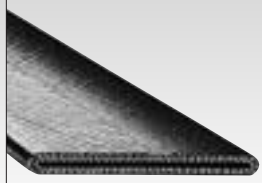
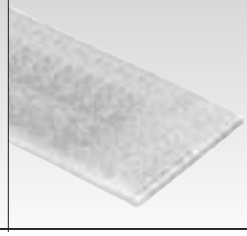
值得信賴的商標用在值得信賴的製品，我們的主要註冊商標如下：

三五 SANWU THREE FIVE　三駱 THREE CAMELS　金字塔 PYRAMID　三力　三環

輸送帶 *Conveyor Belts*

化纖、帆布輸送帶 Fabric Conveyor Belt	ARAMID輸送帶 Aramid Conveyor Belt	管狀輸送帶 Pip Conveyor Belt	裙邊輸送帶 Corrugated	飼煤機輸送帶 Flanges Notching
				
輥筒帶 Blast Cleaning Tumbling Belt	人字型輸送帶 Chevrons	一字型輸送帶 Chevrons	M字型輸送帶 Vee Ridge	小V型輸送帶 Cleat-Top
				
Y字型輸送帶 Y-Pattem	邊凸型輸送帶 Feeder Belt	山型輸送帶 Mountain Pattem	花紋輸送帶 Roughtop	提運帶 Bucket Belt
				

平面帶 *Transmission Belts*

圓邊平面帶 Round Edge Transmission Belt	切邊平面帶 Cut Edge Transmission Belt	耐磨強力環帶 Superior Abrasion Endless Belt	強力粗布環帶 Endless Belt with Bare Duck	木綿帶 Cotton Belt
				

TRADE MARK & OTHER PRODUCTS

Reliable trade marks for San Wu's reliable products. Our main registered Trade marks are:

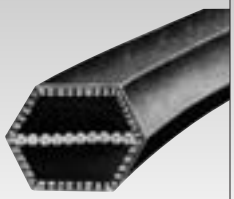
三埃斯 SSS　三凱 555　SWR　超儕 TRANSMATE　超儕 TRANSMATCH

三角帶 *V-Belts*

三角帶
Classical V-Belt

標準型 A.B.C.D.E
輕馬力 K.M.3L.4L.5L

六角帶
Double V-Belt

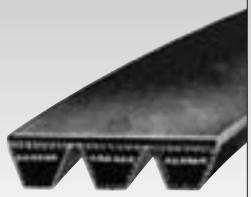


型別： AA.BB.CC

五角帶
Diamond Shape V-Belt

型別： A.B.C

聯體皮帶
Banded V-Belt

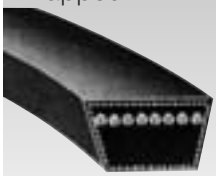


型別：A.B.C.D3V.5V.8V
SPZ.SPA.SPB.SPC

高效率皮帶
High Capacity Narrow V-Belt

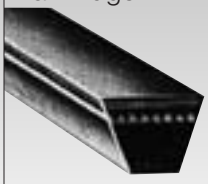
型別：3V.5V.8V
SPZ.SPA.SPB.SPC

包布型
Wrapped



型號： SWF

切邊平底型
Raw Edge



型號： SRL

齒型
Raw Edge Cogged

型號： SRC

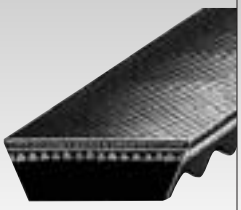
多槽皮帶
V-Ribbed

型號： PK

Motorcycle V-Belt

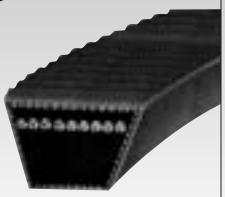
型號： SRCV

變速帶
Variable Speed Belt



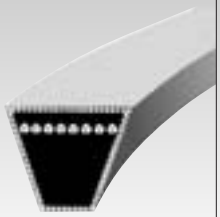
型號： VS

花紋三角帶
For Glass Grinding M/C



型別：包布帶皆可承製

白身皮帶
White V-Belt



型別：包布帶皆可承製

多槽皮帶
V-Ribbed Belt

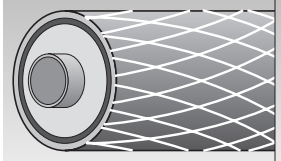
型別： H.J.L.M

圓形皮帶
Round Belt

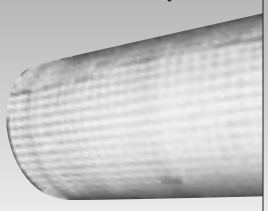
尺吋：5/16".3/8".7/16".1/2"

其他 *Other*

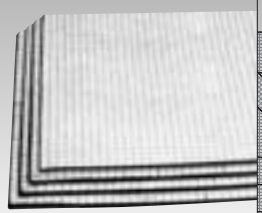
滾輪
Pulley



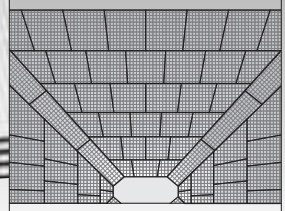
陶瓷滾輪
Ceramic Pulley



陶瓷襯墊
Ceramic Liner



陶瓷落料槽
Ceramic Hopper



陶瓷輸送帶
Ceramic Conveyor Belt