

**Continental**   
The Future in Motion



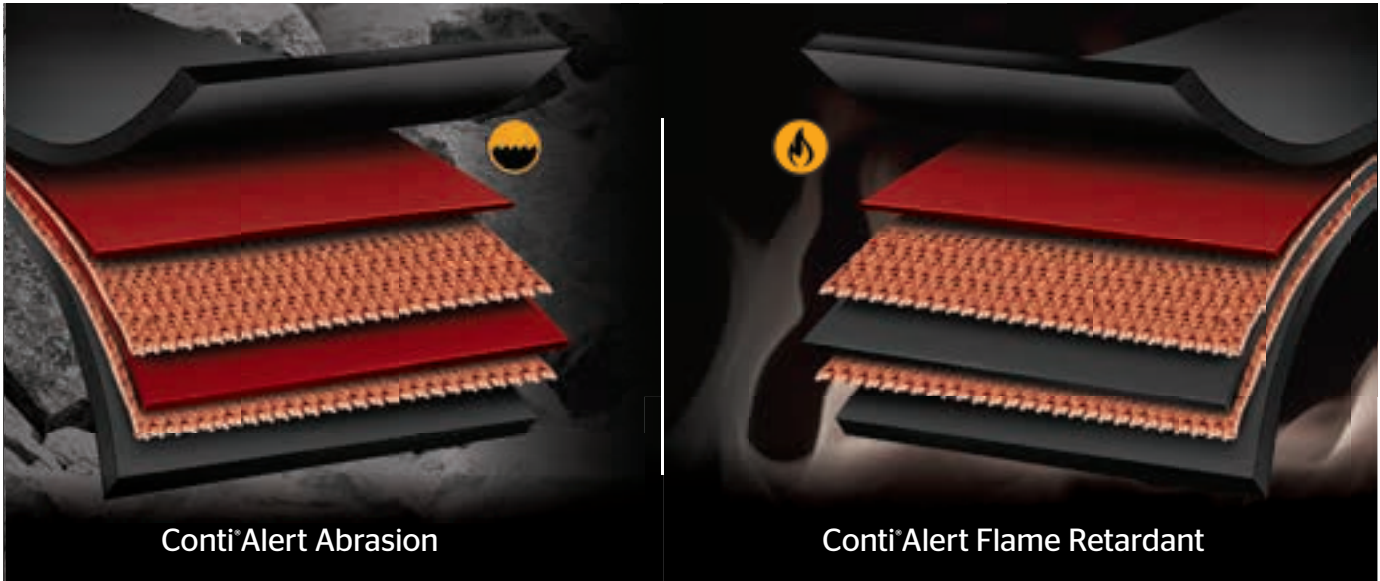
# ContiTech Select Catalog

## 2018

[www.contitech.us](http://www.contitech.us)

**ContiTech**

# A visionary idea in conveyor belt monitoring.



Conti®Alert is the first and only conveyor belt innovation to let you see belt wear in real time. The red bonding layer below the top cover is exposed when it's time to change the belt, creating:

#### › Cost savings

Identifying belt wear allows you to get the most out of your current belt. Knowing when to change your belt helps prevent downtime and increase uptime.

#### › Predictability

In conjunction with our Conti®Alert calculator, customers can enter their current belt life data and determine how much time is remaining before the carcass is exposed.\*

### Conti®Alert calculator

Offered as part of the introduction of Conti®Alert, customers using the Conti®Alert Calculator can enter their data and calculate the time remaining before the carcass is exposed.

### Availability

Conti®Alert is available in our abrasion-resistant lineup of ContiTech Select Conveyor Belt specs and compounds:

#### › Belt Specs

Pylon Plus 250/2, 375/3, 500/4, and 600/3 with a minimum 3/16" x1/16" to a maximum of 3/8" x1/8" covers



#### Abrasion-resistant compound specs

Defender Plus®, Stacker®, Survivor® and Survivor Plus®



#### Flame retardant compound specs

FR-2G, FRAR-2G, FRORS-2G, FRUG-2G and FRHT-2G

# CONTI®ALERT

\*This is an estimate and may not in fact determine each customer's actual experience.

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# Belt Construction

ContiTech conveyor belts are designed from the inside out to endure the everyday working abuse of tons of coal, aggregate, wood and hard rock.

Layers of specially designed fabric plies are sandwiched between rubber skim coats for adhesion and load support. Bottom and top cover compounds are added for maximum protection of the belt carcass. These compounds are comprised of different polymers, fillers and plasticizers and come in a wide variety of cover gauges.

For over 100 years, our breakthrough fabric designs have been tested in some of the toughest conveyor belt applications worldwide. These high-quality belt constructions give you the confidence you need for operating performance.

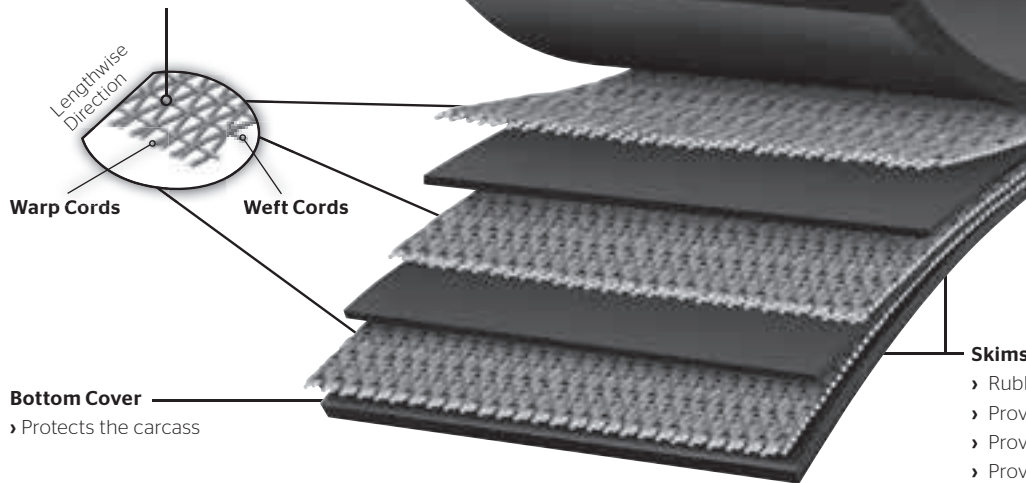
## Conveyor Belt Components

### Fabric Plies

- › Warp Cords - Provide tensile strength, transverse tear, impact resistance
- › Weft Cords - Provide fastener holding, impact resistance, rip and tear resistance

### Top Cover

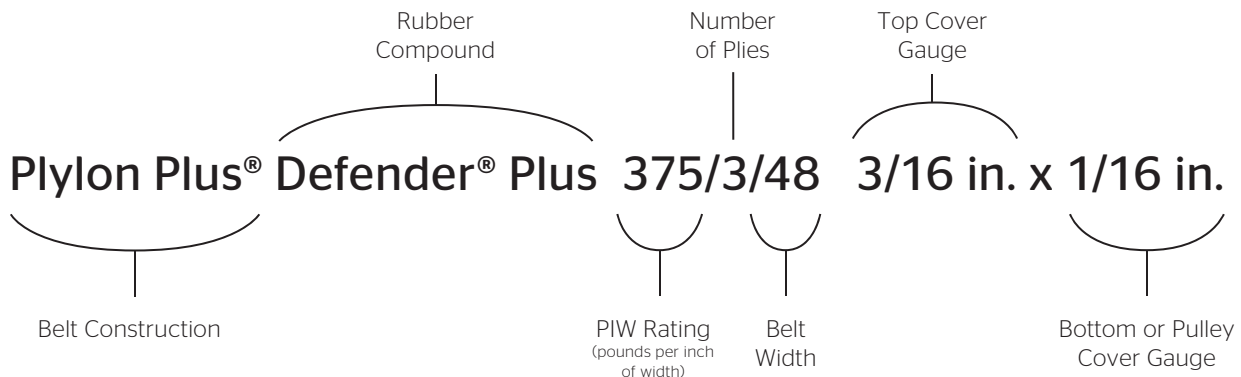
- › Protects the carcass



### Skims

- › Rubber between the plies
- › Provide adhesion
- › Provide load support
- › Provide impact resistance

## Belt Construction Nomenclature Example

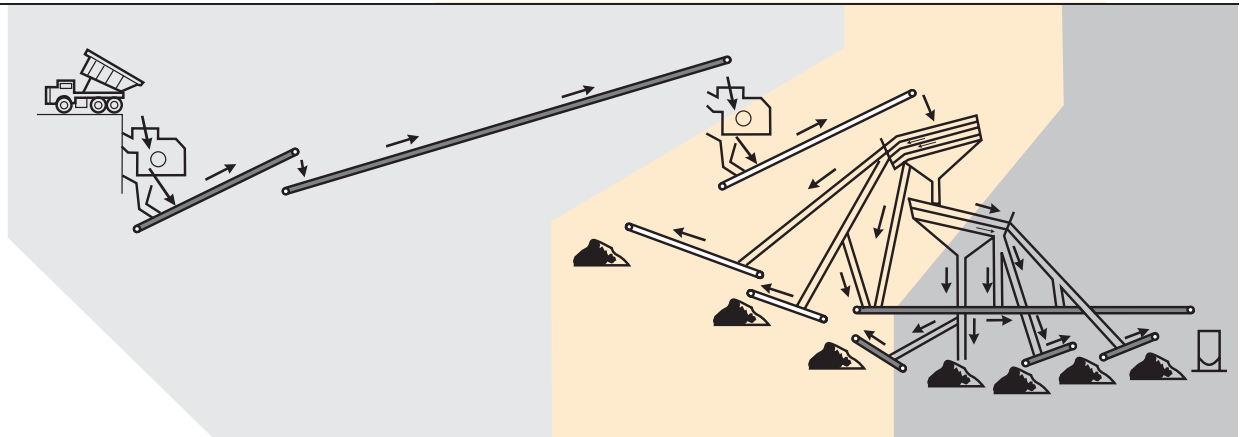




# Aboveground Markets Applications

Aboveground Markets	Products							
	Fortress XP™	Pylon Plus®	PowerPly	Spartan®	Solar-Shield®	Wood Sawyer® Plus	Pathfinder® Plus	TexSteel™
Coal and Prep Plants	•	•	•				•	•
Aggregate	•	•	•	•				•
Cement	•	•	•	•	•			•
Bulk Handling Terminal	•	•	•	•		•	•	•
Wood, Pulp and Paper	•	•	•	•		•		•
Steel and Foundry	•	•	•	•	•			•
Package Handling		•		•				
Hard Rock Mining	•	•						•
Grain Handling		•				•	•	•
Power Generation		•	•		•			•
Baggage Handling		•						
Sand and Gravel		•	•	•				•
#	7	12	8	7	3	3	3	10

## Example of Aggregate, Hard Rock Mining, Sand and Gravel Process



Process	Primary Crusher Mainline, Transfer, Overland, Pit Belt	Secondary Crusher Wash Plant	Stacker, Load Out, Radial Stacker
ContiTech Conveyor Belt Recommendations	Fortress XP™ Pylon Plus®	Pylon Plus® Powerply	Powerply Spartan®
Typical Material Size	6 in. and higher	3 in. - 6 in.	3 in. minus
Application Description	High abuse and/or higher tension  Critical belt lines where uptime is a premium	Moderate abuse and low tension  Typically the wash plant or screening area	Low abuse  Typically short center-to-center systems which utilize screw take-ups

Typical material: Limestone, granite, ores, taconite, cement, rock, etc.

Note: For proper cover compounds and gauge, please consult pages 75-81.



# Fortress XP™ Belts

This rugged, fabric-reinforced conveyor belt withstands high abuse applications. It is made with a revolutionary Fortress™ technology weave design, and holds up to the most demanding applications, delivering up to three times longer life. Fortress XP™ provides a lower cost-per-ton with unsurpassed system savings.



## Markets

- › Aggregate
- › Cement
- › Coal
- › Foundry
- › Hard rock
- › Pulp and paper
- › Steel production
- › Wood products

## Applications

- › Log debarkers
- › Log decks
- › Mainlines
- › Pit belts
- › Primary crushers
- › Secondary crushers
- › Ship unloaders
- › Trash and recycling
- › Any high abuse applications

## Cover Compounds

- › Defender® Plus
- › Stacker®
- › Global X®
- › MonsterHide™
- › 6740A (Solar-Shield® 300)

See pages 74-79 for more specific details.

See the process diagram for Aggregate, Hard Rock Mining, Sand and Gravel markets on page 8 for alternative belt recommendations.

## Fortified with the Power of Fortress™ Technology Conveyor Belt Components

Dual-Layer Twill

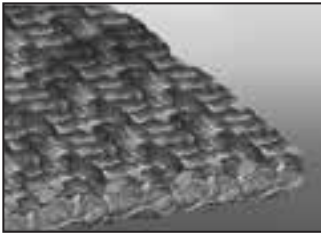
- › Dual-Layer Twill Weave Design.
- › Fabric technology advancements for improved yarn design and increased yarn strength.
- › More-abuse-resistant fabric design to reduce catastrophic failures.

Get a lower cost-per-ton conveyed

**Tension Range: 330 to 1500 PIW**

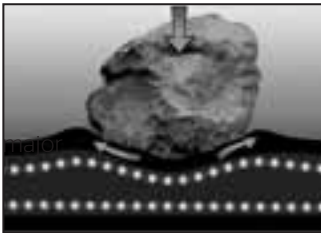


## Features & Benefits



### Innovative fabric weave

The new dual-layer twill fabric gives Fortress XP™ improved load bearing and impact resistance.



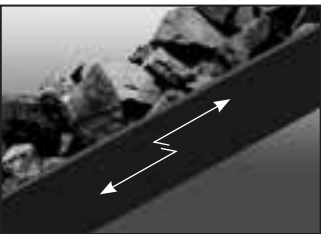
### Exceptional impact resistance

Fortress XP™ has industry-leading impact resistance. Loading point impact damage can be a cause of belt failure. Design engineers used an enhanced Dynamic Impact Tester to simulate loading impact force and its effects on belting.



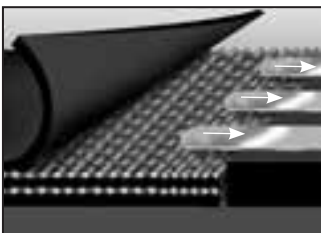
### High transverse tear strength

The dual-layer twill fabric design enables high transverse tear strength. This minimizes tears that result from material punctures as well as edge tears from misaligned belts.



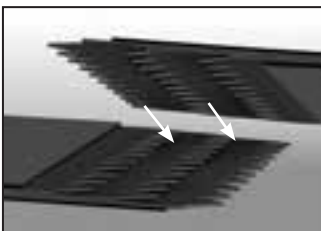
### Superior rip resistance

Scrap metal or debris often get “hung up” in the structure of the conveyor, causing equipment damage and slits or cuts in long sections of the belt. Our fabric design helps dislodge and expel foreign objects and contains rips to a small area.



### Enhanced mechanical fastener pull-out resistance

Rigorous dynamic and static testing means that Fortress XP™ belts will provide superior mechanical fastener retention as compared with multi-ply and straight-warp constructions.



### Vulcanized finger splice

A full carcass finger vulcanized splice is recommended for Fortress XP™ belting. This splice method takes advantage of the superior strength properties of the Fortress XP™ carcass to offer 100% of the rated belt tension.

# Fortress XP™ Belts

## Fortress XP™ Conveyor Belt Data

	Fortress XP 330/1	Fortress XP 440/1	Fortress XP 500/1	Fortress XP 625/1	Fortress XP 660/2	Fortress XP 880/2	Fortress XP 1000/2	Fortress XP 1250/2	Fortress XP 1500/2
<b>Plies</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>Fabric Type*</b>	<b>(P/N)</b>	<b>(P/N)</b>	<b>(P/N)</b>	<b>(P/N)</b>	<b>(P/N)</b>	<b>(P/N)</b>	<b>(P/N)</b>	<b>(P/N)</b>	<b>(P/N)</b>
<b>Average Permanent Elongation (%)**</b>	<b>1.00%</b>	<b>1.20%</b>	<b>1.50%</b>	<b>1.50%</b>	<b>1.00%</b>	<b>1.20%</b>	<b>1.50%</b>	<b>1.50%</b>	<b>2.00%</b>
<b>Step Length</b>	<b>Finger Splice</b>	<b>Finger Splice</b>	<b>Finger Splice</b>	<b>Finger Splice</b>	<b>Finger Splice</b>	<b>Finger Splice</b>	<b>Finger Splice</b>	<b>Finger Splice</b>	<b>Finger Splice</b>
<b>Recommended Fastener Plate</b>	<b>BR6</b>	<b>BR6</b>	<b>BR10</b>	<b>BR10</b>	<b>BR10</b>	<b>BR14</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>
<b>Hinge</b>	<b>R5</b>	<b>R5</b>	<b>R5-1/2</b>	<b>R5-1/2</b>	<b>R5-1/2</b>	<b>R6</b>	<b>RAR8</b>	<b>RAR8</b>	<b>RAR8</b>
<b>Hinge</b>	<b>U35</b>	<b>U35</b>	<b>U35</b>	<b>U35</b>	<b>U35</b>	<b>U37/U37A</b>	<b>U38A</b>	<b>U38</b>	<b>U38</b>
<b>Imperial</b>									
Vulcanized & Fastener Rating (PIW)	330	440	500	625	660	880	1000	1250	1500
Nominal Carcass Gauge (in.)	0.130	0.140	0.164	0.181	0.270	0.305	0.357	0.389	0.447
Nominal Carcass Weight (lb./sq. ft.)	0.73	0.85	0.91	1.21	1.61	1.90	1.95	2.17	2.33
Approximate 1/32 in. Cover Weight (lb./sq. ft.)	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Average Elastic Modulus (PIW)	33,000	35,000	37,500	40,000	66,000	70,000	75,000	80,000	90,000
<b>Metric</b>									
Vulcanized & Fastener Rating (kN/m)	58	77	88	110	116	154	175	219	263
Carcass Gauge (mm)	3.30	3.56	4.17	4.60	6.86	7.75	9.07	9.88	11.35
Carcass Weight (kg/sq.m)	3.56	4.15	4.44	5.91	7.86	9.27	9.52	10.59	11.37
Approx 1mm cover weight (kg/sq.m)	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.13
Elastic Modulus (kN/m)	5780	6130	6570	7010	11,560	12,260	13,130	14,010	15,760

\*P/N = Poly/Nylon. \*\*Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult your Sales Representative or Distributor for elastic and total elongation calculations specific to each system based on Minuteman® calculations.



**Fortress XP™ Load Support - Maximum Belt Width**

Material Weight	0-40 lb./cu. ft. (0-640 kg/cu. m)			41-80 lb./cu. ft. (641-1280 kg/cu. m)			81-120 lb./cu. ft. (1281-1920 kg/cu. m)			Over 120 lb./cu. ft. (Over 1920 kg/cu. m)		
	Trough Angle	20	35	45	20	35	45	20	35	45	20	35
<b>Inches</b>												
330/1	72	66	54	66	54	48	60	48	42	48	42	36
440/1	84	72	60	72	60	54	66	54	48	60	48	42
500/1	84	72	60	72	60	54	66	54	48	60	48	42
625/1	84	72	66	72	66	60	72	60	54	66	54	48
660/2	90	84	84	84	78	72	84	72	66	72	66	54
880/2	96	90	84	90	84	78	90	84	78	84	78	66
1000/2	102	96	96	96	84	84	96	84	78	84	78	72
1250/2	108	108	102	102	90	90	102	90	78	90	78	78
1500/2	108	108	102	102	96	96	102	96	84	90	78	78
<b>Millimeters</b>												
330/1	1830	1680	1370	1680	1370	1220	1520	1220	1070	1220	1070	910
440/1	2130	1830	1520	1830	1520	1370	1680	1370	1220	1520	1220	1070
500/1	2130	1830	1520	1830	1520	1370	1680	1370	1220	1520	1220	1070
625/1	2130	1830	1680	1830	1680	1520	1830	1520	1370	1680	1370	1220
660/2	2290	2130	2130	2130	1980	1830	2130	1830	1680	1830	1680	1370
880/2	2440	2290	2130	2290	2130	1980	2290	2130	1980	2130	1980	1680
1000/2	2590	2440	2440	2440	2130	2130	2440	2130	1980	2130	1980	1830
1250/2	2740	2740	2590	2590	2290	2290	2590	2290	1980	2290	1980	1980
1500/2	2740	2740	2590	2590	2440	2440	2590	2440	2130	2290	1980	1980

On systems with troughing idler spacing greater than 5 ft. (1.5m) or idler roll gap greater than 1/2 in. (12.7mm), consult your Sales Representative or ContiTech.

**Fortress XP™ Troughability Support - Minimum Belt Width**

Idlers	Fortress XP 330/1	Fortress XP 440/1	Fortress XP 500/1	Fortress XP 625/1	Fortress XP 660/2	Fortress XP 880/2	Fortress XP 1000/2	Fortress XP 1250/2	Fortress XP 1500/2
<b>Inches</b>									
20 Degree	18	18	18	18	24	30	30	36	36
35 Degree	24	24	24	24	30	36	36	42	42
45 Degree	24	30	30	30	36	42	42	48	48
<b>Millimeters</b>									
20 Degree	460	460	460	460	610	760	760	910	910
35 Degree	610	610	610	610	760	910	910	1070	1070
45 Degree	610	760	760	760	910	1070	1070	1220	1220

If top cover and pulley cover are balanced (i.e., 3/16 in. x 3/16 in. or 4.7mm x 4.7mm) or less than 1/16 in. (1.5mm) differential (i.e., 3/16 in. x 5/32 in. or 4.7mm x 3.9mm), add 6 in. (152mm) to the minimum belt width. 6 in. (152mm) narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult your Sales Representative. Additional break-in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50°F (10°C).

# Fortress XP™ Belts

## Fortress XP™ Minimum Pulley Diameters

	Fortress XP 330/1	Fortress XP 440/1	Fortress XP 500/1	Fortress XP 625/1	Fortress XP 660/2	Fortress XP 880/2	Fortress XP 1000/2	Fortress XP 1250/2	Fortress XP 1500/2
<b>Inches</b>									
Over 80% Tension	18	20	20	22	24	30	36	36	42
60% - 80% Tension	16	18	18	20	20	24	30	30	36
40% - 60% Tension	14	16	16	18	18	20	30	30	36
Up to 40% Tension	12	14	14	16	16	18	24	24	30
Tails and Snubs	12	14	14	16	16	18	24	24	30
<b>Millimeters</b>									
Over 80% Tension	460	510	510	560	610	760	910	910	1070
60% - 80% Tension	410	460	460	510	510	610	760	760	910
40% - 60% Tension	360	410	410	460	460	510	760	760	910
Up to 40% Tension	300	360	360	410	410	460	610	610	760
Tails and Snubs	300	360	360	410	410	460	610	610	760

Note: The minimum cover for vulcanized splice is 1/8 in. (3.2mm). The recommended maximum top to bottom cover ratio for one ply is 2:1 (i.e., is 1/4 in. x 1/8 in. or 4.5mm x 2.25mm) and for two ply is 3:1 (i.e., is 3/8 in. x 1/8 in. or 9mm x 3mm). The above tables are based on top cover gauge equal or greater than the bottom (pulley) cover gauge.

# Elevator Data

## Fortress XP™ Elevator Belt Data

	Fortress XP 330/1	Fortress XP 440/1	Fortress XP 500/1	Fortress XP 625/1	Fortress XP 660/2	Fortress XP 880/2	Fortress XP 1000/2	Fortress XP 1250/2	Fortress XP 1500/2
<b>Plies</b>	1	1	1	1	2	2	2	2	2
<b>Fabric Type*</b>	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N
<b>Recommended Fastener Plate</b>	BR6	BR6	BR10	BR14	BR14	BR14	NR	NR	NR
<b>Imperial</b>									
Vulcanized & Fastener Rating (PIW)	264	350	400	500	525	700	800	1000	1200
Nominal Carcass Gauge (in.)	0.130	0.140	0.164	0.181	0.270	0.305	0.357	0.389	0.447
Spaced Industrial Max. Bucket Projection (in.)	8	9	10	11	12	12	12	12	12
Continuous Industrial Max. Bucket Projection (in.)	8	9	10	11	13	14	15	16	16
<b>Metric</b>									
Industrial Service Tension Capacity (kN/m)	46	61	70	88	92	123	140	175	210
Nominal Carcass Gauge (mm)	3.3	3.6	4.2	4.6	6.9	7.7	9.1	9.9	11.4
Spaced Industrial Max. Bucket Projection (mm)	200	230	250	280	300	300	300	300	300
Continuous Industrial Max. Bucket Projection (mm)	200	230	250	280	330	360	380	410	410

Fortress XP™ rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness, pulley diameters and system tension.

\*P/N = Poly/Nylon



# Pylon Plus® Belts

Pylon Plus® is our premium all-purpose fabric conveyor belt construction that can be used in a variety of industries and applications with most of our exclusive ContiTech rubber cover compounds.

## Markets

- › Aggregate
- › Baggage handling
- › Bulk handling terminal
- › Cement
- › Coal
- › Crushed stone
- › Foundry
- › Grain
- › Hard rock
- › Package handling
- › Power generation
- › Pulp and paper
- › Sand and gravel
- › Steel production
- › Wood products

## Applications

- › Coal prep plant
- › Log debarkers
- › Log decks
- › Mainlines
- › Pit belts
- › Primary crushers
- › Secondary crushers
- › Ship unloaders
- › Stacker conveyors
- › Trash and recycling
- › Block plants
- › Load out
- › Radial stackers
- › Ready mix
- › Wash plant

## Cover Compounds

- › 6740A (Solar-Shield® 300)
- › Defender® Plus
- › FR-2G
- › FRAR-2G
- › FRORS-2G
- › HT Nitrile (Solar-Shield® OR)
- › MonsterHide™
- › Protector
- › Stacker®
- › Survivor®
- › Survivor® Plus

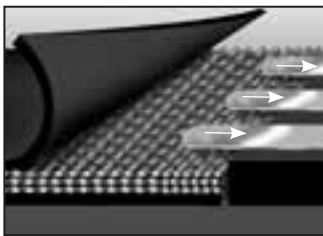
See pages 74-79 for more specific details.

See the process diagram for Aggregate, Hard Rock Mining, Sand and Gravel markets on page 8 for alternative belt recommendations.

Get a lower cost-per-ton conveyed

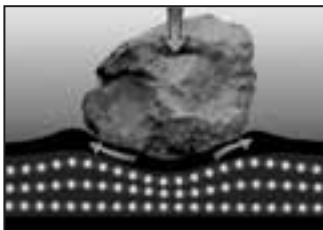
Tension Range: 220 to 1800 PIW

## Features & Benefits



### Excellent fastener holding retention

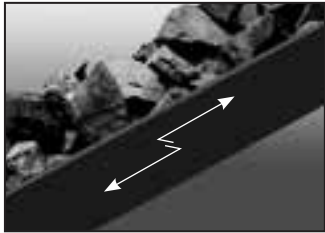
High strength fill cords enhance mechanical fastener holding ability and resist fastener pull-out for reliable performance and increased uptime.



### Excellent rip, tear and impact resistance

Specially designed crimped warp cords straighten on impact and then recover their original shape. This enables the fabric to absorb greater impact loads and resist tearing for long-lasting durability and a lower cost-per-ton conveyed.

# Pylon Plus® Belts



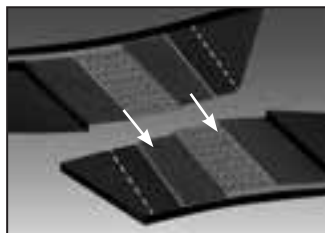
## High ultimate strength

Pylon Plus® withstands severe tension spikes at start up, retains mechanical fasteners and withstands continuous flexing around pulleys. This higher ultimate strength makes a critical difference in abusive operating conditions.



## Reduced stretch

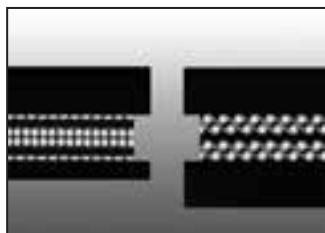
The combination of fabric design and dip process provides lower elasticity and permanent elongation on all specifications. This minimizes take-up concerns and reduces the number of splices at break-in. Contact your local Sales Representative to calculate permanent and elastic elongation requirements for your specific systems.



## Standard bias step splices

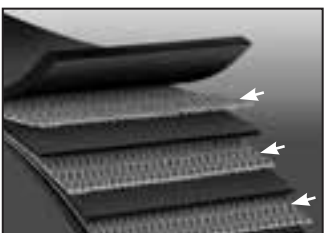
A quick and effective technique, step splices greatly reduce downtime and are recognized throughout the industry as the standard. The vulcanized splice in Pylon Plus® retains 100% of belt tension rating during all running conditions.

See data tables for proper step length on pages 16-17.



## Variety of cover compounds and cover gauges

Protect your product with the proper compound and cover gauge for the application. Pylon Plus® has the flexibility to customize a belt to your application.



## Variety of fabric carcasses

Choose from a selection of carcasses that provide outstanding strength, adhesion, impact absorption and other properties. These include fabric carcasses from 220 to 1800 PIW.



## Pylon Plus® Conveyor Belt Data

	Pylon Plus 220/2	Pylon Plus 250/2	Pylon Plus 330/3	Pylon Plus 375/3	Pylon Plus 400/2	Pylon Plus 440/4	Pylon Plus 500/4	Pylon Plus 600/3	Pylon Plus 750/3
<b># of Plies</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>3</b>
<b>Fabric Type*</b>	<b>P/P</b>	<b>P/N</b>	<b>P/P</b>	<b>P/N</b>	<b>P/P</b>	<b>P/P</b>	<b>P/N</b>	<b>P/P</b>	<b>P/P</b>
<b>Average Permanent Elongation (%)**</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>1.0</b>
<b>Recommended Fastener Plate</b>	<b>140</b>	<b>190</b>	<b>190</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-14</b>
<b>Hinge</b>	<b>R2</b>	<b>R2</b>	<b>R2</b>	<b>R5</b>	<b>R5</b>	<b>R5</b>	<b>R5-1/2</b>	<b>R5-1/2</b>	<b>R6</b>
<b>Hinge</b>	<b>U35A</b>	<b>U35A</b>	<b>U35A</b>	<b>U35</b>	<b>U35</b>	<b>U35</b>	<b>U35</b>	<b>U35</b>	<b>U37/U37A</b>
<b>Imperial</b>									
Vulcanized & Fastener Rating (PIW)	220	250	330	375	400	440	500	600	750
Nom. Carcass Gauge (in.)	0.121	0.135	0.161	0.169	0.178	0.221	0.229	0.251	0.272
Nom. Carcass Weight (lb./sq. ft.)	0.76	0.85	1.06	1.07	0.97	1.39	1.45	1.44	1.61
Approximate 1/32 in. Cover Weight (lb./sq. ft.)	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Elastic Modulus (PIW)	23,000	30,000	34,500	45,000	44,000	46,000	60,000	66,000	67,500
Step Length (in.)***	10	10	10	10	16	10	10	16	18
<b>Metric</b>									
Vulcanized & Fastener Rating (kN/m)	39	44	58	66	70	77	88	105	131
Nom. Carcass Gauge (mm)	3.07	3.4	4.09	4.3	4.5	5.61	5.8	6.4	6.3
Nom. Carcass Weight (kg/sq. m)	3.7	4.2	5.2	5.2	4.7	6.8	7.1	7.0	7.3
Approximate 1mm Cover Weight (kg/sq. m)	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
Elastic Modulus (kN/m)	4030	5250	6040	7880	7710	8060	10,510	11,560	9840
Step Length (mm)***	250	250	250	250	410	250	250	410	460

Pylon Plus® rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness, pulley diameters and system tension. Consult your Sales Representative or fastener manufacturer. R-6 fasteners must be installed with stainless steel rivets when belt tensions exceed 800 PIW (140 kN/m) for best results.

\*P/P = Poly/Poly and P/N = Poly/Nylon

\*\*Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult your Sales Representative or Distributor for elastic and total elongation calculations.

\*\*\*Consult your Sales Representative for vulcanized splice design for 900/2, 1350/3 and 1800/4 constructions.

Pylon Plus® 800/4-1800/4 continued on page 17

# Pylon Plus® Belts

## Pylon Plus® Conveyor Belt Data

continued from page 16

	Pylon Plus 800/4	Pylon Plus 900/2	Pylon Plus 1000/4	Pylon Plus 1000/5	Pylon Plus 1200/6	Pylon Plus 1250/5	Pylon Plus 1350/3	Pylon Plus 1800/4
<b># of Plies</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>3</b>	<b>4</b>
<b>Fabric Type*</b>	<b>P/P</b>	<b>P/N</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/N</b>	<b>P/N</b>
<b>Average Permanent Elongation (%)**</b>	<b>0.8</b>	<b>1.5</b>	<b>1.0</b>	<b>0.80</b>	<b>0.80</b>	<b>1.0</b>	<b>1.5</b>	<b>1.5</b>
<b>Recommended Fastener Plate</b>	<b>BR-14</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>
<b>Hinge</b>	<b>R6</b>	<b>RAR8</b>	<b>RAR8</b>	<b>RAR8</b>	<b>RAR8</b>	<b>RAR8</b>	<b>NR</b>	<b>NR</b>
<b>Hinge</b>	<b>U37/U37A</b>	<b>U38A</b>	<b>U38A</b>	<b>U38A</b>	<b>U38</b>	<b>U38</b>	<b>U38</b>	<b>U38B</b>
<b>Imperial</b>								
Vulcanized & Fastener Rating (PIW)	800	900	1000	1000	1200	1250	1350	1800
Nom. Carcass Gauge (in.)	0.340	0.300	0.368	0.429	0.518	0.464	0.453	0.613
Nom. Carcass Weight (lb./sq. ft.)	1.96	1.88	2.18	2.47	2.89	2.75	2.84	3.84
Approximate 1/32 in. Cover Weight (lb./sq. ft.)	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Elastic Modulus (PIW)	88,000	62,500	90,000	110,000	132,000	112,500	93,800	125,100
Step Length (in.)***	16	Finger	18	16	16	18	Finger	Finger
<b>Metric</b>								
Vulcanized & Fastener Rating (kN/m)	140	158	175	175	210	219	236	315
Nom. Carcass Gauge (mm)	8.6	7.6	9.3	10.9	13.2	11.79	11.5	15.6
Nom. Carcass Weight (kg/sq. m)	9.6	9.2	10.64	12.1	14.1	13.43	13.9	18.7
Approximate 1mm Cover Weight (kg/sq. m)	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
Elastic Modulus (kN/m)	15,410	10,950	15,760	19,260	23,120	19,700	16,430	21,910
Step Length (mm)***	410	Finger	460	410	410	460	Finger	Finger

Pylon Plus® rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness, pulley diameters and system tension. Consult your Sales Representative or fastener manufacturer. R-6 fasteners must be installed with stainless steel rivets when belt tensions exceed 800 PIW (140 kN/m) for best results.

\*P/P = Poly/Poly and P/N = Poly/Nylon

\*\*Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult your Sales Representative or Distributor for elastic and total elongation calculations.

\*\*\*Consult your Sales Representative for vulcanized splice design for 900/2, 1350/3 and 1800/4 constructions.

Pylon Plus® Load Support - Maximum Belt Width

PIW/Plies	Material Weight	0-40 lb./cu. ft. (0-640 kg/cu. m)			41-80 lb./cu. ft. (641-1280 kg/cu. m)			81-120 lb./cu. ft. (1281-1920 kg/cu. m)			Over 120 lb./cu. ft. (Over 1920 kg/cu. m)		
		Trough Idlers	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg
<b>Inches</b>													
220/2		48	42	36	48	36	36	42	36	30	36	30	NR
250/2		54	48	48	48	42	36	42	42	30	36	30	NR
330/3		60	54	48	60	48	42	54	48	42	48	42	36
375/3		72	60	60	60	60	48	54	54	48	48	42	36
400/2		60	54	54	54	48	42	48	48	42	42	36	30
440/4		72	60	54	66	60	48	60	54	48	54	48	42
500/4		84	72	72	72	60	54	72	60	54	60	54	48
600/3		84	72	72	72	60	54	72	60	54	60	54	48
750/3		84	72	72	72	60	54	72	60	54	60	54	48
800/4		96	84	84	84	72	72	84	72	60	72	60	54
900/2		78	78	72	72	72	60	72	60	54	60	54	48
1000/4		96	84	84	84	72	72	84	72	60	72	60	54
1000/5		108	96	96	96	84	84	96	84	72	84	72	72
1200/6		116	108	108	108	96	96	108	96	84	96	84	84
1250/5		116	108	108	108	96	96	108	96	84	96	84	78
1350/3		96	96	84	96	96	84	96	84	72	96	84	72
1800/4		118	118	108	118	118	108	108	108	96	108	96	84
<b>Millimeters</b>													
220/2		1220	1070	910	1220	910	910	1070	910	760	910	760	NR
250/2		1370	1220	1220	1220	1070	910	1070	1070	760	910	760	NR
330/3		1520	1370	1220	1520	1220	1070	1370	1220	1070	1220	1070	910
375/3		1830	1520	1520	1520	1520	1220	1370	1370	1220	1220	1070	910
400/2		1520	1370	1370	1370	1220	1070	1220	1220	1070	1070	910	760
440/4		1830	1520	1370	1680	1520	1220	1520	1370	1220	1370	1220	1070
500/4		2130	1830	1830	1830	1520	1370	1830	1520	1370	1520	1370	1220
600/3		2130	1830	1830	1830	1520	1370	1830	1520	1370	1520	1370	1220
750/3		2130	1830	1830	1830	1520	1370	1830	1520	1370	1520	1370	1220
800/4		2440	2130	2130	2130	1830	1830	2130	1830	1520	1830	1520	1370
900/2		1980	1980	1830	1830	1830	1520	1830	1520	1370	1520	1370	1220
1000/4		2440	2130	2130	2130	1830	1830	2130	1830	1520	1830	1520	1370
1000/5		2740	2440	2440	2440	2130	2130	2440	2130	1830	2130	1830	1830
1200/6		2950	2740	2740	2740	2440	2440	2740	2440	2130	2440	2130	2130
1250/5		2950	2740	2740	2740	2440	2440	2740	2440	2130	2440	2130	1980
1350/3		2440	2440	2130	2440	2440	2130	2440	2130	1830	2440	2130	1830
1800/4		3000	3000	2740	3000	3000	2740	2740	2740	2440	2740	2440	2130

On systems with troughing idler spacing greater than 5 ft. (1.5 m) OR idler roll gap greater than 1/2 in. (12.7mm), consult your Sales Representative or ContiTech.

# Pylon Plus® Belts

## Pylon Plus® Troughability - Minimum Belt Width

Table based on ISO 703 Testing Procedure

Idlers	220/2	250/2	330/3	375/3	400/2	440/4	500/4	600/3	750/3	800/4	900/2	1000/4	1000/5	1200/6	1250/5	1350/3	1800/4
<b>Inches</b>																	
20 Degree	18	18	18	20	18	24	24	24	24	30	24	30	36	42	36	30	36
35 Degree	18	18	24	24	24	30	30	30	30	36	30	36	42	48	42	36	42
45 Degree	24	24	30	30	30	36	36	36	36	42	36	42	48	54	48	42	48
<b>Millimeters</b>																	
20 Degree	460	460	460	510	460	610	610	610	610	760	610	760	910	1070	910	760	910
35 Degree	460	460	610	610	610	760	760	760	760	910	760	910	1070	1220	1070	910	1070
45 Degree	610	610	760	760	760	910	910	910	910	1070	910	1070	1220	1370	1220	1070	1220

If top cover and pulley cover are balanced (i.e., 3/16 in.x3/16 in. or 5mm x 5mm) or less than 1/16 in. (2mm) differential (i.e., 3/16 in.x5/32 in. or 4mm x 3mm), add 6 in. (150mm) to the minimum belt width. 6 in. (150mm). Narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult your Sales Representative. Additional break-in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50°F (10°C).

The above tables are based on top cover gauge equal or greater than the bottom (pulley) cover gauge.

## Pylon Plus® Minimum Pulley Diameters

	Pylon Plus 220/2	Pylon Plus 250/2	Pylon Plus 330/3	Pylon Plus 375/3	Pylon Plus 400/2	Pylon Plus 440/4	Pylon Plus 500/4	Pylon Plus 600/3	Pylon Plus 750/3	Pylon Plus 800/4	Pylon Plus 900/2
<b># of Plies</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>2</b>
<b>Inches</b>											
Over 80% Tension	16	16	18	18	16	24	24	24	30	30	30
60% to 80% Tension	14	14	16	16	14	20	20	20	24	24	24
40% to 60% Tension	10	12	14	14	12	16	18	18	20	20	24
Up to 40% Tension	10	12	14	14	10	16	18	16	18	18	20
Tails and Snubs	10	12	14	14	10	16	18	16	18	18	20
<b>Millimeters</b>											
Over 80% Tension	410	410	460	460	410	610	610	610	760	760	760
60% to 80% Tension	360	360	410	410	360	510	510	510	610	610	610
40% to 60% Tension	250	300	300	360	300	410	460	460	510	510	610
Up to 40% Tension	250	300	300	360	250	410	460	410	460	460	510
Tails and Snubs	250	300	300	360	250	410	460	410	460	460	510

Pylon Plus® HT belts (2/900, 3/1350, 4/1800) require a minimum pulley cover gauge of 1/8 in. (3.18mm) if vulcanized splicing will be used.

Pylon Plus® 1000/4-1800/4 continued on page 20



Pylon Plus® Minimum Pulley Diameters

continued from page 19

	Pylon Plus 1000/4	Pylon Plus 1000/5	Pylon Plus 1200/6	Pylon Plus 1250/5	Pylon Plus 1350/3	Pylon Plus 1800/4
<b># of Plies</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>3</b>	<b>4</b>
<b>Inches</b>						
Over 80% Tension	36	36	42	42	36	42
60% to 80% Tension	30	30	36	36	30	36
40% to 60% Tension	24	24	30	30	30	36
Up to 40% Tension	20	20	30	24	24	30
Tails and Snubs	20	20	30	24	24	30
<b>Millimeters</b>						
Over 80% Tension	910	910	1070	1070	910	1070
60% to 80% Tension	760	760	910	910	760	910
40% to 60% Tension	610	610	760	760	760	910
Up to 40% Tension	510	510	760	610	610	760
Tails and Snubs	510	510	760	610	610	760

Pylon Plus® HT belts (1000/2, 1350/3, 1800/4) require a minimum pulley cover gauge of 1/8 in. (3.18mm) if using vulcanized splicing.

# Pylon Plus®

In applications that include crusher, pit, slope and other high-abuse applications, our Pylon Plus® 200, 250 and 450 PIW fabric belts have proven their dependability. The workhorse of our line-up, millions of feet of Pylon Plus belt are operating worldwide with outstanding success. The key is our unique **double-faced 2-1 twill fabric design**.



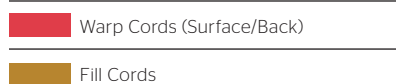
### CABLE TWISTED WARP CORD

Within each warp cord are nine individual strands of polyester cords. Three sets of three are twisted together, then twisted into a single cord.

\*Cord illustrated above is utilized in 200, 250 and 450 PIW fabric constructions

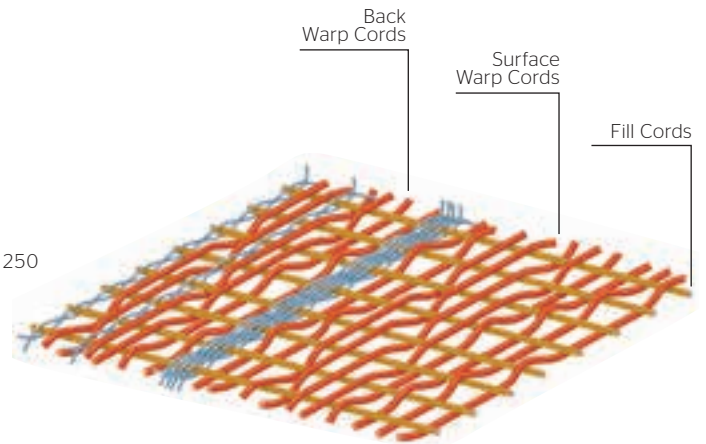
### DOUBLE-FACED 2/1 TWILL WEAVE

Superior flexibility is ensured by the unique weave pattern of Pylon Plus® 200, 250 and 450 PIW fabrics. As shown, the face warp cords on the top surface of the fabric cross over three fill cords, go under one, over three, under one, and so on. Beneath the fabric are back warp cords. They are arranged in the opposite fashion of the face cords—going under three fill cords, over one, under three, etc. Competitive belts place their warp cords over three, under three...which compromises flexibility and promotes edge fray.



The polyester warp cords of the Pylon Plus® fabric are twisted into sets of individual strands, then fashioned into a cabled cord. Compare the configurations of Pylon Plus® and our competitors' and you'll find that the Pylon Plus® belt provides significantly more **flexibility**, which enables you to reduce pulley size and costs. And that's just the beginning of the Pylon Plus® belt savings story.

Pylon Plus® 200, 250 and 450 PIW fabric conveyor belts demonstrate superior resistance to tears, rips and impact. They also provide unsurpassed adhesion values, patented anti-stringing and fraying properties.



**Tension Range: 400 to 1800 PIW**

# Elevator Data

## Pylon Plus® Elevator Belt Data

	Pylon Plus 220/2	Pylon Plus 250/2	Pylon Plus 330/3	Pylon Plus 375/3	Pylon Plus 400/2	Pylon Plus 440/4	Pylon Plus 500/4	Pylon Plus 600/3	Pylon Plus 750/3	Pylon Plus 800/4	Pylon Plus 900/2
<b># of Plies</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>2</b>
<b>Fabric Type*</b>	<b>P/P</b>	<b>P/N</b>	<b>P/P</b>	<b>P/N</b>	<b>P/P</b>	<b>P/P</b>	<b>P/N</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/N</b>
<b>Recommended Plate Fastener</b>	<b>140</b>	<b>190</b>	<b>190</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-14</b>	<b>BR-14</b>	<b>NR</b>
<b>Imperial</b>											
Industrial Service Tension Capacity (PIW)	170	195	250	290	310	350	385	465	580	620	700
Nom. Carcass Gauge (in.)	0.121	0.135	0.161	0.169	0.178	0.221	0.229	0.251	0.246	0.340	0.300
Spaced Industrial Max. Bucket Projection	6	7	7	8	9	10	11	10	10	11	11
Continuous Industrial Max. Bucket Projection	5	6	7	8	9	10	11	12	12	14	14
<b>Metric</b>											
Industrial Service Tension Capacity (kN/m)	30	34	44	51	54	61	67	81	102	109	123
Nom. Carcass Gauge (mm)	3.07	3.43	4.09	4.29	4.52	5.61	5.82	6.38	6.25	8.64	7.62
Spaced Industrial Max. Bucket Projection	150	180	180	200	230	250	280	250	250	280	280
Continuous Industrial Max. Bucket Projection	130	150	180	200	230	250	280	300	300	360	360

Pylon Plus® rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness, pulley diameters and system tension. Consult your Sales Representative or fastener manufacturer. Consult your Sales Representative for vulcanized splice design for 900/2, 1350/3 and 1800/4 constructions. \*P/P = Poly/Poly and P/N = Poly/Nylon

## Pylon Plus® Elevator Belt Data

	Pylon Plus 1000/4	Pylon Plus 1000/5	Pylon Plus 1200/6	Pylon Plus 1250/5	Pylon Plus 1350/3	Pylon Plus 1800/4
<b># of Plies</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>3</b>	<b>4</b>
<b>Fabric Type*</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/N</b>	<b>P/N</b>
<b>Recommended Plate Fastener</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>
<b>Imperial</b>						
Industrial Service Tension Capacity (PIW)	775	775	930	970	1050	1400
Nom. Carcass Gauge (in.)	0.337	0.429	0.518	0.427	0.453	0.613
Spaced Industrial Max. Bucket Projection	12	12	12	12	13	15
Continuous Industrial Max. Bucket Projection	15	16	20	20	22	26
<b>Metric</b>						
Industrial Service Tension Capacity (kN/m)	136	136	163	170	184	245
Nom. Carcass Gauge (mm)	8.56	10.90	13.16	10.85	11.51	15.57
Spaced Industrial Max. Bucket Projection	300	300	300	300	330	380
Continuous Industrial Max. Bucket Projection	380	410	510	510	560	660

Pylon Plus® rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness, pulley diameters and system tension. Consult your Sales Representative or fastener manufacturer. Consult your Sales Representative for vulcanized splice design for 900/2, 1350/3 and 1800/4 constructions.

\*P/P = Poly/Poly and P/N = Poly/Nylon

# PowerPly Belts

PowerPly is our standard all-purpose fabric conveyor belt construction that can be used in a variety of industries and applications with most of our exclusive ContiTech rubber cover compounds.

## Markets

- › Aggregate
- › Bulk handling terminal
- › Cement
- › Coal
- › Crushed stone
- › Foundry
- › Power generation
- › Pulp and paper
- › Sand and gravel
- › Steel production
- › Tension range

## Applications

- › Coal prep plant
- › Mainlines
- › Secondary crushers
- › Ship unloaders
- › Stacker conveyors
- › Trash and recycling
- › Block plants
- › Radial stackers
- › Ready mix
- › Wash plant

## Cover Compounds

- › 6740A (Solar-Shield® 300)
- › Defender® Plus
- › FR-2G
- › FRORS-2G
- › Fras "C"
- › Fras "SA"
- › HT Nitrile (Solar-Shield® OR)
- › Protector

\*Available with most compounds, but not all. Not available with Stacker® and MonsterHide™.

Get a lower cost-per-ton conveyed

Tension Range: 220/2 to 1000/5 PIW

### PowerPly Conveyor Belt Data

	PWPLY 220/2	PWPLY 330/3	PWPLY 400/2	PWPLY 440/4	PWPLY 600/3	PWPLY 800/4	PWPLY 1000/5
<b>Number of Plies</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Fabric Type*</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>
<b>Recommended Fastener Plate</b>	<b>140</b>	<b>190</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-14</b>	<b>NR</b>
<b>Hinge</b>	<b>R2</b>	<b>R2</b>	<b>R5</b>	<b>R5</b>	<b>R-1/2</b>	<b>R6</b>	<b>RAR8</b>
<b>Hinge</b>	<b>U35A</b>	<b>U35A</b>	<b>U35</b>	<b>U35</b>	<b>U35</b>	<b>U37/U37A</b>	<b>U38A</b>
<b>Imperial</b>							
Vulcanized & Fastener Rating (piw)	220	330	400	440	600	800	1000
Elevator Rating (piw)	170	250	310	350	465	620	775
Spaced Industrial Max. Bucket Projection (in)	6	7	8	10	10	11	12
Continuous Industrial Max. Bucket Projection (in)	5	6	7	9	10	11	12
Nom. Carcass Gauge (in.)	0.121	0.161	0.146	0.221	0.203	0.276	0.349
Nom. Carcass Weight (lbs/sq.ft.)	0.74	0.98	1.08	1.35	1.32	1.81	2.30
Approx 1/32" Cover Weight (lbs/sq.ft.)	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Avg. Permanent Elongation (%) **	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Elastic Modulus (piw)	26,000	39,000	37,000	52,000	56,000	75,000	93,000
Step Length (in.) ***	10	10	16	10	16	16	16
<b>Metric</b>							
Vulcanized & Fastener Rating (kN/m)	39	58	70	77	105	140	175
Elevator Rating (kN/m)	30	44	54	61	81	109	136
Spaced Industrial Max. Bucket Projection (mm)	152	178	203	254	254	279	305
Continuous Industrial Max. Bucket Projection (mm)	127	152	178	229	254	279	305
Nom. Carcass Gauge (mm)	3.1	4.1	3.7	5.6	5.2	7.0	8.9
Nom. Carcass Weight (kg/sq.m.)	3.6	4.8	5.2	6.6	6.4	8.8	11.2
Approx 1/32" Cover Weight (kg/sq.m.)	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Avg. Permanent Elongation (%) **	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Elastic Modulus (kN/m)	4550	6830	6480	9110	9810	13,130	16,290
Step Length (mm) ***	250	250	410	250	410	410	410

PowerPly rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness, pulley diameters and system tension. Consult your CTM or fastener manufacturer.

P/P = Poly/Poly

\*\* Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult your GTM or GAD for elastic & total elongation calculations.

**PowerPly Load Support - Maximum Belt Width**

PIW/Plies	Equal Roll	0-40 lb./cu. ft.			41-80 lb./cu. ft.			81-120 lb./cu. ft.		
	Degree of Idlers	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
<b>Inches</b>										
220/2		48	42	36	48	36	36	42	36	30
330/3		60	54	48	60	48	42	54	48	42
400/2		54	48	42	54	42	42	48	42	36
440/4		72	60	54	66	60	48	60	54	48
600/3		72	60	60	66	54	48	60	54	48
800/4		72	72	60	72	66	60	66	60	54
1000/5		84	78	72	78	72	66	72	66	60
<b>Millimeters</b>										
220/2		1200	1100	900	1200	900	900	1100	900	800
300/3		1500	1400	1200	1500	1200	1100	1400	1200	1100
400/2		1400	1200	1100	1400	1100	1100	1200	1100	900
440/4		1800	1500	1400	1700	1500	1200	1500	1400	1200
600/3		1800	1500	1500	1700	1400	1200	1500	1400	1200
800/4		1800	1800	1500	1800	1700	1500	1700	1500	1400
1000/5		2100	2000	1800	2000	1800	1700	1800	1700	1500

On systems with troughing idler spacing greater than 5 ft. OR idler roll gap greater than 1/2", consult your CTM.

**PowerPly Troughability - Minimum Belt Width**

Table based on ISO 703 Testing Procedure

Idlers	220/2	330/3	400/2	440/4	600/3	800/4	1000/5
<b>Inches</b>							
20 Degree Idlers	18	18	18	24	24	30	36
35 Degree Idlers	18	24	24	30	30	36	42
45 Degree Idlers	24	30	30	36	36	42	48
<b>Millimeters</b>							
20 Degree Idlers	500	500	500	600	600	800	900
35 Degree Idlers	500	600	600	800	800	900	1100
45 Degree Idlers	600	800	800	900	900	1100	1200

If top cover and pulley cover are balanced (i.e., 3/16 in. x 3/16 in. or 5mm x 5mm) or less than 1/16 in. (2mm) differential (i.e., 3/16 in. x 5/32 in. or 4mm x 3mm), add 6 in. (150mm) to the minimum belt width. 6 in. (150mm) narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult your Sales Representative. Additional break-in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50°F (10°C). Above tables are based on top cover gauge equal or greater than the bottom (pulley) cover gauge.

**PowerPly Minimum Pulley Diameters**

	PowerPly 220/2	PowerPly 330/3	PowerPly 400/4	PowerPly 440/4	PowerPly 600/3	PowerPly 800/4	PowerPly 1000/5
<b>Number of Plies</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Inches</b>							
Over 80% Tension	16	18	18	24	24	30	36
60% to 80% Tension	14	16	16	20	20	24	30
40% to 60% Tension	10	14	14	16	18	20	24
Up to 40% Tension	10	14	14	16	16	18	20
Tails and Snubs	10	14	14	16	16	18	20
<b>Millimeters</b>							
Over 80% Tension	400	500	500	600	600	800	900
60% to 80% Tension	400	400	400	500	500	600	800
40% to 60% Tension	300	400	400	400	500	500	600
Up to 40% Tension	300	400	400	400	400	500	500
Tails and Snubs	300	400	400	400	400	500	500



# Spartan® Belts

ContiTech Spartan® is an economical fabric belt construction. Spartan® belts are recommended for material less than 3 inches in diameter.

Markets	Applications	Cover Compounds
<ul style="list-style-type: none"> <li>› Aggregate</li> <li>› Package handling</li> <li>› Sand and gravel</li> </ul>	<ul style="list-style-type: none"> <li>› Load out</li> <li>› Low abuse</li> <li>› Radial stacker</li> <li>› Ready mix</li> <li>› Stacker</li> </ul>	<ul style="list-style-type: none"> <li>› Aggregate</li> <li>› Grain</li> <li>› MORS</li> </ul> <p>See pages 75-81 for more specific details.</p>

See the process diagram for Aggregate, Hard Rock Mining, Sand and Gravel markets on page 8 for alternative belt recommendations.

**Get a lower cost-per-ton conveyed** **Tension Range: 220 to 600 PIW**

## Spartan® Conveyor Belt Data

	Spartan 220/2	Spartan 330/3	Spartan 440/4	Spartan 600/3
<b># of Plies</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>3</b>
<b>Fabric Type*</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>
<b>Average Permanent Elongation (%)**</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>
<b>Recommended Fastener Plate</b>	<b>140</b>	<b>190</b>	<b>BR-10</b>	<b>BR-10</b>
<b>Hinge</b>	<b>R2</b>	<b>R2</b>	<b>R5</b>	<b>R5-1/2</b>
<b>Hinge</b>	<b>U35A</b>	<b>U35A</b>	<b>U35</b>	<b>U35</b>
<b>Imperial</b>				
Vulcanized & Fastener Rating (PIW)	220	330	440	600
Carcass Gauge (in.)	0.084	0.140	0.197	0.191
Carcass Weight (lb./sq. ft.)	0.53	0.83	1.13	1.36
Approximate 1/32 in. Cover Weight (lb./sq. ft.)	0.19	0.19	0.19	0.19
Elastic Modulus (PIW)	26,000	39,000	52,000	56,000
Step Length (in.)	10	10	10	16
<b>Metric</b>				
Vulcanized & Fastener Rating (kN/m)	39	58	77	600
Carcass Gauge (mm)	1.68	2.64	3.63	6.07
Carcass Weight (kg/sq. m)	2.6	4.1	5.5	6.6
Approximate 1mm Cover Weight (kg/sq. m)	1.17	1.17	1.17	1.17
Elastic Modulus (kN/m)	4550	6830	9110	9810
Step Length (mm)	250	250	250	410

Spartan® rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness, pulley diameters and system tension. Consult your Sales Representative or fastener manufacturer.

\*P/P = Poly/Poly.

\*\*Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult your Sales Representative or Distributor for electrical and total elongation calculating.

# Spartan® Belts

## Spartan® Load Support - Maximum Belt Width

PIW/Plies	Material Weight Trough Idlers	0-40 lb./cu. ft. (0-640 kg/cu. m)			41-80 lb./cu. ft. (641-1280 kg/cu. m)			81-120 lb./cu. ft. (1281-1920 kg/cu. m)		
		20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
<b>Inches</b>										
220/2		42	36	30	36	30	24	30	24	18
330/3		48	42	36	48	36	30	42	36	30
440/4		54	48	42	54	48	36	48	42	36
600/3		72	60	60	66	60	54	60	54	48
<b>Millimeters</b>										
220/2		1070	910	760	910	760	610	760	610	460
330/3		1220	1070	910	1220	910	760	1070	910	760
440/4		1370	1220	1070	1370	1220	910	1220	1070	910
600/3		1830	1520	1520	1680	1520	1370	1520	1370	1220

On systems with troughing idler spacing greater than 5 ft. (1.5m) OR idler roll gap greater than 1/2 in. (12.7mm), consult your Sales Representative or ContiTech.

## Spartan® Troughability - Minimum Belt Width

Table based on ISO 703 Testing Procedure

Idlers	Spartan 220/2	Spartan 330/3	Spartan 440/4	Spartan 600/3
<b>Inches</b>				
20 Degree Idlers	14	16	20	24
35 Degree Idlers	16	20	24	30
45 Degree Idlers	20	24	30	36
<b>Millimeters</b>				
20 Degree Idlers	360	410	610	610
35 Degree Idlers	410	510	760	760
45 Degree Idlers	510	610	910	910

If top cover and pulley cover are balanced (i.e., 3/16 in. x 3/16 in. or 5mm x 5mm) or less than 1/16 in. (2mm) differential (i.e., 3/16 in. x 5/32 in. or 4mm x 3mm), add 6 in. (150mm) to the minimum belt width. 6 in. (150mm) narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult your Sales Representative. Additional break-in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50°F (10°C). Above tables are based on top cover gauge equal or greater than the bottom (pulley) cover gauge.

## Spartan® Minimum Pulley Diameters - Minimum Belt Width

Table based on ISO 703 Testing Procedure

	Spartan 220/2	Spartan 330/3	Spartan 440/4	Spartan 600/3
<b>Inches</b>				
Over 80% Tension	14	16	20	24
60% to 80% Tension	12	14	18	20
40% to 60% Tension	8	10	14	18
Up to 40% Tension	8	10	14	16
Tails and Snubs	8	10	14	16
<b>Millimeters</b>				
Over 80% Tension	360	410	510	610
60% to 80% Tension	300	360	460	510
40% to 60% Tension	200	250	360	460
Up to 40% Tension	200	250	360	410
Tails and Snubs	200	250	360	410

# Solar-Shield® Belts

Solar-Shield® heat belts are offered with polyester/nylon, polyester/polyester and fiberglass fabric reinforcements. It offers high performance in extreme hot material applications. The fiberglass fabric option offers the highest degree of burn-through resistance of any current available fabric reinforcement.

## Markets

- › Cement
- › Foundry
- › Iron ore
- › Steel production
- › Taconite

## Applications

- › Cement clinker
- › Coke plants
- › Hot powdery materials
- › Sintered ore
- › Steel mills
- › Taconite pellets

## Cover Compounds

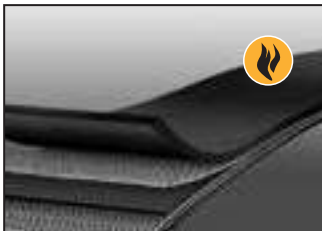
- › Solar-Shield® XL 750
- › Solar-Shield 400
- › 6740A (Solar-Shield® 300)
- › HT Nitrile (Solar-Shield® OR)
- › Defender Plus

See pages 75-81 for more specific details.

Get a lower cost-per-ton conveyed

**Tension Range: 220 to 1200 PIW**

## Features & Benefits



### Heat-resistant cover resists cracking and hardening

Solar-Shield® XL 750 belting performs over the long run while retaining its flexibility despite punishing conditions and loads. Less cracking and hardening translates into longer life and reduced replacement costs.

Solar-Shield® XL 750 compound improves heat resistance above and beyond our 400°F (204°C) compound and significantly extends belt life. Solar-Shield® XL 750 was designed to handle hot material loads intermittently up to 750°F (399°C), providing extreme longevity in severe heat applications.



### High-temperature resistance to tearing and abrasion

Load after load, Solar-Shield® XL 750 stands up to prolonged exposure. This reduced maintenance and downtime helps lower overall operating costs.

# Solar-Shield®

## Features & Benefits

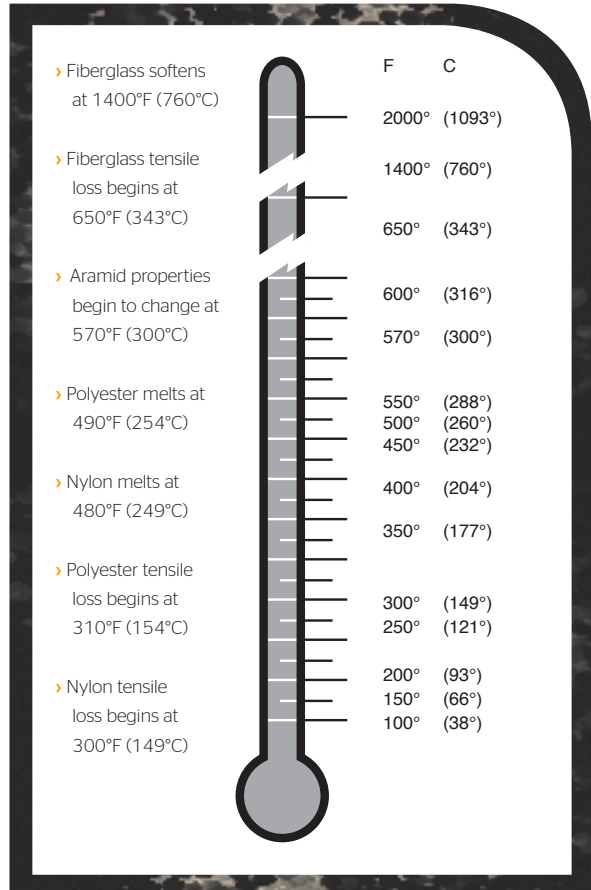
### Synthetic carcass construction

Solar-Shield® synthetic carcass provides great dimensional stability and strength at high temperatures and operating tensions up to 1200 PIW.

### Solar-Shield® carcass with fiberglass reinforcement

Fiberglass reinforcement throughout all plies of the carcass provides maximum protection when temperatures are not constant. The carcass stands up to "hot shots," resisting burn-through up to 1000°F (538°C).

### General Heat Resistance of Heat Belt Reinforcement



### Solar-Shield® Conveyor Belt Data

Solar-Shield												
	220/2	220/2 GL	250/2	330/3	330/3 GL	375/3	400/2	500/4	600/3	800/4	1000/5	1200/6
<b>Number of Plies</b>	2	2	2	3	3	3	2	4	3	4	5	6
<b>Fabric Type*</b>	P/P	Glass	P/N	P/P	Glass	P/N	P/P	P/N	P/P	P/P	P/P	P/P
<b>Average Permanent Elongation (%)**</b>	0.80	0.80	0.80	0.8	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
<b>Imperial</b>												
Vulcanized & Fastener Rating (PIW)	220	220	250	330	330	375	400	500	600	800	1000	1200
Carcass Gauge (in.)	0.108	0.148	0.108	0.181	0.233	0.182	0.178	0.253	0.251	0.340	0.429	0.518
Carcass Weight (lb./sq. ft.)	0.63	1.02	0.63	1.04	1.58	1.07	0.93	1.50	1.37	1.88	2.34	2.83
Approximate 1/32 in. Cover Weight (lb./sq. ft.)	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Elastic Modulus (PIW)	23,000	37,000	30,000	34,500	55,500	45,000	44,000	60,000	66,000	88,000	110,000	132,000
Step Length (in.)	12	18	12	12	18	12	16	12	16	16	16	16

Solar-Shield® rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions.

\*P/P = Poly/Poly; P/N = Poly/Nylon

\*\*Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure.

Consult your Sales Representative or Distributor for elastic and total elongation calculations.

Metric continued on page 28



# Solar-Shield® Belts

## Solar-Shield® Conveyor Belt Data

continued from page 27

Solar-Shield®												
	220/2	220/2 GL	250/2	330/3	330/3 GL	375/3	400/2	500/4	600/3	800/4	1000/5	1200/6
<b>Number of Plies</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>Fabric Type*</b>	<b>P/P</b>	<b>GL</b>	<b>P/N</b>	<b>P/P</b>	<b>GL</b>	<b>P/N</b>	<b>P/P</b>	<b>P/N</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>
<b>Average Permanent Elongation (%)**</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>
<b>Metric</b>												
Vulcanized & Fastener Rating (kN/m)	39	39	44	58	58	66	70	88	105	140	175	210
Carcass Gauge (mm)	2.7	3.8	2.7	4.6	5.9	4.6	4.5	6.4	6.4	8.6	10.9	13.2
Carcass Weight (kg/sq. m)	3.1	5.0	3.1	5.1	7.7	5.2	4.5	7.3	6.7	9.2	11.4	13.8
Approximate 1mm Cover Weight (kg/sq. m)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Elastic Modulus (kN/m)	4030	6480	5250	6040	9720	7880	7710	10,510	11,560	15,410	19,260	23,120
Step Length (mm)	300	460	300	300	460	300	410	300	410	410	410	410

Solar-Shield® rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions.

\*P/P = Poly/Poly; P/N = Poly/Nylon; GL = Glass

\*\*Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult your Sales Representative or Distributor for elastic and total elongation calculations.

## Solar-Shield® Load Support - Maximum Belt Width

Material Weight	0-40 lb./cu. ft. (0-640 kg/cu. m)			41-80 lb./cu. ft. (641-1280 kg/cu. m)			81-120 lb./cu. ft. (1281-1920 kg/cu. m)			Over 120 lb./cu. ft. (Over 1920 kg/cu. m)			
	Trough Idlers	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
<b>PIW/Plies - Fabric*</b>													
<b>Inches</b>													
220/2 - P/P		54	48	48	48	42	36	42	42	30	36	30	NR
220/2 - GL		54	48	42	48	42	36	42	42	NR	36	30	NR
250/2 - P/N		54	48	48	48	42	36	42	42	30	36	30	NR
330/3 - P/P		72	60	60	60	54	48	54	48	42	48	42	NR
330/3 - GL		72	60	60	60	54	48	54	48	42	48	42	NR
375/3 - P/N		72	60	60	60	54	48	54	48	42	48	42	NR
400/2 - P/P		60	54	54	54	48	42	48	48	42	42	36	30
500/4 - P/N		84	72	72	72	60	54	72	60	54	60	54	48
600/3 - P/P		84	72	72	72	60	54	72	60	54	60	54	48
800/4 - P/P		96	84	84	84	72	72	84	72	60	72	60	54
1000/5 - P/P		108	96	96	96	84	84	96	84	72	84	72	72
1200/6 - P/P		116	108	108	108	96	96	108	96	84	96	84	84
<b>Millimeters</b>													
220/2 - P/P		1370	1220	1220	1220	1070	910	1070	1070	760	910	760	NR
220/2 - GL		1370	1220	1070	1220	1070	910	1070	1070	NR	910	760	NR
250/2 - P/N		1370	1220	1220	1220	1070	910	1070	1070	760	910	760	NR
330/3 - P/P		1830	1520	1520	1520	1370	1220	1370	1220	1070	1220	1070	NR
330/3 - GL		1830	1520	1520	1520	1370	1220	1370	1220	1070	1220	1070	NR
375/3 - P/N		1830	1520	1520	1520	1370	1220	1370	1220	1070	1220	1070	NR
400/2 - P/P		1520	1370	1370	1370	1220	1070	1220	1220	1070	1070	910	760
500/4 - P/N		2130	1830	1830	1830	1520	1370	1830	1520	1370	1520	1370	1200
600/3 - P/P		2130	1830	1830	1830	1520	1370	1830	1520	1370	1520	1370	1200
800/4 - P/P		2440	2130	2130	2130	1830	1830	2130	1830	1520	1830	1520	1400
1000/5 - P/P		2740	2440	2440	2440	2130	2130	2440	2130	1830	2130	1830	1850
1200/6 - P/P		2950	2740	2740	2740	2440	2440	2740	2440	2130	2440	2130	2150

On systems with troughing idler spacing greater than 5 ft. (1.5m) OR idler roll gap greater than 1/2 in. (12.7mm), consult your Sales Representative or ContiTech.

\*P/P = Poly/Poly; P/N = Poly/Nylon; GL = Glass

# Solar-Shield® Belts

## Solar-Shield® Troughability - Minimum Belt Width

Table based on ISO 703 Testing Procedure

Solar-Shield®												
Idlers	220/2	220/2 GL	250/2	330/3	330/3 GL	375/3	400/2	500/4	600/3	800/4	1000/5	1200/6
<b>Inches</b>												
20 Degree Idlers	24	18	24	24	24	24	24	30	30	36	42	48
35 Degree Idlers	24	24	24	30	30	30	30	36	36	42	48	54
45 Degree Idlers	30	30	30	36	36	36	36	42	42	48	54	60
<b>Millimeters</b>												
20 Degree Idlers	610	460	610	610	610	610	610	760	760	910	1070	1220
35 Degree Idlers	610	610	610	760	760	760	760	910	910	1070	1220	1370
45 Degree Idlers	760	760	760	910	910	910	910	1070	1070	1220	1370	1520

If top cover and pulley cover are balanced (i.e., 3/16 in.x3/16 in. or 5mm x 5mm) or less than 1/16 in. (2mm) differential (i.e., 3/16 in. x 5/32 in. or 4mm x 3mm), add 6 in. (150mm) to the minimum belt width. 6 in. (150mm) narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult your Sales Representative. Additional break-in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50°F (10°C).  
The above tables are based on top cover gauge equal or greater than the bottom (pulley) cover gauge.

## Solar-Shield® Minimum Pulley Diameters

Solar-Shield®												
	220/2	220/2 GL	250/2	330/3	330/3 GL	375/3	400/2	500/4	600/3	800/4	1000/5	1200/6
<b>Inches</b>												
Over 80% Tension	16	30	16	18	42	18	16	24	24	30	36	42
60% to 80% Tension	14	24	14	16	36	16	14	20	20	24	30	36
40% to 60% Tension	12	20	12	14	30	14	12	18	18	20	24	30
Up to 40% Tension	12	18	12	14	24	14	10	18	16	18	20	24
Tails and Snubs	12	18	12	14	24	14	10	18	16	18	20	24
<b>Millimeters</b>												
Over 80% Tension	410	760	410	460	1070	460	410	610	610	760	910	1070
60% to 80% Tension	360	610	360	410	910	410	360	510	510	610	760	910
40% to 60% Tension	300	510	300	360	760	360	300	460	460	510	610	760
Up to 40% Tension	300	460	300	360	610	360	250	460	410	460	510	610
Tails and Snubs	300	460	300	360	610	360	250	460	410	460	510	610

# Wood Sawyer® Plus Belts

Increase efficiency and decrease downtime by installing ContiTech Wood Sawyer® Plus conveyor belts. Their outstanding service life results in a lower cost-per-ton for the wood industry. In the long run, that means carving out a better bottom line.

## Markets

- › Pulp and paper
- › Wood

## Applications

- › Broke belt
- › Chipper end feed
- › Log debarkers
- › Log deck
- › Log sorter
- › Planer belt
- › Pulp belt
- › Sander belt
- › Sawmills
- › Tray belt
- › Any other application requiring moderate oil resistance

## Cover Compounds

- › Defender® Plus
- › LTORS
- › MonsterHide™
- › MORS
- › Stacker®

See pages 75-81 for more specific details.

See the guide and process diagram for Wood Product Applications on pages 35-36.

Get a lower cost-per-ton conveyed.

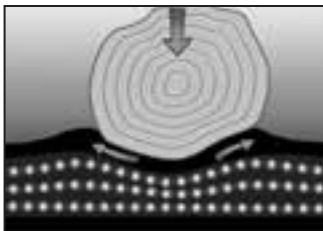
**Tension Range: 220 to 800 PIW**

## Features & Benefits



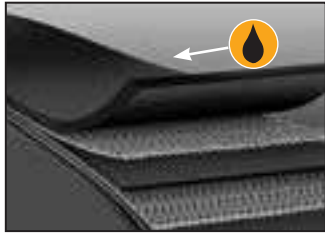
### High ultimate strength

Wood Sawyer® Plus withstand severe tension spikes at start up, retain mechanical fasteners longer and withstand continuous flexing around pulleys. This higher ultimate strength makes a critical difference in abusive operating conditions.



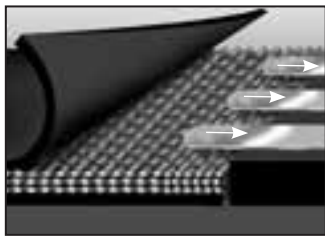
### Superior abuse resistance

High strength crimped cords allow the fabric to absorb greater impact loads and resist tearing when stretched over objects trapped between the belts and the pulleys.



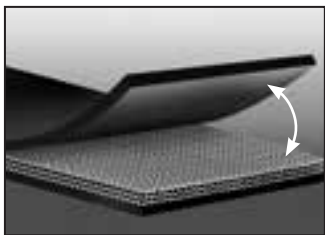
### Superior MORS cover compound

MORS is recognized as the wood product industry's premium choice for moderate terpene resistance. Its abrasion-resistant properties make it the best value for handling wood chips.



### Excellent fastener holding

Innovative fill cord design minimizes belt tracking problems and reduces damage due to misalignment. High strength cords in the fill direction work together to resist fastener pull-out.



### Excellent adhesion values

Superior adhesion protects against premature belt failure due to heavy impact, abuse, trapped material and edge damage.

#### Wood Sawyer® Plus Conveyor Belt Data

	WS Plus 220/2	WS Plus 250/2	WS Plus 330/3	WS Plus 375/3	WS Plus 400/2	WS Plus 440/4	WS Plus 500/4	WS Plus 600/3	WS Plus 750/3	WS Plus 800/4
<b># of Plies</b>	2	2	3	3	2	4	4	3	3	4
<b>Fabric Type*</b>	P/P	P/N	P/P	P/N	P/P	P/P	P/N	P/P	P/P	P/P
<b>Average Permanent Elongation (%)**</b>	.80	0.8	.80	0.8	0.8	.80	0.8	0.8	1.0	0.8
<b>Recommended Fastener Plate</b>	140	190	190	BR-10	BR-10	BR-10	BR-10	BR-10	BR-14	BR-14
<b>Hinge</b>	R2	R2	R2	R5	R5	R5	R5-1/2	R5-1/2	R6	R6
<b>Hinge</b>	U35A	U35A	U35A	U35	U35	U35	U35	U35	U37/37A	U37/U37A
<b>Imperial</b>										
Vulcanized & Fastener Rating (PIW)	220	250	330	375	400	440	500	600	750	800
Nom. Carcass Gauge (in.)	0.125	0.135	0.169	0.169	0.178	0.233	0.229	0.251	0.272	0.340
Nom. Carcass Weight (lb./sq. ft.)	0.79	0.85	1.05	1.07	0.98	1.46	1.45	1.44	1.61	1.93
Approximate 1/32 in. Cover Weight (lb./sq. ft.)	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Elastic Modulus (PIW)	23,000	30,000	34,500	45,000	44,000	46,000	60,000	66,000	67,500	88,000
Step Length (in.)***	10	10	10	10	16	10	10	16	18	16

Wood Sawyer® Plus rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness, pulley diameters and system tension. Consult your Sales Representative or fastener manufacturer. R-6 fasteners must be installed with stainless steel rivets when belt tensions exceed 800 PIW for best results.

\*P/P = Poly/Poly and P/N = Poly/Nylon

\*\*Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult your Sales Representative or Distributor for elastic and total elongation calculations.

\*\*\*Consult your Sales Representative for vulcanized splice design for 900/2, 1350/3 and 1800/4 constructions.

Metric continued on page 32

# Wood Sawyer® Plus Belts

## Wood Sawyer® Plus Conveyor Belt Data

continued from page 31

	WS Plus 220/2	WS Plus 250/2	WS Plus 330/3	WS Plus 375/3	WS Plus 400/2	WS Plus 440/4	WS Plus 500/4	WS Plus 600/3	WS Plus 750/3	WS Plus 800/4
<b># of Plies</b>	2	2	3	3	2	4	4	3	3	4
<b>Fabric Type*</b>	P/P	P/N	P/P	P/N	P/P	P/P	P/N	P/P	P/P	P/P
<b>Average Permanent Elongation (%)**</b>	0.80	0.80	0.80	0.80	0.80	.80	0.80	0.80	0.80	0.80
<b>Recommended Plate Fastener</b>	140	190	190	BR-10	BR-10	BR-10	BR-10	BR-10	BR-14	BR-14
<b>Hinge</b>	R2	R2	R2	R5	R5	R5	R5-1/2	R5-1/2	R6	R6
<b>Hinge</b>	U35A	U35A	U35A	U35	U35	U35	U35	U35	U37/ U37A	U37/ U37A
<b>Metric</b>										
Vulcanized & Fastener Rating (kN/m)	39	44	58	66	70	77	88	105	131	140
Nom. Carcass Gauge (mm)	3.18	3.4	4.29	4.3	4.5	5.92	5.8	6.4	6.9	8.6
Nom. Carcass Weight (kg/sq. m)	3.9	4.2	5.1	5.2	4.8	7.1	7.1	7.0	7.86	9.4
Approximate 1mm Cover Weight (kg/sq. m)	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
Elastic Modulus (kN/m)	4030	5250	6040	7880	7710	8060	10,510	11,560	9,840	15,410
Step Length (mm)***	250	250	250	250	410	250	250	410	460	410

Wood Sawyer® Plus rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness, pulley diameters and system tension. Consult your Sales Representative or fastener manufacturer. R-6 fasteners must be installed with stainless steel rivets when belt tensions exceed 800 PIW for best results.

\*P/P = Poly/Poly and P/N = Poly/Nylon

\*\*Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult your Sales Representative or Distributor for elastic and total elongation calculations.

\*\*\*Consult your Sales Representative for vulcanized splice design for 900/2, 1350/3 and 1800/4 constructions.

## Wood Sawyer® Plus Load Support - Maximum Belt Width

PIW/Plies	Material Weight	0-40 lb./cu. ft.			41-80 lb./cu. ft.			81-120 lb./cu. ft.		
		Trough Idlers	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg
<b>Inches</b>										
220/2		48	42	36	48	36	36	42	36	30
250/2		54	48	48	48	42	36	42	42	30
330/3		60	54	48	60	48	42	54	48	42
375/3		72	60	60	60	60	48	54	54	48
400/2		60	54	54	54	48	42	48	48	42
440/4		72	60	54	66	60	48	60	54	48
500/4		84	72	72	72	60	54	72	60	54
600/3		84	72	72	72	60	54	72	60	54
750/3		84	72	72	72	60	54	72	60	54
800/4		96	84	84	84	72	72	84	72	60

On systems with troughing idler spacing greater than 5 ft. (1.5m) OR idler roll gap greater than 1/2 in. (12.7mm), consult Sales Representative or ContiTech.

Millimeters continued on page 33



# Wood Sawyer® Plus Belts

## Wood Sawyer® Plus Load Support - Maximum Belt Width

continued from page 32

PIW/Plies	Material Weight	0-40 lb./cu. ft. (0-640 kg/cu. m)			41-80 lb./cu. ft. (641-1280 kg/cu. m)			81-120 lb./cu. ft. (1281-1920 kg/cu. m)		
		Trough Idlers	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg
<b>Millimeters</b>										
220/2		1220	1070	910	1220	910	910	1070	910	760
250/2		1370	1220	1220	1220	1070	910	1070	1070	760
330/3		1520	1370	1220	1520	1220	1070	1370	1220	1070
375/3		1830	1520	1520	1520	1520	1220	1370	1370	1220
400/2		1520	1370	1370	1370	1220	1070	1220	1220	1070
440/4		1830	1520	1370	1680	1520	1220	1520	1370	1220
500/4		2130	1830	1830	1830	1520	1370	1830	1520	1370
600/3		2130	1830	1830	1830	1520	1370	1830	1520	1370
750/3		2130	1830	1830	1830	1520	1370	1830	1520	1370
800/4		2440	2130	2130	2130	1830	1830	2130	1830	1520

On systems with troughing idler spacing greater than 5 ft. (1.5m) OR idler roll gap greater than 1/2 in. (12.7mm), consult Sales Representative.

## Wood Sawyer® Plus Troughability - Minimum Belt Width

Table based on ISO 703 Testing Procedure

Idlers	WS Plus	WS Plus	WS Plus	WS Plus	WS Plus	WS Plus	WS Plus	WS Plus	WS Plus	WS Plus
	220/2	250/2	330/3	375/3	400/2	440/4	500/4	600/3	750/3	800/4
<b>Inches</b>										
20 Degree Idlers	18	18	18	20	18	24	24	24	24	30
35 Degree Idlers	18	18	24	24	24	30	30	30	30	36
45 Degree Idlers	24	24	30	30	30	36	36	36	36	42
<b>Millimeters</b>										
20 Degree Idlers	460	460	460	510	460	610	610	610	610	760
35 Degree Idlers	460	460	610	610	610	760	760	760	760	910
45 Degree Idlers	610	610	760	760	760	910	910	910	910	1070

If top cover and pulley cover are balanced (i.e., 3/16 in.x3/16 in. or 5mm x 5mm) or less than 1/16 in. (2mm) differential (i.e., 3/16 in.x 5/32 in. or 4mm x 3mm), add 6 in. (150mm) to the minimum belt width. 6 in. (150mm) narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult your Sales Representative. Additional break-in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50°F (10°C).

Above tables are based on top cover gauge equal or greater than the bottom (pulley) cover gauge.

Wood Sawyer® Plus Minimum Pulley Diameters

	WS Plus 220/2	WS Plus 250/2	WS Plus 330/3	WS Plus 375/3	WS Plus 400/2	WS Plus 440/4	WS Plus 500/4	WS Plus 600/3	WS Plus 750/3	WS Plus 800/4
<b>Inches</b>										
Over 80% Tension	16	16	18	18	16	24	24	24	30	30
60% to 80% Tension	14	14	16	16	14	20	20	20	24	24
40% to 60% Tension	10	12	12	14	12	16	18	18	20	20
Up to 40% Tension	10	12	12	14	10	16	18	16	18	18
Tails and Snubs	10	12	12	14	10	16	18	16	18	18
<b>Millimeters</b>										
Over 80% Tension	410	410	460	460	410	610	610	610	760	760
60% to 80% Tension	360	360	410	410	360	510	510	510	610	610
40% to 60% Tension	250	300	300	360	300	410	460	460	510	510
Up to 40% Tension	250	300	300	360	250	410	460	410	460	460
Tails and Snubs	250	300	300	360	250	410	460	410	460	460

If top cover and pulley cover are balanced (i.e., 3/16 in. x 3/16 in. or 5mm x 5mm) or less than 1/16 in. (2mm) differential (i.e., 3/16 in. x 5/32 in. or 4mm x 3mm), add 6 in. (150mm) to the minimum belt width. 6 in. (150mm) narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult your Sales Representative. Additional break-in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50°F (10°C). Above tables are based on top cover gauge equal or greater than the bottom (pulley) cover gauge.

# Bareback Data

Wood Sawyer® Plus Bareback Conveyor Belt Data

	Imperial			Metric		
	WS Plus 220/2	WS Plus 330/3	WS Plus 440/4	WS Plus 220	WS Plus 330	WS Plus 440
<b># of Plies</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Fabric Type*</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>
<b>Average Permanent Elongation (%)**</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>	<b>0.80</b>
<b>Recommended Plate Fastener</b>	<b>140</b>	<b>190</b>	<b>BR-10</b>	<b>140</b>	<b>190</b>	<b>BR-10</b>
<b>Hinge</b>	<b>R2</b>	<b>R2</b>	<b>R5</b>	<b>R2</b>	<b>R2</b>	<b>R5</b>
<b>Hinge</b>	<b>U35A</b>	<b>U35A</b>	<b>U35</b>	<b>U35A</b>	<b>U35A</b>	<b>U35</b>
Vulcanized & Fastener Rating (PIW or kN/m)	220	330	440	39	58	77
Approximate 1/32 in. (1mm) Cover Weight (lb./sq. ft. or kg/sq. m)	0.19	0.19	0.19	1.17	1.17	1.17
Average Elastic Modulus (PIW or kN/m)	23,000	34,500	46,000	4030	6040	8060
Step Length (in./mm)	10	10	10	250	250	250

Wood Sawyer® Plus P/P rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness.

\*P/P = Polyester/Polyester

\*\*Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult your Sales Representative or Distributor for elastic and total elongation calculations specific to each system based on Minuteman® calculations. Additional break-in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50°F (10°C).

Wood Sawyer® Plus Bareback Conveyor Belt Top Cover

Top Cover

Imperial	5/32 in.			3/16 in.			1/4 in. to 3/8 in.		
Nom. Carcass Gauge (in./mm)	0.137	0.185	0.257	0.155	0.234	0.33	NA	0.274	0.392
Nom. Carcass Weight (lb./sq. ft. or kg/sq. m)	0.81	1.12	1.57	0.93	1.43	2.22	NA	1.69	2.68
Metric	4mm & Under			5mm			6 to 10mm		
Nom. Carcass Gauge (in./mm)	3.48	4.7	6.53	3.94	5.94	8.38	NA	6.96	9.96
Nom. Carcass Weight (lb./sq. ft. or kg/sq. m)	5.0	6.9	9.7	5.7	8.8	13.7	NA	10.4	16.5

Wood Sawyer® Plus P/P\* rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness.

\*P/P = Polyester/Polyester

# Wood Product Applications

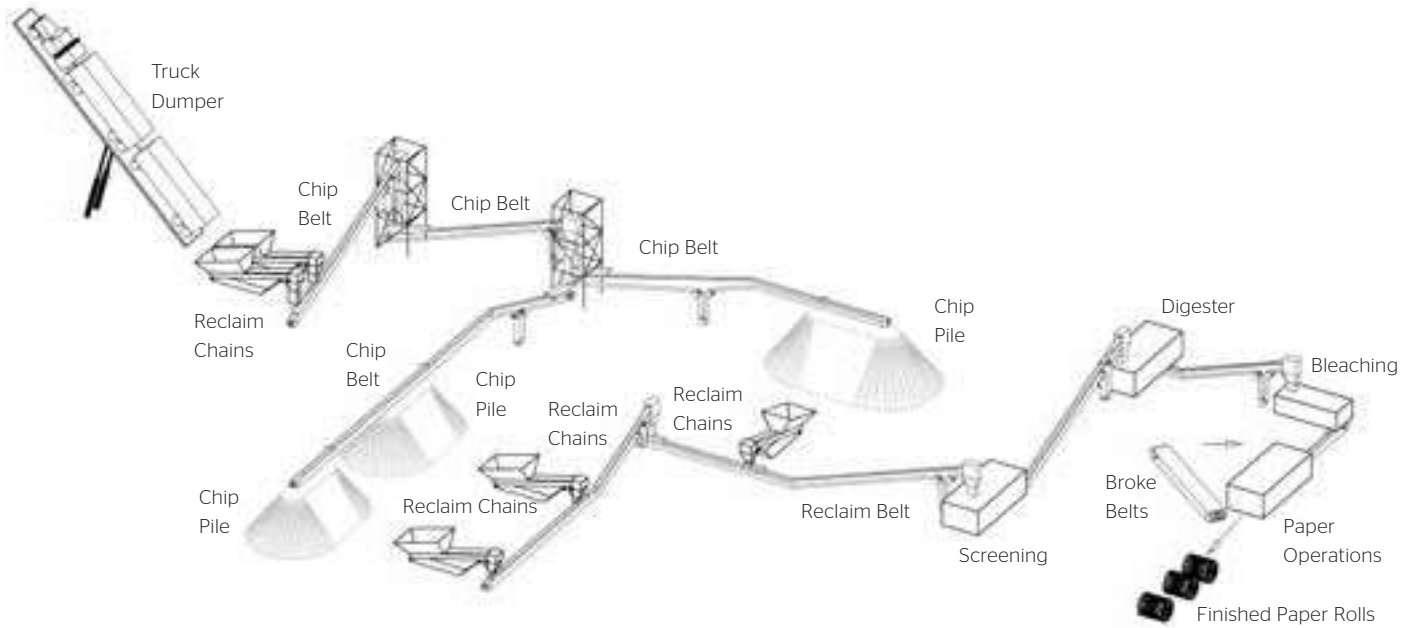
## For Conveyor Belts

Service Required	Product Options	Special Service Construction	Top Cover Options*	Application Requirements
<ul style="list-style-type: none"> <li>› Log Decks</li> <li>› Debarkers</li> <li>› Log Sorters</li> <li>› Chipper End Feed</li> </ul>	Fortress XP™ Wood Sawyer® Plus	600/3 Poly/Poly, Heavy Skims 440/4 Nylon/Nylon	Stacker® Defender® Plus Sliderback Pulley Cover	Severe Impact Cut and Gouge Low Coefficient of Friction Sliderback Pulley Cover
<ul style="list-style-type: none"> <li>› Wood Chips and Bark Belts</li> <li>› Hog Fuel</li> </ul>	Wood Sawyer® Plus	125 PIW Poly/Nylon Plain Weave 110 PIW Poly/Poly	MORS Defender® Plus	Terpene and Oil Cleated Belts for High Incline Service
<ul style="list-style-type: none"> <li>› Chipper Belts</li> <li>› Saw Cut-Offs</li> <li>› Sawdust Belts</li> <li>› Saw Dry-Hogs</li> <li>› Pulp Belts</li> <li>› Broke Belts</li> </ul>	Fortress XP™ Wood Sawyer® Plus	Bare Back and Friction Back Belt Styles (All Products) 125 PIW Poly/Nylon Plain Weave 110 PIW Poly/Poly Plain Weave 110 PIW Nylon/Nylon	MORS Defender® Plus	Extensive Range of Widths Small Pulleys Bare or Friction Surface Bottom Typical
<ul style="list-style-type: none"> <li>› Veneer Belts</li> <li>› Tray Belts</li> </ul>	Wood Sawyer® Plus	220 and 330 Poly/Poly Tan Slowdown 220/2 and 330/3 Poly/Poly Tray	MORS Defender® Plus	Terpene and Oil Severe Abrasion

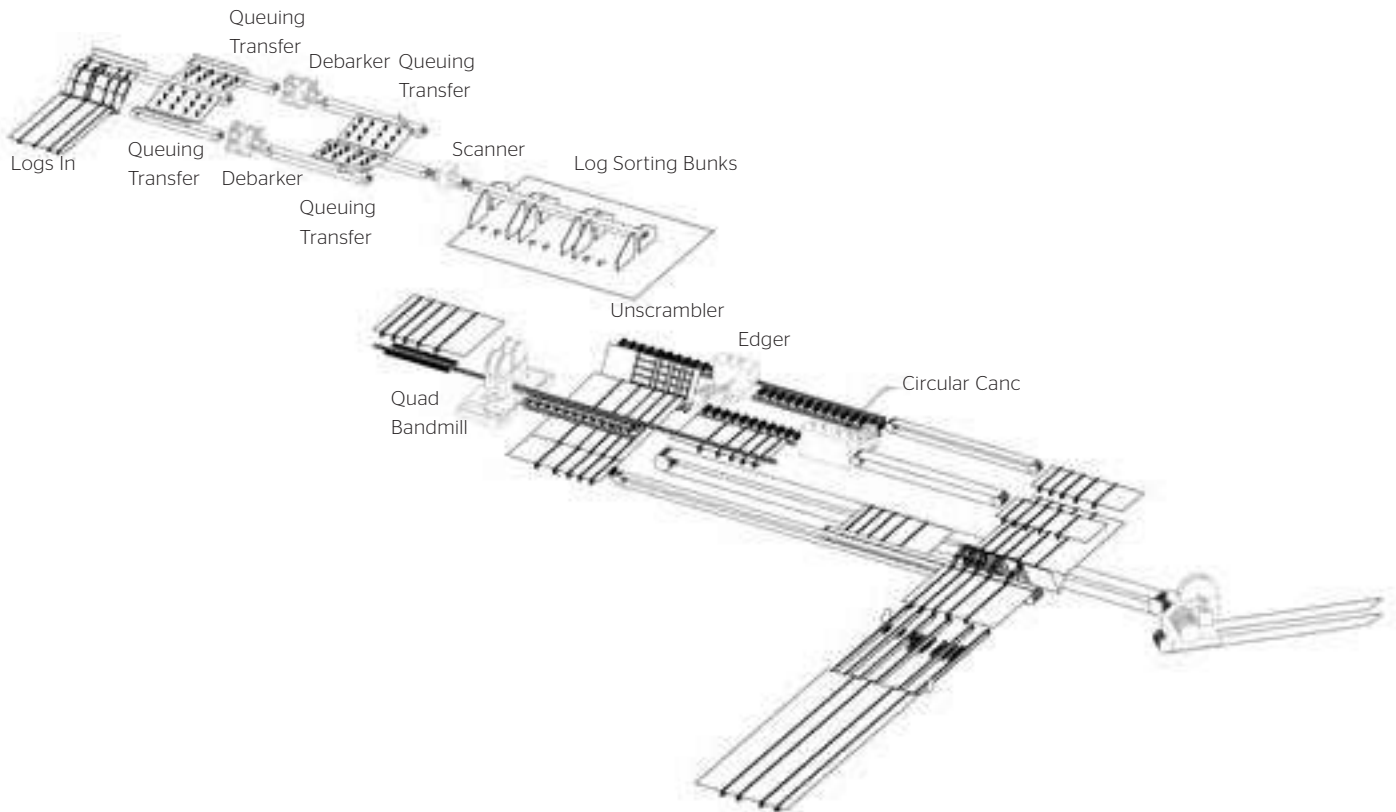
\*Top cover options are relative to amount of terpene in the wood type.

# Wood Product Applications

## Typical Pulp and Paper Facility



## Typical Sawmill Facility



# Pathfinder® Plus Belts

ContiTech Pathfinder® Plus is a reinforced belt designed to stand up to the unique operating conditions of grain handling facilities. Pathfinder® Plus' exceptionally low electrical resistance and superior oil resistance properties provide excellent operational safety and long life.

## Markets

- › Agriculture
- › Bulk handling terminals
- › Grain

## Applications

- › Grain elevator
- › Grain storage
- › Grain transfer

## Cover Compounds

- › Pathfinder® Arctic
- › Pathfinder® Supreme
- › PF+ CSA\*

\*Meets Canadian specifications.  
See pages 75-81 for more specific details.

Get a lower cost-per-ton conveyed.

Tension Range: 250 to 1250 PIW

## Features & Benefits



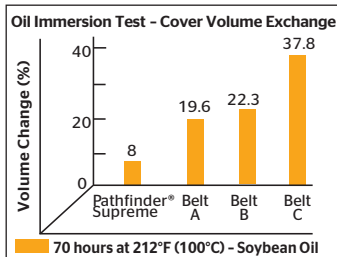
### High ultimate strength

Pathfinder® Plus is designed to withstand harsh operating conditions. The tensile force required to break a 48 in. Pathfinder 375 PIW belt is 180,000 pounds.



### Low belt elongation

Low belt elongation increases productivity and minimizes downtime spent re-splicing grain belting. Permanent elongation averages 0.8% at 100% of rated operating tension.



### Oil resistant covers

Pathfinder® Supreme covers provide superior oil resistance to the potentially damaging effects of crushed and whole soybeans, oily grains and mineral oil dust suppressant sprays.



# Pathfinder® Plus Belts

## Features & Benefits



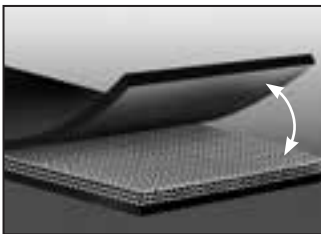
### Static conductive, low electrical resistance, flame resistance

Pathfinder® Plus belts exceed Federal OSHA and ISO standards at the time of manufacture and offer an exceptionally low electrical resistance of one megohm or less, far below the Federal OSHA and ISO standard of 300 megohms. Internal testing ensures that belts meet or exceed the U.S. MSHA/RMA 30 CFR 18.65 requirement for flame resistance.



### Excellent bolt holding capabilities

High strength fill cords provide excellent resistance to bolt pull-out. Excellent bolt holding ability enables the Pathfinder® Plus carcass to securely hold the buckets in elevator leg service.



### Excellent adhesion values

Oil resistant skim coats, combined with our fabric treatment process, provide excellent adhesion values. Vulcanized splice life is maximized, and edge damaging due to contact with conveyor structure is minimized.



### Flexible crimped warp fabric design

Crimped warp design allows the outer ply to lengthen around small pulleys without interfering with the integrity of the warp cords. This flexibility contributes to longer splice life.

Pathfinder® Plus Conveyor Belt Data

	PF 250/2	PF 375/3	PF 400/2	PF 500/4	PF 600/3	PF 750/3	PF 800/4	PF 1000/4	PF 1000/5	PF 1200/6	PF 1250/5
<b>Number of Plies</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>5</b>
<b>Fabric Type*</b>	<b>P/N</b>	<b>P/N</b>	<b>P/P</b>	<b>P/N</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>	<b>P/P</b>
<b>Avg. Permanent Elongation (%)**</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>0.8</b>	<b>1.0</b>	<b>0.8</b>	<b>1.0</b>	<b>0.8</b>	<b>0.8</b>	<b>1.0</b>
<b>Recommended Fastener Plate</b>	<b>190</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-10</b>	<b>BR-14</b>	<b>BR-14</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>
<b>Hinge</b>	<b>R2</b>	<b>R5</b>	<b>R5</b>	<b>R5-1/2</b>	<b>R5-1/2</b>	<b>R6</b>	<b>R6</b>	<b>RAR8</b>	<b>RAR8</b>	<b>RAR8</b>	<b>RAR8</b>
<b>Hinge</b>	<b>U35A</b>	<b>U35</b>	<b>U35</b>	<b>U35</b>	<b>U35</b>	<b>U37/ U37A</b>	<b>U37/ U37A</b>	<b>U38A</b>	<b>U38A</b>	<b>U38</b>	<b>U38</b>

**Imperial**

Vulcanized & Fastener Rating (PIW)	250	375	400	500	600	750	800	1000	1000	1200	1250
Elevator Rating (PIW)	225	340	360	450	540	650	740	910	910	1090	1130
Maximum Bucket Projection (in.)	7	9	9	11	11	11	12	13	13	13	13
Nom. Carcass Gauge (in.)	0.135	0.178	0.180	0.229	0.251	0.272	0.340	0.368	0.421	0.502	0.464
Nom. Carcass Weight (lb./sq. ft.)	0.89	1.16	1.08	1.48	1.49	1.65	2.02	2.23	2.55	3.09	3.23
Approximate 1/32 in. Cover Weight (lb./sq. ft.)	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Elastic Modulus (PIW)	30,000	45,000	44,000	60,000	66,000	67,500	88,000	74,000	110,000	132,000	112,500
Step Length (in.)	10	10	16	10	16	18	16	18	16	16	18

**Metric**

Vulcanized & Fastener Rating (kN/m)	44	66	70	88	105	131	140	175	175	210	219
Elevator Rating (kN/m)	39	60	63	79	95	114	130	159	159	191	198
Maximum Bucket Projection (mm)	178	229	229	279	279	279	305	330	330	330	330
Nom. Carcass Gauge (mm)	3.4	4.5	4.6	5.8	6.4	6.0	8.6	8.3	10.7	12.8	10.2
Nom. Carcass Weight (kg/sq. m)	4.3	5.7	5.3	7.2	7.3	7.2	9.9	9.9	12.5	15.1	12.5
Approximate 1mm Cover Weight (kg/sq. m)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Elastic Modulus (kN/m)	5250	7880	7710	10,510	11,560	11,820	15,410	15,760	19,260	23,120	19,700
Step Length (mm)	250	250	410	250	410	460	410	460	410	410	460

Pathfinder Plus® rated belt tension can exceed 100%, with a maximum of 150%, during starting and stopping conditions. Fastener size recommendation may vary due to cover thickness, pulley diameters and system tension. Consult your Sales Representative or fastener manufacturer.

\*P/N = Poly/Nylon and P/P = Poly/Poly

\*\*Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure.. Consult your Sales Representative or Distributor for elastic and total elongation calculators.

# Pathfinder® Plus Belts

## Pathfinder® Plus Load Support - Maximum Belt Width

PIW/Pliies - Fabric	Type of Idler	In-Line			Offset Equal			Offset LC Roll			
		20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	
<b>Inches Degree of Idlers</b>											
250/2		48	42	36	66	54	48	72	60	54	
375/3		60	60	48	72	66	60	78	72	66	
400/2		54	48	42	66	60	54	72	66	60	
500/4		72	66	60	84	78	72	84	84	78	
600/3		72	60	54	84	72	60	90	78	66	
750/3		72	60	54	84	72	60	90	78	66	
800/4		84	72	72	96	84	84	102	90	90	
1000/4		84	72	72	96	84	84	102	90	90	
1000/5		96	84	84	102	90	90	108	96	96	
1200/6		96	84	84	102	90	90	108	96	96	
1250/5		96	84	84	102	90	90	108	96	96	
<b>Millimeters Trough Idlers</b>											
250/2		1200	1100	900	1700	1400	1200	1800	1500	1400	
375/3		1500	1500	1200	1800	1700	1500	2000	1800	1700	
400/2		1400	1200	1100	1700	1500	1400	1800	1700	1500	
500/4		1800	1500	1400	2100	1800	1500	2300	2000	1700	
600/3		1800	1500	1400	2100	1800	1500	2300	2000	1700	
750/3		1800	1500	1400	2100	1800	1500	2300	2000	1700	
800/4		2100	1800	1800	2400	2100	2100	2600	2300	2300	
1000/4		2100	1800	1800	2400	2100	2100	2600	2300	2300	
1000/5		2400	2100	2100	2600	2300	2300	2700	2400	2400	
1200/6		2400	2100	2100	2600	2300	2300	2700	2400	2400	
1250/5		2400	2100	2100	2600	2300	2300	2400	2400	2400	

On systems with troughing idler spacing greater than 5 ft. (1.5m) OR idler roll gap greater than 1/2 in. (12.7mm), consult your Sales Representative.

## Pathfinder® Plus Troughability - Minimum Belt Width

Procedure

Table based on ISO 703 Testing Procedure

Idlers	PF 250/2	PF 375/3	PF 400/2	PF 500/4	PF 600/3	PF 750/3	PF 800/4	PF 1000/4	PF 1000/5	PF 1200/6	PF 1250/5
<b>Inches</b>											
20 Degree Idlers	18	20	18	24	24	24	30	30	36	42	36
35 Degree Idlers	18	24	24	30	30	30	36	36	42	48	42
45 Degree Idlers	24	30	30	36	36	36	42	42	48	54	48
<b>Millimeters</b>											
20 Degree Idlers	500	500	500	600	600	600	800	800	900	1100	900
35 Degree Idlers	500	600	600	800	800	800	900	900	1100	1200	1100
45 Degree Idlers	600	800	800	900	900	900	1100	1100	1200	1400	1200

6 in. (150mm) narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult your Sales Representative. Additional break-in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50°F (10°C).

Pathfinder® Plus Minimum Pulley Diameters

Specifications	PF 250/2	PF 375/3	PF 400/2	PF 500/4	PF 600/3	PF 750/3	PF 800/4	PF 1000/4	PF 1000/5	PF 1200/6	PF 1250/5
<b>Number of Plies</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>5</b>
<b>Inches</b>											
Over 80% Tension	18	20	18	30	24	30	30	36	36	42	42
60% to 80% Tension	16	18	16	24	20	24	24	30	30	36	36
40% to 60% Tension	14	16	14	20	18	20	20	24	24	30	30
Up to 40% Tension	12	16	12	20	16	18	18	20	20	30	24
Tails and Snubs	12	16	12	20	16	18	18	20	20	30	24
<b>Millimeters</b>											
Over 80% Tension	500	500	500	800	600	800	800	900	900	1100	1100
60% to 80% Tension	400	500	400	600	500	600	600	800	800	900	900
40% to 60% Tension	400	400	400	500	500	500	500	600	600	800	800
Up to 40% Tension	300	400	300	500	400	500	500	500	500	800	600
Tails and Snubs	300	400	300	500	400	500	500	500	500	800	600

# Conti® TexSteel™ will take you there.

## The strength of steel in a lightweight belt

Conti® TexSteel™ is reinforced with aramid synthetic fibers to provide longer belt life under extreme conditions. It has greater rip, tear and impact resistance, and superior load support and durability. This leading-edge belt creates energy savings with its lightweight construction, and it cuts downtime with faster splicing versus steel cord belts.

### Markets

- › Aggregate
- › Cement
- › Coal
- › Hard rock
- › Power generation
- › Steel production

### Applications

- › Mainlines
- › Overland belts
- › Pit belts
- › Ship loader
- › Slope belts
- › Any high abuse applications

### Cover Compounds

- › 6740A (Solar-Shield® 300)
- › Defender® Plus
- › Stacker®
- › Survivor®
- › FR-2G™
- › FRAR-2G
- › Easyrider™
- › Solar-Shield® 400
- › Solar-Shield® XL 750

See pages 75-81 for more specific details.

Get a lower cost-per-ton conveyed.

**Tension Range: 360 PIW to 1800 PIW**

## Features & Benefits



### High tension capabilities

TexSteel's superior strength capability allows for the conveyance of higher belt tension in a single ply reinforcement.



### Limited take-up travel

TexSteel's low elongation characteristics (0.3%) make TexSteel™ the natural choice when available take-up space is limited. This allows for installation of lower cost take up systems.



### High abuse resistance

In conjunction with Contitech Selects high abuse resistance compounds, TexSteel™ offers greater rip, tear and impact resistance versus conventional multiply constructions.



### Lightweight

TexSteel's high strength yet lightweight construction reduces energy consumption.



TexSteel™ Conveyor Belt Data

	TexSteel 630/1	TexSteel 1000/1	TexSteel 1250/1	TexSteel 1400/1	TexSteel 1600/1	TexSteel 1800/1	TexSteel 2000/1	TexSteel 2500/1	TexSteel 3150/1
<b>Number of Plies</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Fabric Type*</b>	<b>DPP</b>	<b>DPP</b>	<b>DPP</b>	<b>DPP</b>	<b>DPP</b>	<b>DPP</b>	<b>DPP</b>	<b>DPP</b>	<b>DPP</b>
<b>Avg. Permanent Elongation (%)**</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>	<b>0.3</b>
<b>Recommended Fastener Plate</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>	<b>NR</b>
<b>Imperial</b>									
Vulcanized & Fastener Rating (PIW)	360	570	715	800	915	1030	1140	1430	1800
Nom. Carcass Gauge (in.)	0.070	0.092	0.109	0.112	0.115	0.131	0.134	0.153	0.156
Nom. Carcass Weight (lb./sq.ft.)	0.42	0.48	0.52	0.55	0.61	0.71	0.73	0.80	0.86
Approximate 1/32 in. Cover Weight (lb./sq.ft.)	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Elastic Modulus (PIW)	90,000	142,500	178,750	200,000	228,750	257,500	285,000	357,500	450,000
Finger Length (in.) **	25	40	50	55	63	71	79	98	124
<b>Metric</b>									
Vulcanized & Fastener Rating (kN/m)	63	100	125	140	160	180	200	250	315
Nom. Carcass Gauge (mm)	1.8	2.3	2.8	2.8	2.9	3.3	3.4	3.9	4.0
Nom. Carcass Weight (kg/sq. m)	2.1	2.3	2.5	2.7	3.0	3.5	3.6	3.9	4.2
Approximate 1/32 in. Cover Weight (kg/sq. m)	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
Elastic Modulus (kN/m)	15,760	24,960	31,300	35,030	40,060	45,100	49,910	62,610	78,810
Finger Length (mm) **	640	1020	1270	1400	1600	1800	2010	2490	3150

Texsteel rated belt tension can exceed 100% with a maximum of 150% during starting and stopping conditions.

DPP = Aramid/Nylon/Nylon

Mechanical fasteners not recommended except for temporary emergency situations. Consult your CTM for further recommendations.

\* Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult your CTM or CAD for elastic & total elongation calculations.

\*\* All TexSteel vulcanized splices are finger type.

Texsteel belts require minimum cover gauges of 1/8" to support vulcanized splicing.

# TexSteel™ Load Support

## TexSteel™ Load Support - Maximum Belt Width

Belt Tension Rating	0-40 lbs/cu. ft.			41-80 lbs/cu. ft.			81-120 lbs/cu. ft.			Over 120 lbs/cu. ft.		
	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
<b>Imperial (PIW)*</b>												
630/1	54	48	42	54	48	42	54	48	42	48	42	42
1000/1	54	48	42	54	48	42	54	48	42	48	42	42
1250/1	54	48	42	54	48	42	54	48	42	48	42	42
1400/1	60	54	48	60	54	48	48	42	42	48	42	42
1600/1	60	54	48	60	54	48	48	42	42	48	42	42
1800/1	72	72	60	72	72	60	60	54	48	54	48	42
2000/1	72	72	60	72	72	60	60	54	48	54	48	42
2500/1	84	84	84	84	84	84	84	84	72	72	60	60
3150/1	84	84	84	84	84	84	84	84	72	72	60	60
<b>Metric (kN/m)**</b>												
630/1	1.370	1.220	1.070	1.370	1.220	1.070	1.370	1.220	1.070	1.220	1.070	NR
1000/1	1.370	1.220	1.070	1.370	1.220	1.070	1.370	1.220	1.070	1.220	1.070	1.070
1250/1	1.370	1.220	1.070	1.370	1.220	1.070	1.370	1.220	1.070	1.220	1.070	1.070
1400/1	1.520	1.370	1.220	1.520	1.370	1.220	1.220	1.070	1.070	1.220	1.070	1.070
1600/1	1.520	1.370	1.220	1.520	1.370	1.220	1.220	1.070	1.070	1.220	1.070	1.070
1800/1	1.830	1.830	1.520	1.830	1.830	1.520	1.520	1.370	1.220	1.370	1.220	1.070
2000/1	1.830	1.830	1.520	1.830	1.830	1.520	1.520	1.370	1.220	1.370	1.220	1.070
2500/1	2.130	2.130	2.130	2.130	2.130	2.130	2.130	2.130	1.830	1.830	1.520	1.520
3150/1	2.130	2.130	2.130	2.130	2.130	2.130	2.130	2.130	1.830	1.830	1.520	1.520

\*On systems with troughing idler spacing greater than 5 ft. OR idler roll gap greater than 1/2", consult your ContiTech representative.

\*\*On systems with troughing idler spacing greater than 1.5 m OR idler roll gap greater than 12.7mm, consult your ContiTech representative.

## TexSteel™ Troughability (Minimum Belt Width)

Procedure

Table based on ISO 703 Testing Procedure

Idlers	TexSteel 360/1	TexSteel 570/1	TexSteel 715/1	TexSteel 800/1	TexSteel 915/1	TexSteel 1030/1	TexSteel 1140/1	TexSteel 1430/1	TexSteel 1800/1
<b>Inches*</b>									
20 Degree Idlers	18	20	18	24	24	24	30	24	30
35 Degree Idlers	18	24	24	30	30	30	36	30	36
45 Degree Idlers	24	30	30	36	36	36	42	36	42
<b>Millimeters**</b>									
20 Degree Idlers	460	510	460	610	610	610	760	610	760
35 Degree Idlers	460	610	610	760	760	760	910	760	910
45 Degree Idlers	610	760	760	910	910	910	1070	910	1070

\*If top cover and pulley cover are balanced (ie. 3/16"x3/16") or less than 1/16" differential (ie. 3/16"x5/32"), add 6" to the minimum belt width.

\*\*6" narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult your CTM.

\*Additional break-in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50 degrees Fahrenheit.

\*Above tables are based on top cover gauge equal or greater than the bottom (pulley) cover gauge.

\*\*If top cover and pulley cover are balanced (ie. 5mm x 5mm) or less than 2 mm differential (ie. 4mm x 3mm), add 150 mm to the minimum belt width.

\*\*150mm narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult your CTM.

\*\*Additional break in time is required when the belt has been stored prior to installation in ambient temperatures of less than 10 degrees Centigrade.

\*\*Above tables are based on top cover gauge equal or greater than the bottom (pulley) cover gauge.

TexSteel™ Minimum Pulley Diameters

Specifications	TexSteel 360/1	TexSteel 570/1	TexSteel 715/1	TexSteel 800/1	TexSteel 915/1	TexSteel 1030/1	TexSteel 1140/1	TexSteel 1430/1	TexSteel 1800/1
<b>Inches</b>									
Over 80% Tension	18	20	24	30	36	36	36	42	42
60% to 80% Tension	16	18	20	24	30	30	30	36	36
40% to 60% Tension	14	16	18	20	30	30	30	36	36
Up to 40% Tension	12	14	16	18	24	24	24	30	30
Tails and Snubs	12	14	16	18	24	24	24	30	30
<b>Millimeters</b>									
Over 80% Tension	460	510	610	760	910	910	910	1070	1070
60% to 80% Tension	410	460	510	610	760	760	760	910	910
40% to 60% Tension	360	410	460	510	760	760	760	910	910
Up to 40% Tension	300	360	410	460	610	610	610	760	760
Tails and Snubs	300	360	410	460	610	610	610	760	760





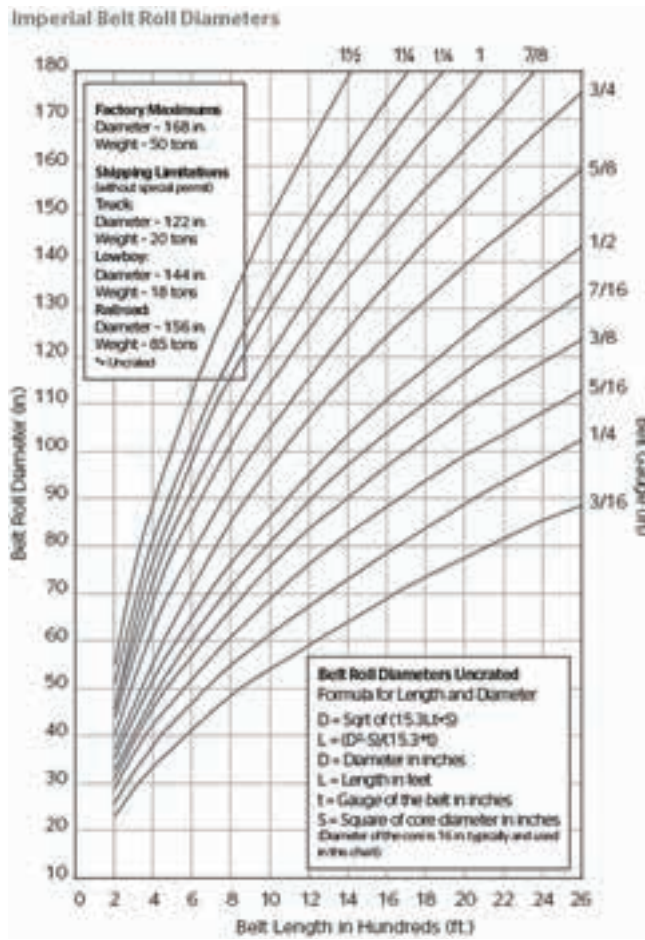
## Cleated Belts

ContiTech Select is dedicated to equipping your operation for the most grueling conveying applications. Whether you are dealing with steep inclines or simply need extra support to move material, we offer a wide range of U- and V-shaped cleated belts. ContiTech Select cleated belts are ideal for conveying materials such as stone, sand, gravel, various wood products and a multitude of recycling products by taking advantage of the many custom profiles and cleat designs that are available. No matter how demanding your job is, get it done more efficiently with ContiTech Select.

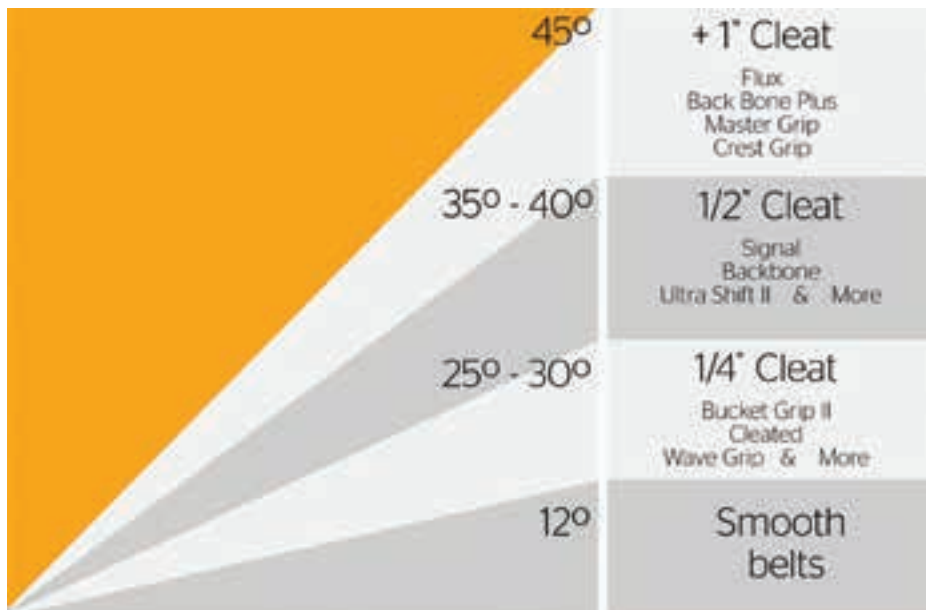




# Belt Roll Diameters



# Angles of Inclination



# Profile Options

## Made in USA

### P/P Belt Construction

2 Plies	3 Plies	4 Plies
160 PIW - 220 PIW	240 PIW - 330 PIW	320 PIW - 440 PIW

### P/N Belt Construction

2 Plies	3 Plies	4 Plies
180 PIW - 500 PIW	270 PIW - 600 PIW	360 PIW - 720 PIW



Wave Grip



Wave Grip Plus



Bucket Grip



Bucket Grip II



Signal



Backbone



Backbone Plus



Flux



Ultra Shift



Ultra Shift II



Master Grip



Crest Grip



Quadgrip

## Made in Finland

### P/N Belt Construction

3 Plies	3 Plies
228 PIW	286 PIW



Summit



Pointer



Diamond Grip I



Diamond Grip II

Made in USA

## Wave Grip



Wave Grip is a continuous cleat pattern. The cleats are 6" in width on 6" centers and 1/4" in height. Wave Grip is the most common cleated belt pattern. **Cleat Height: 1/4 in.**

<b>Available Belt Widths</b>	42 in.	48 in.	54 in.	60 in.	66 in.	72 in.
<b>Available Pattern Widths</b>	Continuous					

## Wave Grip Plus



Wave Grip Plus is a unique continuous chevron pattern which allows for quiet transition with little vibration. Suitable for a wide variety of products. Quite popular in the package handling industry. **Cleat Height: 1/8 in.**

<b>Available Belt Widths</b>	42 in.	48 in.	54 in.	60 in.
<b>Available Pattern Widths</b>	Continuous			

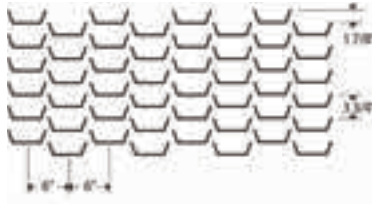
## Bucket Grip



Bucket Grip cleats are 3/16" in height, 2" wide with 1" spacing between cleats. Bucket Grip is excellent for conveying fine bulk materials. Excellent for bulk material. Full width slit-able construction. **Cleat Height: 3/16 in.**

<b>Available Belt Widths</b>	30 in.	36 in.	42 in.	48 in.	54 in.	60 in.	66 in.	72 in.
<b>Available Pattern Widths</b>	Continuous							

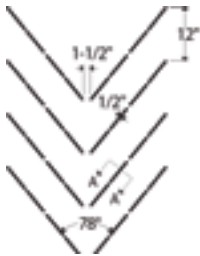
## Bucket Grip II



Bucket Grip II features a repeating cleat  $\frac{1}{4}$ " in height x  $\frac{3}{8}$ " in width and is fully slit-able. **Cleat Height:  $\frac{1}{4}$  in.**

Available Belt Widths	30 in.	36 in.	42 in.	48 in.	54 in.	60 in.	66 in.	72 in.
Available Pattern Widths	Continuous							

## Signal



Signal offers good load carrying capability with cleats that are  $\frac{1}{2}$ " high x  $\frac{1}{2}$ " in depth. The angle between side cleats is  $78^\circ$  which helps steer the load centrally on the belt. Suitable for larger material size. **Cleat Height:  $\frac{1}{2}$  in.**

Available Belt Widths	24 in.	30 in.	36 in.	42 in.	48 in.	54 in.	60 in.	66 in.	72 in.
Available Pattern Widths	18 in.	24 in.	30 in.	36 in.	42 in.	48 in.	54 in.	60 in.	60 in.

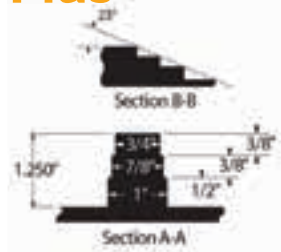
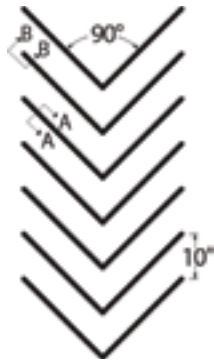
## Backbone



Backbone is perfect to move bulk material up an incline. A smooth and quiet return are provided by this extraordinary pattern. Backbone is  $\frac{3}{4}$ " high x  $\frac{3}{4}$ " deep cleat with a  $30^\circ$  bevel. Cleat angle side to side is  $90$  degrees. Suitable for bulky material on incline. **Cleat Height:  $\frac{3}{4}$  in.**

Available Belt Widths	24 in.	30 in.	36 in.	42 in.	48 in.
Available Pattern Widths	24 in.	30 in.	36 in.	42 in.	48 in.
Available Pattern Widths	—	24 in.	30 in.	36 in.	42 in.

## Backbone Plus

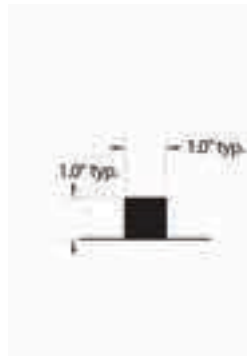
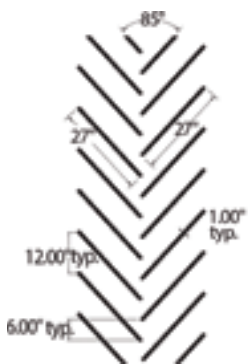


Backbone Plus is a unique stepped cleat design 1 1/4" in height on a 23° angle with the side-by-side cleat at 90°. Cleats are spaced 9" apart to allow product to settle on steep inclines. Overlapping cleats and beveled cleat end provide quiet return. **Cleat Height: 1 1/4 in.**

**Available Belt Widths**  
**Available Pattern Widths**

24 in.	30 in.	36 in.	42 in.	48 in.
24 in.	30 in.	36 in.	36 in.	36 in.

## Flux

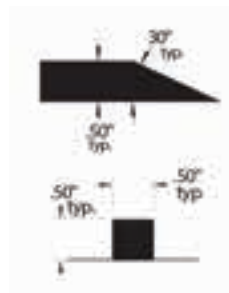
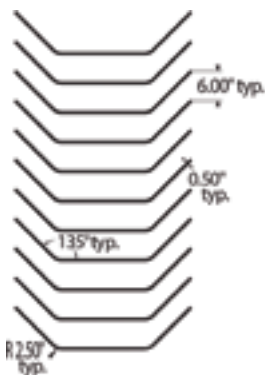


Flux staggered chevron pattern allows water and small material to roll back through 6" gap. Cleats are 1" in height x 1" in width at an 85° angle and 12" spacing. Full 1" x 1" pattern helps carry large particle sizes up steep inclines. Great where water flow is essential. **Cleat Height: 1 in.**

**Available Belt Widths**  
**Available Pattern Widths**  
**Available Pattern Widths**

30 in.	36 in.	42 in.	48 in.
24 in.	24 in.	36 in.	36 in.
—	36 in.	—	—

## Ultra Shift

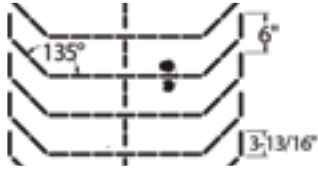


Ultra Shift is a large bucket pattern with cleats 1/2" in height and 1/2" wide on a 30° bevel with cleats at 6" intervals. Design enhances smooth transition with minimal vibration. **Cleat Height: 1/2 in.**

**Available Belt Widths**  
**Available Pattern Widths**  
**Available Pattern Widths**

30 in.	36 in.	42 in.	48 in.
24 in.	30 in.	36 in.	36 in.
30 in.	36 in.	—	—

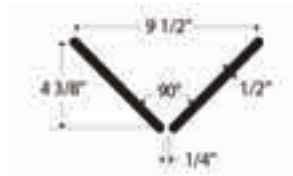
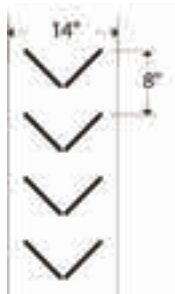
## Ultra Shift II



Ultra Shift II has similar cleat dimensions as Ultra Shift. However, Ultra Shift II's inward slant of the cleats helps to keep product centrally located on the belt. **Cleat Height: 1/2 in.**

<b>Available Belt Widths</b>	24 in.	30 in.	36 in.	42 in.	48 in.	54 in.	60 in.	72 in.
<b>Available Pattern Widths</b>	18 in.	24 in.	30 in.	36 in.	42 in.	48 in.	48 in.	48 in.
<b>Available Pattern Widths</b>	24 in.	30 in.	36 in.	42 in.	48 in.	—	—	—

## Master Grip

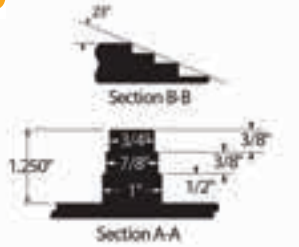


Suitable for aggregate, sand and gravel applications. Common use is stone flinger belt. **Cleat Height: 3/8 in.**

<b>Available Belt Widths</b>	14 in.	14 in.
<b>Available Pattern Widths</b>	8 in.	10 in.



## Crest Grip



Crest Grip can be found in the roofing industry. Belt width is typically 14" with cleat pattern 8" or 10" in width and 2" in height.

**Cleat Height: 2 in.**

<b>Available Belt Widths</b>	12 in.	14 in.
<b>Available Pattern Widths</b>	12 in.	12 in.

## Quadgrip



Quadgrip impression top surfaces are 1/8" (3 mm) in height and are ideal for transporting a wide variety of products from packaging to lumber yards. Available in Black, Blue and Tan. **Cleat Height: 1/8 in.**

<b>Available Belt Widths</b>	60 in.	66 in.	72 in.
<b>Available Pattern Widths</b>	Continuous		

Made in Finland

## Summit



Specifically designed for the transportation of wood chips and fiber products. Summit's unique design allows for water to be dispersed. Summit is also suitable for conveying packages and lumpy products. Maximum angle of inclination is up to 35°.

**Cleat Height: 1/8 in.**

<b>Available Belt Widths</b>	400 mm	500 mm	650 mm	800 mm	1000 mm	1200 mm	1400 mm	1600 mm
<b>Available Pattern Widths</b>	Continuous, 1400 mm max.							

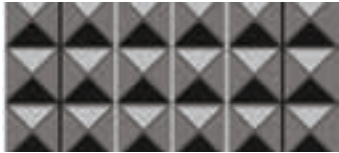
## Pointer



Pointer is ideal for transport on inclined conveyors and designed primarily for transport of wood chips, fiber products, parceled and lumpy goods. **Cleat Height: 1/8 in.**

<b>Available Belt Widths</b>	400 mm	500 mm	650 mm	800 mm	1000 mm	1200 mm	1400 mm	1600 mm
<b>Available Pattern Widths</b>	Continuous, 1080 mm max.							

## Diamond Grip I



Diamond Grip I is recommended for handling smaller lumps and can be cleaned with soft rubber scrapers. **Cleat Height: 1/16 in.**

<b>Available Belt Widths</b>	300 mm	500 mm	650 mm	800 mm	1000 mm	1200 mm	1400 mm
<b>Available Pattern Widths</b>	Continuous, 1400 mm max.						

## Diamond Grip II



Diamond Grip II is recommended for handling larger lumps and can be cleaned with soft rubber scrapers. **Cleat Height: 1/8 in.**

<b>Available Belt Widths</b>	300 mm	500 mm	650 mm	800 mm	1000 mm	1200 mm	1400 mm	1600 mm
<b>Available Pattern Widths</b>	Continuous, 1600 mm max.							





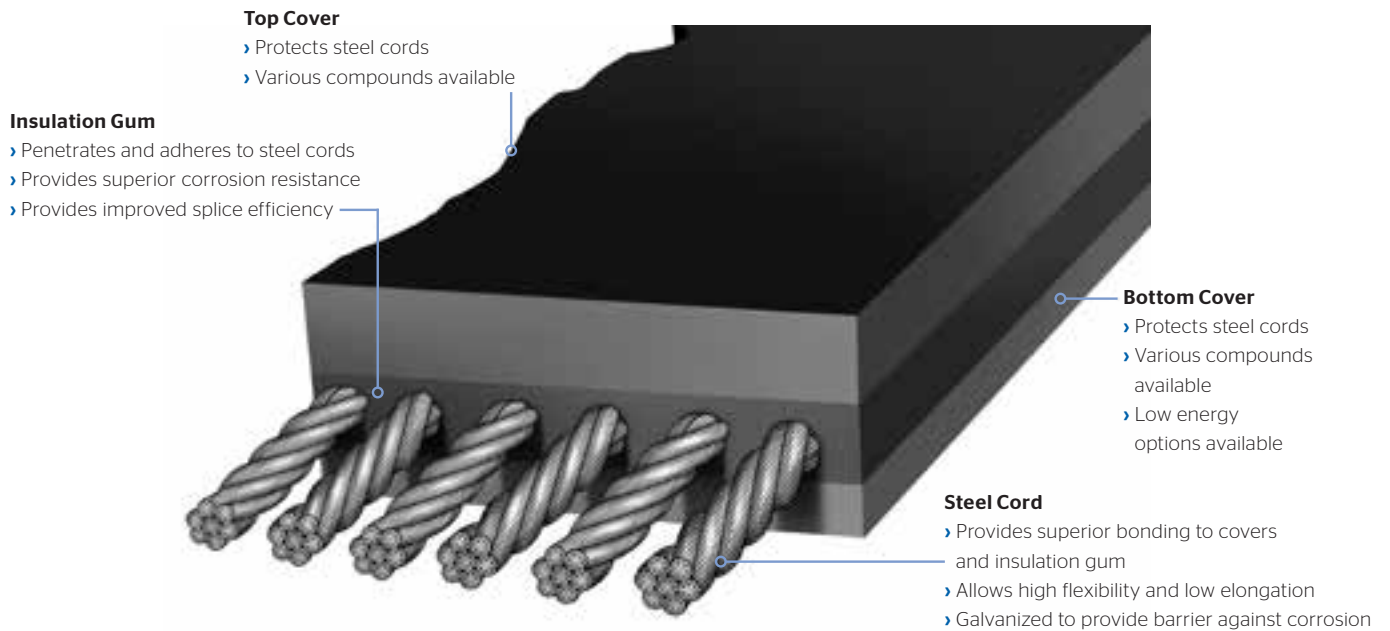
# Flexsteel® Belts

ContiTech Flexsteel® belts are custom designed to meet the specific needs of the given application, providing superior protection against the abuse of conveying virtually any material.

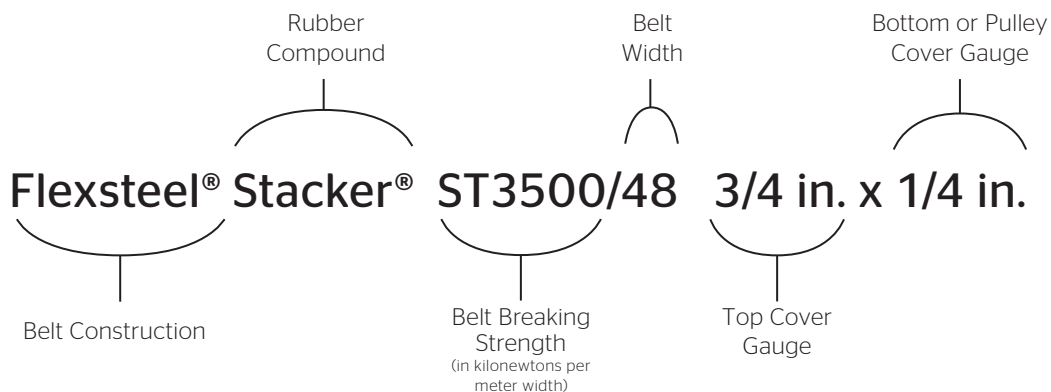
Flexsteel® belts' steel cord provides superior impact resistance, with the number and size being selected to meet the desired operating tension and application needs. The insulation gum is specifically designed to encapsulate each steel cord filament to reduce internal friction while providing enhanced adhesion to

the cover rubbers. Top and bottom covers provide maximum protection to the steel cord. The cover compounds are specifically designed to meet the demands of the application and are available in a wide variety of rubber types and gauges.

## Conveyor Belt Components



## Belt Construction Nomenclature Example



# Flexsteel® Belts

Since we introduced the world’s first steel reinforced belt to the material handling industry in 1942, we have continued to advance the technology to satisfy the most demanding and abusive conveyor applications.

Using state-of-the-art technology, we ensure superior product design and maximum performance for our customers. Shipping from six production plants on five continents, Flexsteel® remains our premium global product.

Our worldwide engineering group continues to design Flexsteel® specifications that will provide a lower cost-per-ton of material conveyed for each customer’s unique system.

## Markets

- › Aggregate
- › Cement
- › Coal
- › Hard rock
- › Power generation
- › Steel production

## Applications

- › Mainlines
- › Overland belts
- › Pit belts
- › Ship loaders
- › Slope belts
- › Any high abuse applications

## Cover Compounds

- › 6740A (Solar-Shield® 300)
- › Defender® Plus
- › Easyrider™
- › FR-2G
- › FRAR-2G
- › FRAS-C
- › FRORS-2G
- › Global X®
- › Solar-Shield® XL 750
- › Stacker®
- › Survivor®
- › Survivor® Plus
- › Other compounds available on request

See the process diagram for Aggregate, Hard Rock Mining, Sand and Gravel markets on page 8 for alternative belt recommendations.

**Get a lower cost-per-ton conveyed**

**Tension Range: ST500 to over ST10000**



# Flexsteel® Belts

## A Technically Superior Product

Generations of our engineers have been involved for over 70 years in the design and application of Flexsteel® conveyor belting. This cumulative experience translates into state-of-the-art technology, assuring superior product design and maximum performance for our customers.

### Superior strength, durability, ease of installation

ContiTech's Flexsteel® conveyor belting has provided maximum protection against pounding and abuse in some of the world's largest and most demanding applications. Flexsteel® belting is the only choice when extremely high tensions are present, having proven itself on copper and oil sands system operations at 6000 PIW (ST7000) tension.

Flexsteel® is also the preferred belt on long overlands and short Stacker systems where minimum belt elongation is a critical design consideration. Flexsteel®'s steel cord reinforcement elongates a maximum of 0.25% at rated tension, allowing for acceptable take-up travel design on long overlands, as well as short Stacker/Reclaimer systems.

We have the capability to manufacture Flexsteel® belts in long lengths up to 168 in. (4.2m) roll diameters, or 50 short ton (45.4 MT) rolls at some production locations. This allows for the minimum number of splices or joints in a conveyor system, which facilitates faster installation while providing a more reliable system. Specialized oblong packaging is available to further maximize belt lengths.

Additional time can be saved during installation by using another Flexsteel® innovation: Preform™ Splice kits. Preform™ is a pre-grooved form that simplifies splicing by allowing you to "sandwich" the cables coming from either side between the formed rubber. Not only is the process of splicing made easier, but the belt itself is made stronger.

You can depend on Flexsteel® steel cord belts to be precisely engineered to meet rigorous manufacturing standards. Rely on Flexsteel® for strength, durability and ease of installation.

### There are three component parts to Flexsteel® belting, each one critical to belt performance:

#### Zinc galvanized steel cord

Flexsteel® belts are designed by selecting cord construction to provide the best specification for a particular application. The cords, made up of many wire filaments, are constructed to provide high flexibility, low elongation and permit efficient and high strength splice designs. The galvanized zinc coating produces a bonding agent between the cord and insulation gum and provides an important barrier against corrosion.

#### Insulation gum (core rubber)

Extensive rubber compounding technology has enabled Flexsteel® engineers to develop a superior insulation gum bonding rubber, which penetrates and adheres to the steel cords. The result is excellent adhesions, corrosion resistance and splice efficiencies.

#### Outer rubber covers

The advanced compounds in Flexsteel®'s top and bottom covers are designed to protect the steel cord strength member against the abusive environmental conditions prevalent in most conveying applications. Compounds are available to withstand abrasion, jagged cutting and gouging, high impact, sub-zero temperatures, moderate heat, hardening effects of ozone attack and fire propagation. Special service compounds are available for unique applications, such as the oil sands in Canada, which require a compound that withstands both low temperatures and oil.

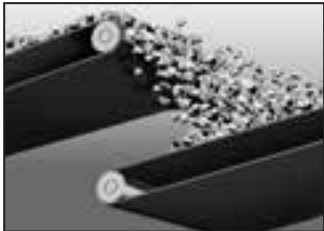
# Flexsteel® Belts

## Features & Benefits



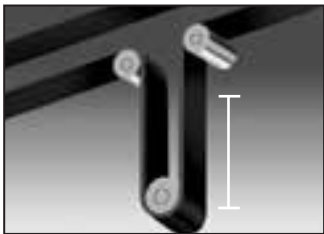
### High tension capabilities

Flexsteel® belts handle the most demanding applications. We continue to lead the industry in designing the strongest belts to meet the growing demand for long overland systems.



### Fewer transfer points

Flexsteel®'s high-tension capabilities permit extremely long centers, exceptionally high lifts and multiple horizontal curves. This allows the designer to reduce the number of transfer points to minimize a major source of maintenance headaches and downtime.



### Limited take-up travel

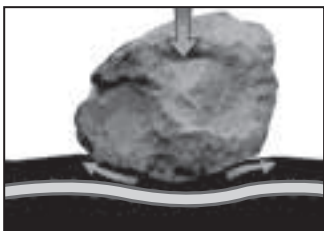
Flexsteel® belts elongate a maximum of 0.25% at rated tension. This allows lower cost take-up systems on many applications and makes Flexsteel® the preferred choice for long overland and short stacker/reclaiming systems, where minimum elongation is critical.



### Life-long splices

Our proven splicing methods, validated on our Two-Pulley Splice Tester, result in dynamic splice efficiencies in excess of the 50% rating defined in DIN 22110 Part 3. With proper technique, splices on Flexsteel® belts should last the life of the belt. And when your belt is expected to last 20 years, that is a long time.

See Preform™ Patented Splice Technology on page 64.



### High impact resistance

Our advanced cover compounds and our insulation gum's superior adhesion combine to provide the impact, tear and abuse resistance your applications demand.



### Superior troughing characteristics

Because Flexsteel® belts are not interwoven in the transverse direction, they offer superior troughability. Even the highest strength Flexsteel® belts on steep angle idlers will trough perfectly, leading to easy belt training and full load capacity.



### Exceptional belt training

Flexsteel® belts are built in a “uniplane” construction, where cords are laid in precisely the same plane with tension carefully controlled and equalized under cure. Belts run straight and true because cords are laid with an alternating left and right hand twist. Flexsteel®’s superior troughing characteristics help ensure that the belt is in constant contact with idlers, which further enhances its ability to run straight.



### Lower cost-per-ton

Fewer conveyors and splices, shorter take-ups and reduced belt inventory add up to significant cost savings right up front. Longer belt life, life-long splices, excellent belt training and reduced downtime save you even more down the road. Overland conveyors are typically more efficient than trucks or rail. It all adds up to the a lower cost-per-ton of material conveyed, which can make a major improvement in your bottom line.



### Industry-leading belt monitoring system

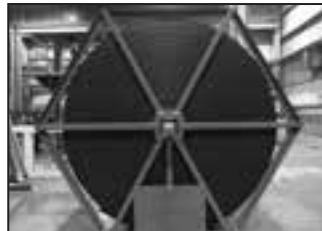
If your operation demands belt rip and transverse tear detection, cord or splice damage detection, look to ContiTech for periodic assessments or 24/7 real-time monitoring of your ContiTech belt systems.

### Packaging the way you want it

Packaging options include keeper bars, HEX steel reels and oblong reels. All are designed to protect your investment and minimize the number of belt splices to lower installation costs, facilitate field installation and reduce downtime and shipping costs.



Keeper Bar



HEX Reel



Oblong Reel

## Easyrider™ Pulley Covers

There has been significant technical progress in the transport of bulk materials in the last several years.

The next step to improved conveyor efficiency is the reduction of power required to operate these high performance systems. Just as some tires provide lower rolling resistance depending upon their construction and compounds, a conveyor belt can also be designed to provide lower resistance as it rolls over the support idlers.

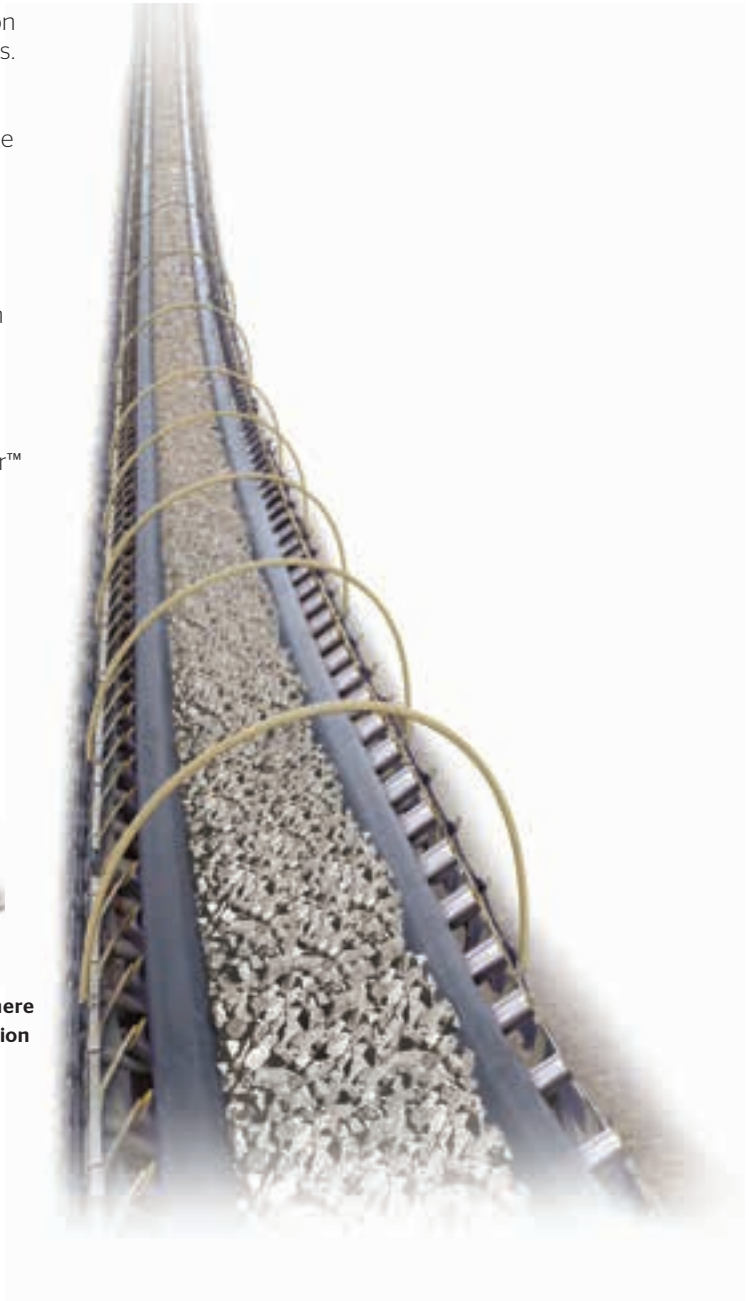
The power required to operate a typical conveyor belt has been studied, both theoretically and dynamically. As the belt passes over an idler, the pulley cover rubber passes through a compression/rebound cycle that absorbs power. It has been determined that on long center horizontal conveyors, the rolling resistance power loss due to the indentation effect can reach 61% of the total system power.

Using specialized pulley cover compounds from our Easyrider™ family of low rolling resistance compounds will reduce power consumption. Our LRR Easyrider™ compound will reduce energy consumption by up to 20% and our SLRR Easyrider™ compound will reduce energy consumption by up to 32%. This savings is realized year after year, resulting in an overall reduction to operating costs.

As an example, if your energy costs are \$1 million per year, a 32% savings available with Easyrider™ represents a savings of \$320,000 compared to other compounds. Over ten years, this can add up to savings of \$3.2 million or more depending on your operation.



**With Easyrider™ there is reduced indentation energy loss.**



# Preform™ Patented Splice Technology

Improves splice strength and saves time.

There have been significant technical advancements in steel cord belt splicing in the past several years. Our patented Preform™ splices provide improved splice efficiency, along with reduced splice time and improved performance. This means more dollars in your pocket.

Conventional splice methods involve the use of cements and rubber noodles. Cement drying time extends the overall splicing time, while providing the opportunity for increased contamination. The alternative laying of cord and noodle further extends splice time, as constant chalk line checking and adjustment to the noodle width is necessary to maintain cord alignment. Cord misalignment and contamination are critical factors in the resultant splice performance.



## Preform™ Panel

This illustration shows how the top and bottom multi-groove panels encase each cord, eliminating the need for noodles to ensure cord alignment and uniformly accurate spacing.

## Preform™ Splice Method

Preform™ splices utilize preformed, multi-grooved top and bottom cover panels, eliminating the need for cements and noodles. Cement drying times are eliminated, reducing the possibility of splice contamination from dust infiltration. Cord laying time is significantly reduced and the correct cord spacing and alignment is virtually guaranteed. The result is a stronger splice, with improved performance and life.

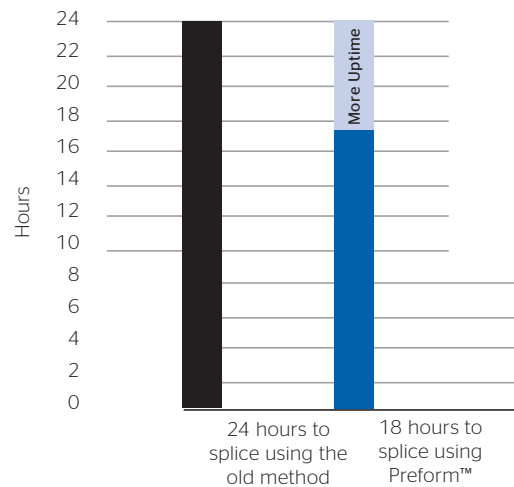
## Improved Performance

Testing on the 2-Pulley Dynamic splice tester at our Technical Center in Marysville, Ohio, shows the results of two identical belts, one spliced using Preform™ and one spliced using conventional splicing methods. This one test shows the Preform™ splice to withstand 33% more load cycles, or a theoretical 33% longer service life, than the conventional splice. Static pull splice strength tests conducted at an independent laboratory showed the Preform™ splice to be at least 10% stronger than a conventional splice.

## Savings

Preform™ splices have been made successfully in many countries around the world. Savings of 16% to 25% were based on actual field measurements, comparing one splice technique versus the other, on the same belt, at the same time. Reduced splicing time means more uptime and increased productivity.

## Less Downtime



Preform™ splices 25% faster

Conventional  
 Preform™

# Flexsteel® Belts

## Flexsteel® Standard Specifications

Belt Tension Rating	Minimum Ultimate Tension	Operating Tension	Cable Diameter (Nominal)	Cable Pitch (Approximate)	Belt Modulus
Imperial	PIW	PIW	in.	in.	PIW
ST800	4568	685	0.142	0.688	329,000
ST1000	5710	856	0.142	0.547	411,000
ST1250	7138	1070	0.173	0.639	514,000
ST1600	9137	1370	0.173	0.498	658,000
ST2000	11,421	1712	0.173	0.398	822,000
ST2500	14,276	2140	0.205	0.428	1,027,000
ST3150	17,988	2697	0.260	0.492	1,294,000
ST3500	19,987	2997	0.315	0.655	1,438,000
ST4000	22,842	3425	0.362	0.753	1,644,000
ST4500	25,697	3853	0.394	0.806	1,849,000
ST5000	28,552	4281	0.433	0.820	2,055,000
ST5400	30,836	4623	0.433	0.764	2,219,000
ST6000	34,263	5137	0.488	0.850	2,466,000
ST6500	37,118	5565	0.488	0.790	2,671,000
ST7000	39,973	5993	0.488	0.738	2,877,000
ST7500	42,828	6421	Contact ContiTech		3,082,000
ST8000	45,683	6849			3,288,000
ST8500	48,539	7277			3,493,000
ST9000	51,394	7705			3,699,000
ST9500	54,249	8133			3,904,000
ST10000	57,104	8561			4,109,000
Metric	kN/m	kN/m	mm	mm	kN/m
ST800	800	120	3.6	17.5	58,000
ST1000	1000	150	3.6	13.9	72,000
ST1250	1250	187	4.4	16.2	90,000
ST1600	1600	240	4.4	12.7	115,000
ST2000	2000	300	4.4	10.2	144,000
ST2500	2500	375	5.2	10.9	180,000
ST3150	3150	472	6.6	12.5	227,000
ST3500	3500	525	8.0	16.6	252,000
ST4000	4000	600	9.2	19.1	288,000
ST4500	4500	675	10.0	20.5	324,000
ST5000	5000	750	11.0	20.8	360,000
ST5400	5400	810	11.0	19.4	389,000
ST6000	6000	900	12.4	21.6	432,000
ST6500	6500	975	12.4	20.1	468,000
ST7000	7000	1049	12.4	18.8	504,000
ST7500	7500	1124	Contact ContiTech		540,000
ST8000	8000	1199			576,000
ST8500	8500	1274			612,000
ST9000	9000	1349			648,000
ST9500	9500	1424			684,000
ST10000	10,000	1499			720,000

Tension ratings are available in addition to those shown above. Other cable diameters may be substituted according to individual requirements. Operating tensions are based on a 6.67:1 safety factor. Cable pitch based on 48 in. (1220mm) wide belts.



Flexsteel® Belt Thickness

Imperial						
<b>Belt Tension Rating</b>	<b>PIW</b>	600-1000	1001-1926	1927-2251	2252-2825	2826-3200
<b>Cable Diameter</b>	<b>in.</b>	0.15	0.18	0.21	0.26	0.32
<b>Belt Tension Rating</b>	<b>PIW</b>	3201-3500	3501-4200	4201-4650	4651-6420	
<b>Cable Diameter</b>	<b>in.</b>	0.37	0.40	0.44	0.49	
Metric						
<b>Belt Tension Rating</b>	<b>kN/m</b>	ST701-ST1169	ST1170-ST2250	ST2251-ST2629	ST2630-ST3300	ST3301-ST3738
<b>Cable Diameter</b>	<b>mm</b>	3.6	4.4	5.2	6.6	8.0
<b>Belt Tension Rating</b>	<b>kN/m</b>	ST3739-ST4089	ST4090-ST4906	ST4907-ST5432	ST5433-ST7499	
<b>Cable Diameter</b>	<b>mm</b>	9.2	10.0	11.0	12.4	

Approximate belt thickness = cable diameter + cover gauges.

Flexsteel® Belt Weight

Imperial						
<b>Belt Tension Rating</b>	<b>PIW</b>	685	856	1070	1370	1712
<b>Carcass Weight</b>	<b>lb./sq. ft.</b>	1.4	1.5	2.1	2.3	2.6
<b>Belt Tension Rating</b>	<b>PIW</b>	2140	2697	2997	3425	3853
<b>Carcass Weight</b>	<b>lb./sq. ft.</b>	2.9	4.2	4.4	5.0	5.5
<b>Belt Tension Rating</b>	<b>PIW</b>	4281	4623	5137	5565	5993
<b>Carcass Weight</b>	<b>lb./sq. ft.</b>	6.3	6.7	7.5	7.8	8.2
Metric						
<b>Belt Tension Rating</b>	<b>kN/m</b>	ST800	ST1000	ST1250	ST1600	ST2000
<b>Carcass Weight</b>	<b>kg/sq. m</b>	6.8	7.4	10.3	11.3	12.6
<b>Belt Tension Rating</b>	<b>kN/m</b>	ST2500	ST3150	ST3500	ST4000	ST4500
<b>Carcass Weight</b>	<b>kg/sq. m</b>	14.2	20.4	21.5	24.6	27.0
<b>Belt Tension Rating</b>	<b>kN/m</b>	ST5000	ST5400	ST6000	ST6500	ST7000
<b>Carcass Weight</b>	<b>kg/sq. m</b>	31.0	32.5	36.4	38.4	40.3

Approximate belt weight = carcass weight + cover weight. Minimum pulley cover requirements for belts with Sensor Guard® 3/16 in. (4.8mm). Contact your Sales Representative for minimum pulley cover that applies to your application. Minimum cover gauge is dependent on the belt rating. Average cover weight per 1/32 in. (1mm) is .19 lb./sq. ft. (1.18 kg/sq. m). Contact your Sales Representative for specific weight information.

# Flexsteel® Belts

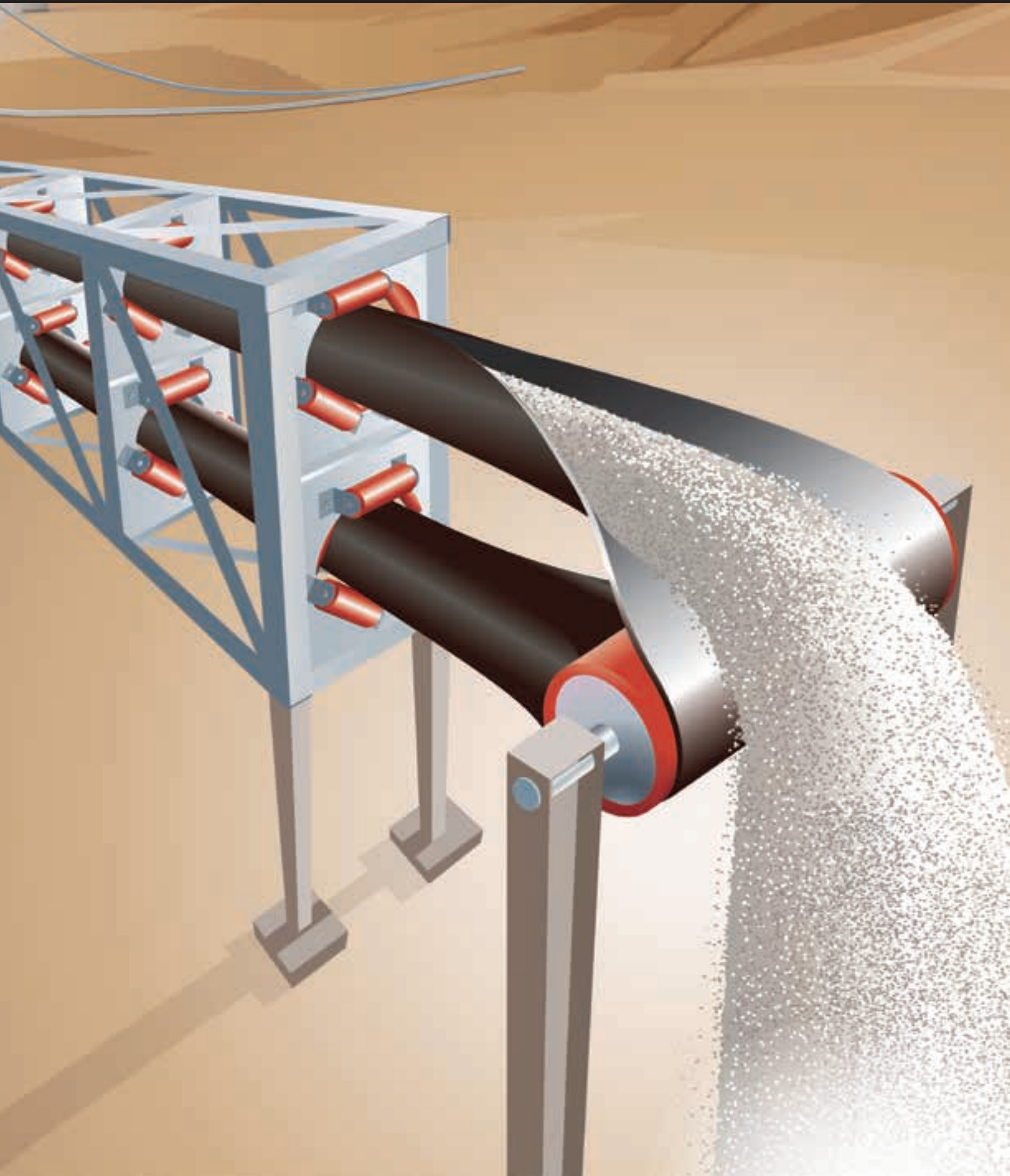
## Recommended Minimum Pulley Diameters

Belt Tension Rating	Percent of Rated Tension				
	>100% - 125%	75 - 100%	50 - 75%	<50%	Snubs
<b>Imperial (PIW)</b>					
600 - 1000	36	30	24	16	16
1001 - 1926	42	36	30	20	18
1927 - 2251	48	42	30	24	24
2252 - 2825	54	48	36	30	30
2826 - 3200	60	54	42	36	36
3201 - 3500	72	60	54	42	42
3501 - 4200	78	72	54	42	42
4201 - 4650	84	72	54	48	48
4651 - 6420	90	78	66	54	54
6421 - 6800	96	84	66	54	54
6801 - 8561	120	102	78	60	60
<b>Metric (kN/m)</b>					
ST701-ST1169	1000	800	630	400	400
ST1170-ST2250	1000	1000	630	500	500
ST2251-ST2629	1250	1000	800	630	500
ST2630-ST3300	1250	1250	1000	800	630
ST3301-ST3738	1600	1400	1000	800	800
ST3739-ST4088	1800	1600	1250	1000	1000
ST4089-ST4906	2000	1800	1400	1000	1000
ST4907-ST5432	2000	1800	1400	1250	1250
ST5433-ST7499	2400	2000	1600	1250	1250
ST7500-ST7943	2400	2200	1600	1400	1400
ST7944-ST10000	3000	2500	2000	1400	1400

Snubs are defined as having 6 in. (152.4mm) or less belt contact and tension less than 50% of belt rating. Pulley sizes for Flexsteel® belts are determined by face pressure on the pulley and/or the pulley-to-cable diameter ratio. All pulleys must be flat as crowned pulleys will cause excessive center tension in the high modulus steel cable product.

## Recommended Minimum Transition Distance at Half & Full Trough Depth

Percent of Rated Tension	Minimum Transition Distance ( W = Belt Width ) by Idler Angle					
	Half Trough			Full Trough		
	20 Deg	35 Deg	45 Deg	20 Deg	35 Deg	45 Deg
More than 90%	2.0W	3.4W	4.0W	4.0W	6.8W	8.0W
60% to 90%	1.6W	2.6W	3.2W	3.2W	5.2W	6.4W
Less than 60%	1.0W	1.8W	2.2W	2.0W	3.6W	4.4W



# ContiPipe™ Conveyor Belts

A well-rounded solution for securing materials over the long haul.

## Designed to outperform conventional pipe conveyor belt.

Most pipe conveyor belt is using technology more than 20 years old. This can lead to numerous conveying issues, including fatigue-induced collapse of the pipe shape, opening of the overlap seal and downward rotation of the overlap seal. The unique patent-pending reinforcement of ContiPipe™ provides enhanced transverse stiffness which allows greater resistance to collapse, excellent seal closure and resistance to downward rotation - regardless of the path the belt must travel.

## Keeping it clean.

Because of its closed belt design, ContiPipe™ provides dust-free transport of materials, keeping finer materials within the belt and not lost to the air. Meanwhile, the transported materials are protected from damaging external elements like wind and rain.

## Conveyor Belt Components



## Typical Applications

- › Copper
- › Coal (power plants)
- › Rock
- › Gypsum
- › Cement
- › Pulp and paper
- › Limestone
- › Iron ore
- › Fly ash
- › Wet ash
- › Fertilizer
- › Glass
- › Steel
- › Wood chips

### Engineered to work a long way.

Developed using Finite Element Analysis (FEA) modeling to meet the demands of modern pipe conveyor systems, ContiPipe™ is engineered to give you more. Comprehensive research, including dynamic belt testing to validate the FEA, allowed us to create a belt that can withstand the stresses of a long haul, especially around tight curves. Plus, it is built with unique characteristics that allow ContiPipe™ to keep its shape.

- › **Superb long-term transverse stiffness**
- › **Excellent overlap seal**
- › **Reduced buckling and minimized seam rotation in curves**

The FEA modeling provides the basis to design a belt to meet the demanding requirements of pipe conveyor systems. This results in longer life compared to conventional pipe belts and a lower cost-per-ton conveyed.

**ContiPipe™**



**Standard Pipe Conveyor Belt**



**FEA modeling gives us the ability to predict how a specific belt design will perform in application. Our modeling can accurately predict pipe belt rotation in curves.**

### ContiPipe™

Sizes*					
Diameter		Belt Width		Type	
in.	mm	in.	mm	Fabric	Steel
5.9	150	23.6	600	•	
7.9	200	30.7	780	•	
9.8	250	39.4	1000	•	
11.8	300	43.3	1100	•	•
13.8	350	51.2	1300	•	•
15.7	400	63.0	1600	•	•
19.7	500	74.8	1900	•	•
23.6	600	88.6	2250	•	

\*Contact us for additional sizes.

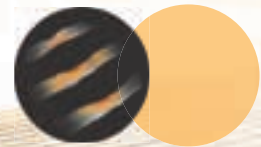
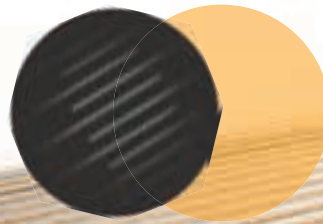






## CONTI® TotalProtect

A 24/7, robust monitoring service that utilizes X-ray scanning to detect and monitor everything from incremental belt surface cover damage to potentially catastrophic damage due to pending splice failure or belt penetration by foreign material.



CONTI® TotalProtect detects and monitors continuously on every inch of a running belt.

- › Belt cover damages, such as longitudinal cuts, cracks, grooves, etc.
- › Belt tracking
- › Damages of belt edge
- › Fastener damages
- › Opening and lengthening of splices
- › Excessive/abnormal cover wear
- › Insufficient belt cleaning
- › Cord misalignment, Cord condition changes (damages and corrosion)
- › Entrapment of foreign material



## Continuous Splice Monitoring

- › MultiProtect and CordInspect continuously monitor steel cord splices by tracking key splice characteristics.
- › Enables customers to set alarms to detect when splice degrades.
- › Allows for conveyor system shutdown when excessive damage is detected.

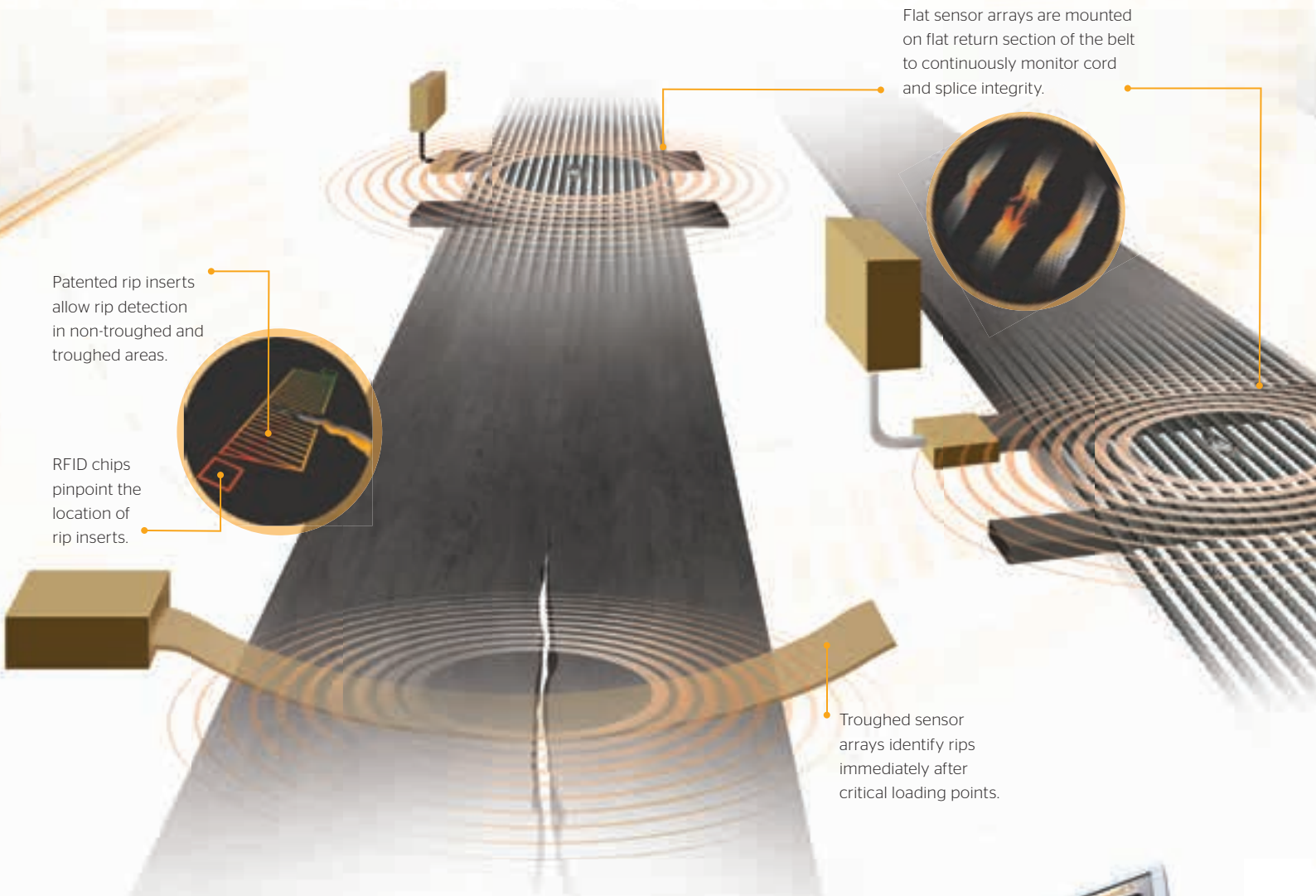


## CONTI® MultiProtect

Our premier steel cord monitoring system, MultiProtect offers 24/7 rip detection, as well as continuous cord and splice monitoring for risk of transverse tear in critical high-abuse applications.

## CONTI® CordProtect

Ideal for critical applications, CordProtect was specifically designed to monitor steel cord integrity and continuously monitor splice quality to assess risk of transverse tears. System is permanently mounted to your belt system for constant scanning.



## Network of Protection

### User-friendly graphical interface puts you in control.

Our web-based monitoring software can be accessed via an Ethernet connection to your company's network, making it available to multiple users. Plus, the graphical interface and on-demand reports are easy to understand, so users can quickly recognize belt rips, splice issues or cord damage instantaneously. Online support can be provided if external connections are established.

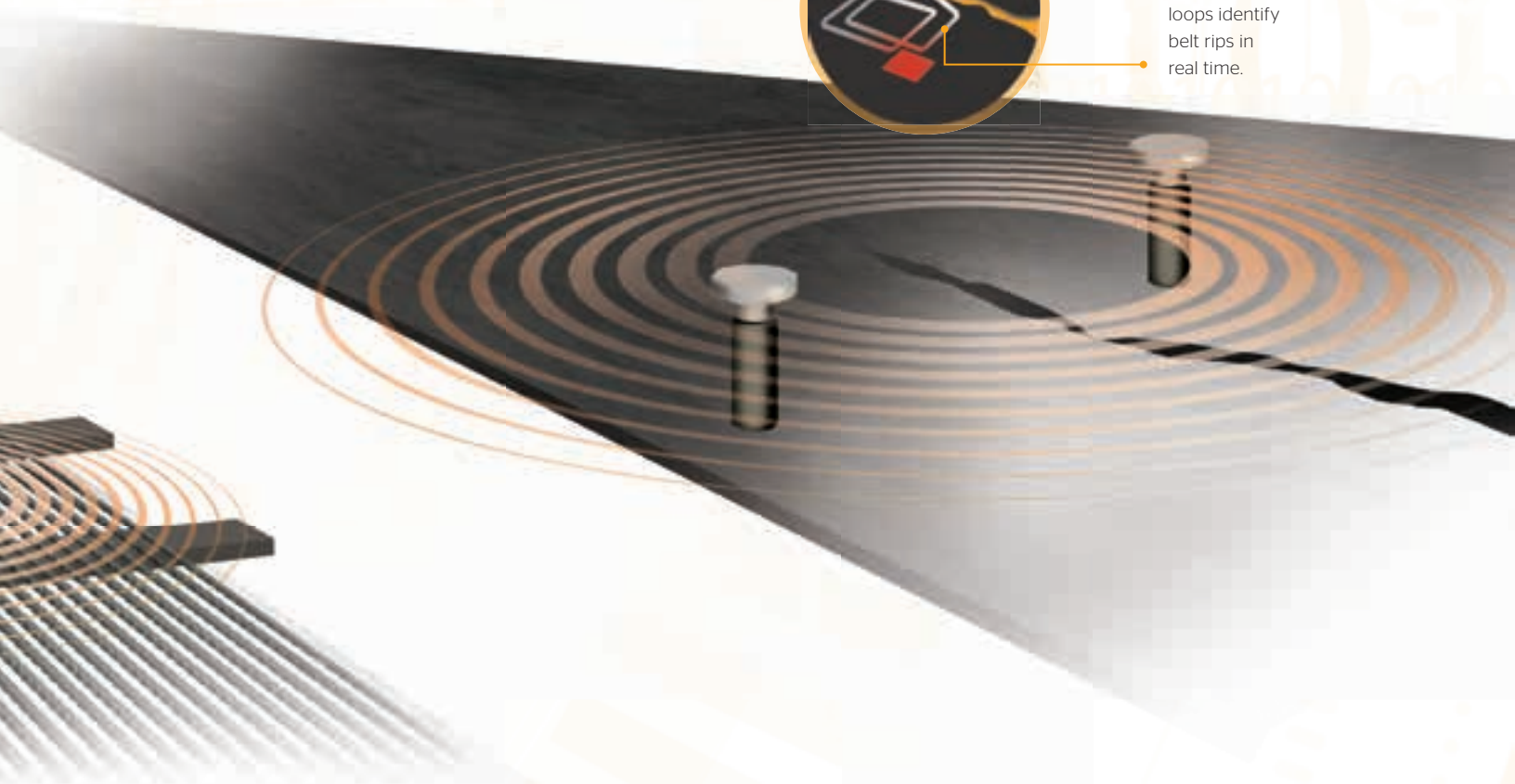


## CONTI® RipProtect

RipProtect provides 24/7 continuous rip detection for critical applications including steel cord and fabric belts.

RFID chips pinpoint location of sensor loops for system identification.

Embedded loops identify belt rips in real time.



## CONTI® Cord Damage Locator

### Need help pinpointing steel cord damage?

When a cable break occurs, the cover can look undamaged and the location of the cord break may not be easy to locate. The Damage Locator enables you to isolate the location of the steel cord break due to its magnetic field properties, allowing you to quickly and easily assess potential dangers and avoid costly downtime.







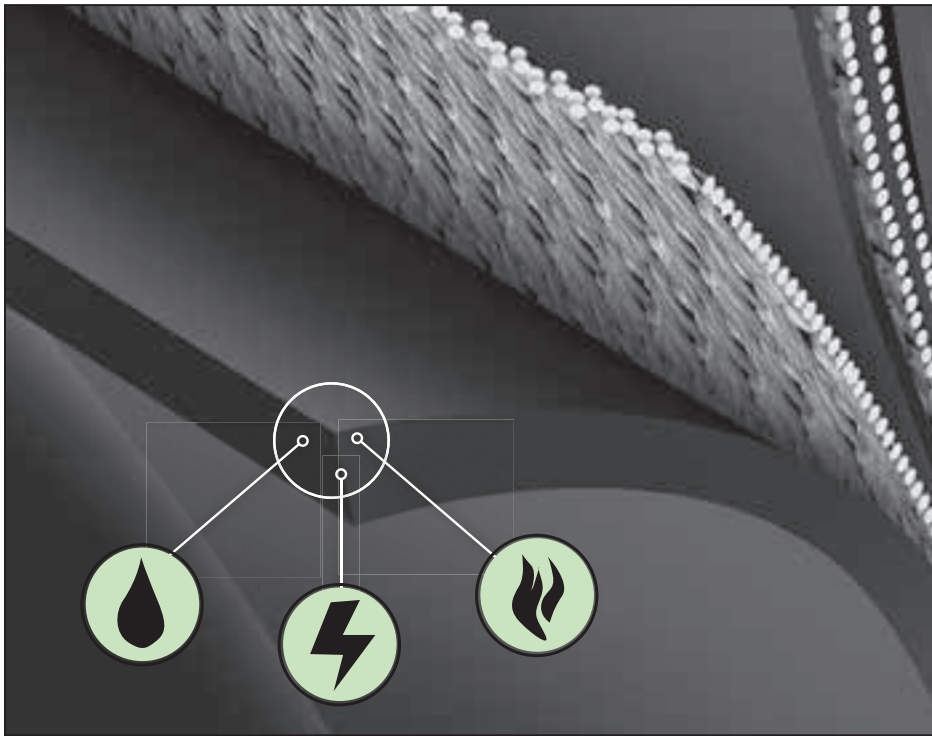
# Cover Compounds

## Protecting your investment with ContiTech cover compounds.

ContiTech cover compounds provide the ultimate protection for your belt carcass so that you realize a lower cost-per-ton conveyed and your system requires less maintenance.

Our innovative, thermoset-formulated compounds provide protection and performance in even the toughest applications. Utilizing our compounding expertise, we offer a wide variety of cover compounds to meet your specific application requirement.

Our manufacturing process is vertically integrated and unique to the conveyor belt industry. Backed by extensive research and testing facilities, we have cover compounds to meet your rigorous requirements. We own mixing facilities that provide raw materials used in making our cover compounds, giving us more control over the quality of the product every step of the way.



# Cover Compounds Applications

Cover Compounds

Compounds	Markets														
	Underground Coal Mining	Underground Mining Non-Coal	Coal - Prep Plants	Aggregate	Cement	Wood - Pulp & Paper	Steel or Foundry	Package Handling	Hard Rock Mining	Grain Handling	Bulk Handling Terminal	Power Generation	Baggage Handling	Sand & Gravel	Overland Transportation
Survivor® Plus				■	■		■		■		■			■	■
Survivor®				■	■		■		■		■			■	■
Stacker®				■	■		■		■		■				■
Defender® Plus			■	■	■	■	■	■	■		■	■	■	■	■
Protector				■									■	■	
Grade II				■									■	■	
FR-2G		■	■								■	■			■
FRAR-2G		■	■				■				■	■			■
FRORS-2G		■	■				■				■	■			■
FRAR-CSA C			■				■				■	■			■
FR-CSA C			■				■				■	■			■
HT Nitrile (Solar-Shield® OR)				■	■	■									
MonsterHide™				■					■						
MORS						■									
Solar-Shield® XL 750					■		■								
Alumina - HOT							■								
6740A (Solar-Shield® 300)					■		■								■
Easyrider™															■
Pathfinder® Supreme										■					■



# Standard Compounds

**Alumina - HOT:** Specifically designed compound intended for usage at alumina facilities where alumina material temperatures range up to 400°F.

**Defender® Plus:** An ARPM Grade I rubber compound designed to provide excellent abrasion resistance, very good gouge resistance and excellent flexing life.

**Easyrider™:** A low rolling resistance family of compounds for the pulley cover side only which is designed to reduce the energy cost by minimizing indentation energy loss to idlers. Proven with over 600 miles of belt in operation, the LRR Easyrider™ compound can provide up to 20% reduction in energy consumption compared to standard compounds and the SLRR Easyrider™ compound can provide up to 32% reduction in energy consumption.

**FR-2G:** Designed especially for aboveground prep plants, power plants and non-coal underground mining applications and meets ASTM D378-13.2 (old MSHA CFR 30 part 18) flame test standard.

**FRAR-2G:** Designed for non-coal underground mining and surface applications that meet ASTM D378-13.2 (old MSHA CFR 30 part 18) flame test standard and offers approximately 70% more abrasion resistance than FR-2G.

**FRORS-2G:** Moderate resistance to oil and static conductive, this compound is designed for oily coal or coke material. FRORS-2G meets ASTM D378-13.2 (old MSHA CFR 30 part 18) flame test standard.

**FRAR-CSA C & FR-CSA C:** Fire retardant antistatic belting is certified by the Canadian Department of Energy, Mines and Resources, Ottawa to CAN/CSA M422M87, Type C, for below surface use as well as other mining operations. FRAS-SA offers approximately 40% better abrasion resistance than FRAS-C compound.

**GRADE II:** An ARPM Grade II rubber compound designed to provide good abrasion and gouge resistance and very good flex life.

**GLOBAL X®:** Meets ARPM Grade I and DIN X standards. Offers superior cut and gouge resistance and very good abrasion resistance.

**MonsterHide™:** MonsterHide™ is an ARPM Grade II compound providing the ultimate in cut and gouge protection. The compound is designed to absorb impacts from large sharp rock.

**MORS:** Compounded to resist the terpene content of wood chips and moderately oily grains. It has fair abrasion resistance and is a good value for handling moderately oily material where fire resistance is not required.

**Pathfinder® Arctic:** Designed especially for the grain industry where oily grains and controlled mineral or vegetable oil dust suppressive sprays come in contact with the belt. Suitable to -40°F (-40°C).

**Pathfinder® CSA:** Fire retardant antistatic belting certified by the Canadian Department of Energy, Mines and Resources, Ottawa to CAN/CSA M422M87, Type C.

**Pathfinder® Supreme:** Designed especially for the grain industry where oily grains and controlled mineral or vegetable oil dust suppressive sprays come in contact with the belt.

**Protector:** A Grade II compound for applications requiring good abrasion and gouge resistance and very good flex life.

**6740A (Solar-Shield® 300):** Compounded for excellent heat and abrasion resistance in temperature ranges of 350°F (177°C) for lumpy material and up to 250°F (121°C) for hot baking loads.

**HT Nitrile (Solar-Shield® OR):** An oil resistant compound formulated for applications demanding higher resistance to heat, oil and abrasion. It is resistant to temperatures up to 300°F (149°C), abrasion flexing, oxidation and the effect of corrosive atmospheres.

**Solar-Shield® XL 750:** An exceptional hot material compound with superior heat resistance against hardening and cracking. It is designed to carry hot loads at intermittent temperatures up to 750°F (399°C) and retain its superior heat resistant qualities.

**Stacker®:** Premium ARPM Grade I Rubber Compound, designed for excellent resistance to cutting, gouging and abrasion.

**Survivor®:** Superior abrasion resistance. Ideal for high speed, small diameter crushed stone, trap rock, ore, copper, taconite and other abrasive applications.

**Survivor® Plus:** The ultimate in abrasion resistance, offering up to 40% more abrasion resistance than Survivor®. Ideal for high speed, abrasive material applications.

# Cover Compounds

## Abrasion Compounds

Compound	International Standards	Abrasion Resistance	Low Temp.	High Temp. (Lumpy Material)	Cut & Gouge Resistance	Oil Resistance	Flame Resistance	ISO 284 Static Conductive	ASTM D2240A Shore A Hardness	Tensile (psi)	Elongation (%)	DIN Abrasion (mm <sup>3</sup> )
Survivor® Plus	ARPM Grade I, DIN Z, AS Grade A, N & E	Ultimate	-55°F (-48°C)	150°F (66°C)	Good	No	No	Yes	60	2850	585	25
Survivor®	ARPM Grade I, DIN Z, AS Grade A, N & E	Superior	-55°F (-48°C)	150°F (66°C)	Very Good	No	No	Yes	59	2850	585	40
Stacker®	ARPM Grade I, DIN W, AS Grade N & E	Excellent	-55°F (-48°C)	150°F (66°C)	Excellent	No	No	Yes	60	2950	570	70
Defender® Plus	ARPM Grade I, AS Grade E	Excellent	-40°F (-40°C)	212°F (100°C)	Very Good	No	No	Yes	60	2800	560	90
Protector	ARPM Grade II, AS Grade E	Good	-30°F (-34°C)	150°F (66°C)	Good	No	No	Yes	60	2300	510	145
Grade II	ARPM Grade II	Good	-30°F (-34°C)	150°F (66°C)	Fair	No	No	Yes	62	2000	400	175
<b>Abrasion &amp; Flame Resistance</b>												
FRAR-2G	ARPM Grade II	Excellent	-40°F (-40°C)	150°F (66°C)	Good	No	ASTM D378-13.2	Yes	58	2550	540	85
FR-2G	ARPM Grade II, AS Grade E	Good	-40°F (-40°C)	212°F (100°C)	Good	No	ASTM D378-13.2	Yes	57	2500	540	140
FRAR-CSA C	ARPM Grade II, AS Grade E, CSA-C	Good	-40°F (-40°C)	160°F (71°C)	Fair	No	CSA-C	Yes	60	2550	540	85
FR-CSA C	ARPM Grade II, AS Grade E, CSA-C	Fair	-40°F (-40°C)	160°F (71°C)	Fair	No	CSA-C	Yes	60	2000	400	260
FRHT-2G	ARPM Grade II, DIN Z, AS Grade E	Good	-40°F (-40°C)	250°F (120°C)	Good	No	ASTM D378, D378-13.2	Yes	60	2500	500	175
FRUG-2G	ARPM Grade II, DIN Z, AS Grade E	Good	-40°F (-40°C)	150°F (66°C)	Good	No	ASTM D378, D378-13.2	Yes	60	1900	490	230
<b>Abrasion &amp; Oil Resistance</b>												
HT Nitrile (Solar-Shield® OR)	ARPM Grade II, AS Grade N	Good	-15°F (-26°C)	300°F (149°C)	Fair	Superior	No	No	61	2800	610	145
LTORS	-	Excellent	-40°F (-40°C)	120°F (49°C)	Good	Very Good	No	Yes	60	2350	450	90

Cover Compounds

Compound	International Standards	Abrasion Resistance	Low Temp.	High Temp. (Lumpy Material)	Cut & Gouge Resistance	Oil Resistance	Flame Resistance	ISO 284 Static Conductive	ASTM D2240A Shore A Hardness	Tensile (psi)	Elongation (%)	DIN Abrasion (mm <sup>3</sup> )
<b>Cut &amp; Gouge Compounds</b>												
MonsterHide™	ARPM Grade II	Very Good	-40°F (-40°C)	150°F (66°C)	Ultimate	No	No	Yes	72	2650	680	140
Global X®	ARPM Grade I, DIN X, Y & Z, AS Grade M, N & E	Very Good	-55°F (-48°C)	150°F (66°C)	Superior	No	No	Yes	61	4000	500	115
Stacker®	ARPM Grade I, AS Grade N & E	Excellent	-55°F (-48°C)	150°F (66°C)	Excellent	No	No	Yes	60	2950	570	70
Defender® Plus	ARPM Grade I, DIN Z, AS Grade E	Excellent	-40°F (-40°C)	212°F (100°C)	Very Good	No	No	Yes	60	2800	560	90
<b>Heat Compounds</b>												
Solar-Shield® XL750	ARPM Grade II, AS Grade E	Good	-40°F (-40°C)	750°F (399°C)	Fair	No	No	Yes	73	2300	680	130
Alumina-HOT	ARPM Grade II, AS Grade E	Good	-40°F (-40°C)	400°F (204°C)	Fair	No	No	Yes	73	2300	640	155
6740A (Solar-Shield® 300)	ARPM Grade II, AS Grade N & E	Very Good	-40°F (-40°C)	350°F (177°C)	Very Good	No	No	Yes	57	2900	550	110
Defender® Plus	ARPM Grade I, AS Grade N & E	Excellent	-40°F (-40°C)	212°F (100°C)	Very Good	No	No	Yes	60	2800	560	90
<b>Oil Compounds</b>												
HT Nitrile (Solar-Shield® OR)	ARPM Grade II, AS Grade N	Good	-15°F (-26°C)	300°F (149°C)	Fair	Superior	No	No	61	2800	610	145
Pathfinder® Supreme	-	Fair	-30°F (-34°C)	150°F (66°C)	Fair	Very Good	ASTM D378-13.2	Yes	60	1800	580	330
Pathfinder® Arctic	-	Fair	-40°F (-40°C)	150°F (66°C)	Fair	Very Good	ASTM D378-13.2	Yes	60	1800	450	330
Pathfinder®	CSA-C	Fair	-40°F (-40°C)	150°F (66°C)	Fair	Very Good	CSA M422	Yes	65	2000	550	250
MORS - Wood Sawyer® Plus	-	Fair	-20°F (-29°C)	150°F (66°C)	Good	Good	No	Yes	62	1700	330	215
LTORS	-	Excellent	-40°F (-40°C)	120°F (49°C)	Good	Very Good	No	Yes	60	2350	450	90

# Cover Compounds

## Cover Compounds

Compound	International Standards	Abrasion Resistance	Low Temp.	High Temp. (Lumpy Material)	Cut & Gouge Resistance	Oil Resistance	Flame Resistance	ISO 284 Static Conductive	ASTM D2240A Shore A Hardness	Tensile (psi)	Elongation (%)	DIN Abrasion (mm <sup>3</sup> )
<b>Flame-Resistant Compounds</b>												
FRAR-2G	ARPM Grade II	Excellent	-40°F (-40°C)	150°F (66°C)	Good	No	ASTM D378 - 13.2	Yes	58	2550	540	85
FR-2G	ARPM Grade II, AS Grade E	Good	-40°F (-40°C)	212°F (100°C)	Good	No	ASTM D378-13.2	Yes	57	2500	540	140
FRORS-2G	ARPM Grade II, DIN Z, AS Grade E	Good	-40°F (-40°C)	212°F (100°C)	Good	Good	ASTM D378-13.2	Yes	57	1900	410	245
FRAR-CSA C	ARPM Grade II, AS Grade E, CSA-C	Good	-40°F (-40°C)	160°F (71°C)	Fair	No	CSA-C	Yes	60	2550	540	85
FR-CSA C	ARPM Grade II, AS Grade E, CSA-C	Fair	-40°F (-40°C)	160°F (71°C)	Fair	No	CSA-C	Yes	55-65	2000	400	260
Pathfinder® Supreme	-	Fair	-30°F (-34°C)	150°F (66°C)	Fair	Very Good	ASTM D378-13.2	Yes	60	1800	580	330
Pathfinder® Arctic	-	Fair	-40°F (-40°C)	150°F (66°C)	Fair	Very Good	ASTM D378-13.2	Yes	60	1800	450	330
Pathfinder®	CSA-C	Fair	-40°F (-40°C)	150°F (66°C)	Fair	Very Good	CSA M422	Yes	65	2000	550	250
<b>Heat &amp; Oil Compounds</b>												
HT Nitrile (Solar-Shield® OR)	ARPM Grade II, AS Grade N	Good	-15°F (-26°C)	300°F (149°C)	Fair	Superior	No	No	61	2800	610	145



# Customer Satisfaction Service Capabilities

## Pre-Sale

Evaluate current situation  
“Listen to Customer”

### Perform system or plant survey

- › Use Conveyor Belt Analysis Form (See page 87).
- › Use our Advanced Service Tools (See pages 85-86).

### Analyze system for optimum performance

- › Conduct Minuteman® Computer Analysis.
- › Use “B.E.L.T. F.I.T.S.” criteria (See page 86).

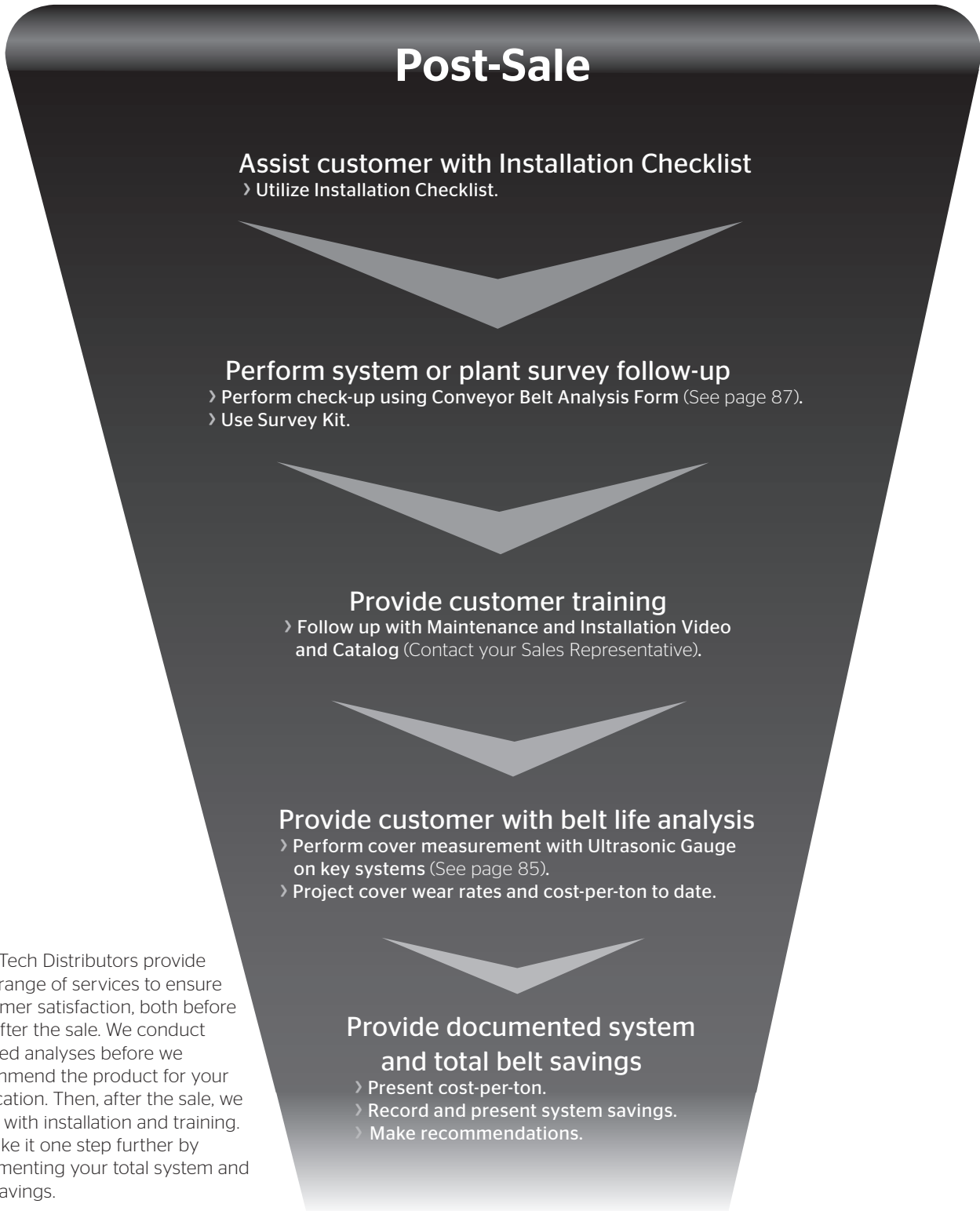
### Help customers understand product benefits

- › Utilize Heavyweight Catalog.
- › Demonstrate “lower cost-per-ton.”

### Present customer with ContiTech belt & splice recommendations

- › Provide Minuteman® results.
- › Quote each specification.





ContiTech Distributors provide a full range of services to ensure customer satisfaction, both before and after the sale. We conduct detailed analyses before we recommend the product for your application. Then, after the sale, we assist with installation and training. We take it one step further by documenting your total system and belt savings.

# Advanced Service Tools

ContiTech is backed by the most experienced conveyor belt pros in the business. Their expertise and access to advanced service tools are your assurance of the highest quality support and product value.



## We meet your needs

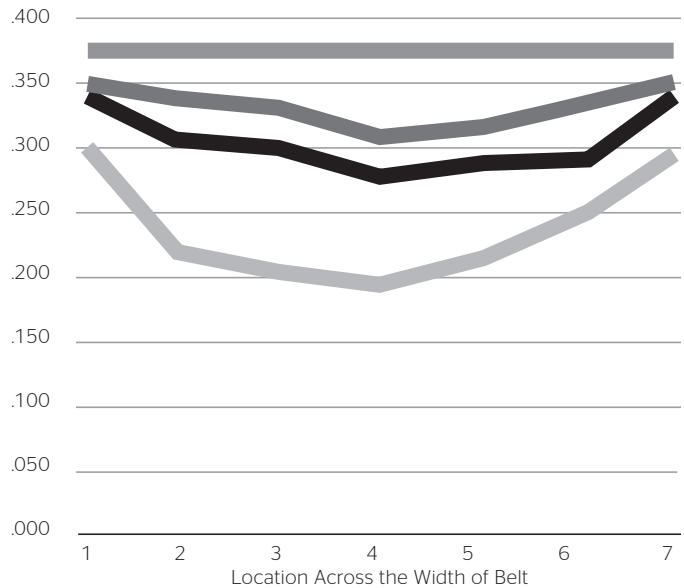
Our sales and engineering team can assist with custom belt design, critical belt surveys, troubleshooting and splice installation supervision. Our engineers draw on the capabilities of our Worldwide Technical Center which houses leading edge technologies and equipment. They also utilize the most experienced outside consultants and academic researchers.

## High-tech Ultrasonic Gauge available



To increase productivity and predict belt cover life, technical managers and distributors utilize a high-tech Ultrasonic Gauge. It is the perfect planning tool for cover wear management, belt life, determining budget parameters and scheduling downtime.

Survivor® Cover Wear Analysis



Projected total life = 8 months  
 Projected total tonnage = 6,000,000 tons  
 Past history life = 4 months (Premarc)

- 8/1/13 Original Thickness
- 10/1/13
- 10/22/13
- 12/14/13

To locate your Distributor, visit [www.contitech.us](http://www.contitech.us).

## Minuteman®



Minuteman® is the automated belt selection and design system utilized by technical managers and distributors. Typically used with systems under 5,000 ft. (1524m) center-to-center distance, the Minuteman® program helps identify the proper belt for your



application, as well as provides information on required horsepower, counter-weight and conveyor capacity. To receive a belt recommendation, contact your technical manager or a Distributor.

## Belt Selection

Your application may be in the cement industry, power generation or package handling. There is a ContiTech belt to suit your needs - in the size and material you need.

It may be our premium Pylon Plus® all-purpose fabric conveyor belt or Solar-Shield® XL 750 with fiberglass reinforcement for extreme hot material applications. The following forms can help determine what's right for your application.

As you go through the forms in this book, keep the following criteria in mind. It will help you analyze your belting needs and determine which belt is the right choice.

### **B.E.L.T. F.I.T.S.**

Make sure your "Belt Fits!"

- B** - Belt Covers
- E** - Elongation
- L** - Load Support
- T** - Troughability

- F** - Flex Life
- I** - Impact
- T** - Tensile Strength
- S** - Splice

# Minuteman® Belt Analysis Sheet

## Customer Information

Name/Location: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_  
 State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Email: \_\_\_\_\_

## Material Information

Name of the Material: \_\_\_\_\_  
 Max Material Size: \_\_\_\_\_ in.  
 Max Drop Height: \_\_\_\_\_ ft.  
 Max Material Temp: \_\_\_\_\_ °F  
 Min Ambient Temp: \_\_\_\_\_ °F  
 Is Any Oil Present?: Yes  No

## General Information

Conveyor Description #: \_\_\_\_\_

## Inputs

Belt Width: \_\_\_\_\_ in.  
 Belt Speed: \_\_\_\_\_ fpm  
 Tons per Peak Hour: \_\_\_\_\_ stph  
 Material Density: \_\_\_\_\_ lb/cu. ft.  
 Angle of Idlers: \_\_\_\_\_ deg  
 Carrying Idler Spacing: \_\_\_\_\_ ft.  
 Drive Wrap Angle: \_\_\_\_\_ deg

## Pulleys

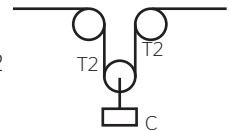
	<b>Head</b>	<b>Tail</b>
Pulley Diameter:	_____	_____
	<b>Drive</b>	<b>Take-Up</b>
Pulley Diameter:	_____	_____

## Transition

	<b>Head</b>	<b>Tail</b>
Length:	_____	_____

## Take-Up

Take-Up Tension: \_\_\_\_\_ T2  
 Counter Weight: \_\_\_\_\_ C  
 Type of Splice: Vulcanized  Mechanical



## Stations/Flight Information

Please draw diagram

Information Needed:

- Stations
- Drives
- Take-Up
- Length
- C-C Distance

## Additional Comments

# Conveyor Belt Analysis

Master Form. Photocopy for use.

Customer: \_\_\_\_\_

Mine/Plant/Quarry: \_\_\_\_\_

Key Personnel: \_\_\_\_\_

Date: \_\_\_\_\_

Location: \_\_\_\_\_

Conveyor Description: \_\_\_\_\_

**Data Required**

Belt Width: \_\_\_\_\_ in.  
 Center-to-Center Distance: \_\_\_\_\_ ft.  
 Horizontal Length: \_\_\_\_\_ ft.  
 Vertical Lift: \_\_\_\_\_ ft.  
 Angle of Incline: \_\_\_\_\_ deg  
 Belt Speed: \_\_\_\_\_ fpm  
 Material: \_\_\_\_\_  
 Material Density: \_\_\_\_\_ lb./cu. ft.  
 Maximum Lump Size: \_\_\_\_\_ in.  
 Refuse (% and Type): \_\_\_\_\_  
 Tons Per Hour (Max.): \_\_\_\_\_ tph  
 Hours in Service per Day: \_\_\_\_\_ hrs.  
 Days in Service: \_\_\_\_\_ days  
 Operating Temperature Range: \_\_\_\_\_ °F

**Transition Lengths**

Head: \_\_\_\_\_ in.  
 Tail: \_\_\_\_\_ in.  
 Other: \_\_\_\_\_ in.

**Vertical Curves\***

Curve Radius: \_\_\_\_\_  
 Angle into Curve: \_\_\_\_\_  
 Angle out of Curve: \_\_\_\_\_  
 Length of Curve: \_\_\_\_\_  
 Idler Spacing on Curve: \_\_\_\_\_

\*Note each curve individually.

**Drive Data**

# of Drives: \_\_\_\_\_  
 # of Motors per Drive: \_\_\_\_\_  
 HP per Motor: \_\_\_\_\_  
 Acceleration Time: \_\_\_\_\_  
 Drive Pulley(s): Lagged \_\_\_\_\_ Yes/No \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Brake (Yes/No): \_\_\_\_\_ Time \_\_\_\_\_ Sec.

**Take-Up Data**

Location: \_\_\_\_\_  
 Hydraulic: \_\_\_\_\_  
 Rod Diameter: \_\_\_\_\_ in.  
 Cylinder Diameter: \_\_\_\_\_ in.  
 Rope Ratio: \_\_\_\_\_  
 Take-Up Pressure: \_\_\_\_\_ lb.  
 Gravity: Weight \_\_\_\_\_ lb.  
           Travel \_\_\_\_\_ ft.  
 Screw: \_\_\_\_\_  
 Travel: \_\_\_\_\_ in.

**Take-Up Data** (continued)

Comments (Include Previous Belt History): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**Turnovers**

(Yes/No) Location: \_\_\_\_\_

**Pulley Diameters**

Head: \_\_\_\_\_ in.  
 Tail: \_\_\_\_\_ in.  
 Drive: \_\_\_\_\_ in.  
 Take-Up: \_\_\_\_\_ in.  
 Snub: \_\_\_\_\_ in.  
 Bend: \_\_\_\_\_ in.

**Loading**

Location: \_\_\_\_\_  
 # of Loading Pts.: \_\_\_\_\_  
 Impact Idlers/Slider Bed: \_\_\_\_\_  
 In Line/Angle to Feed Belt: \_\_\_\_\_ deg  
 Belt Inclination at Feed Pt.: \_\_\_\_\_ deg  
 Vertical Drop: \_\_\_\_\_  
 Chute Angle to Horizontal: \_\_\_\_\_  
 Chute Bottom to Belt Distance: \_\_\_\_\_ ft.  
 Skirtboard Length: \_\_\_\_\_ ft.

**Idlers**

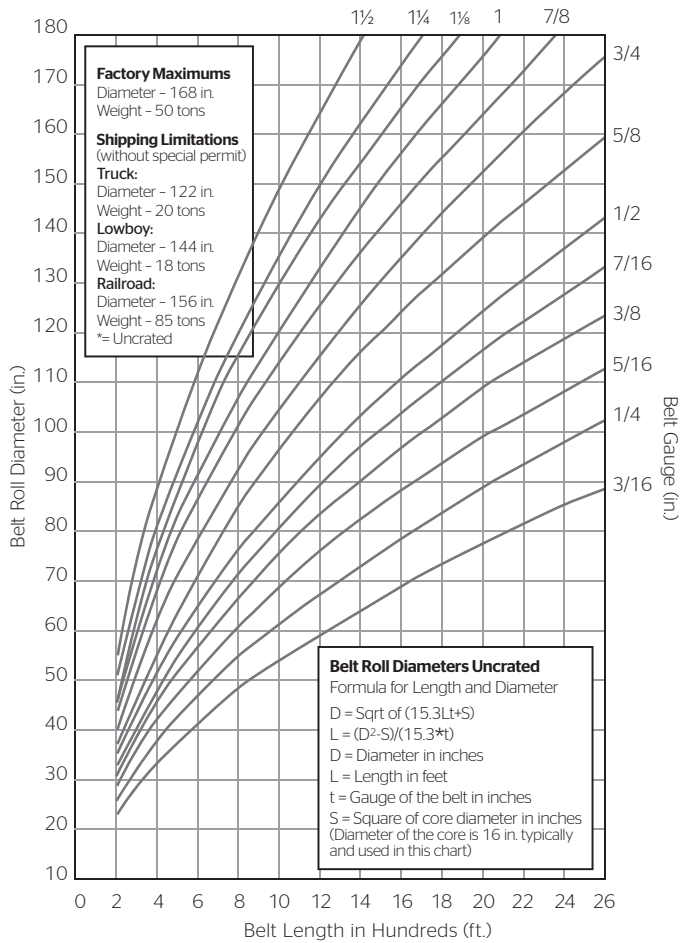
Carrying Side Angle: \_\_\_\_\_ deg  
 CEMA Type: \_\_\_\_\_  
 Roller Diameter: \_\_\_\_\_ in.  
 Carrying Side Spacing: \_\_\_\_\_ ft.  
 Steel/Rubber: \_\_\_\_\_ Rigid/Garland  
 Return Side Angle: \_\_\_\_\_ deg  
 Return Side Spacing: \_\_\_\_\_ ft.  
 Steel/Rubber: \_\_\_\_\_  
 Idler Manufacturer: \_\_\_\_\_

**Splices**

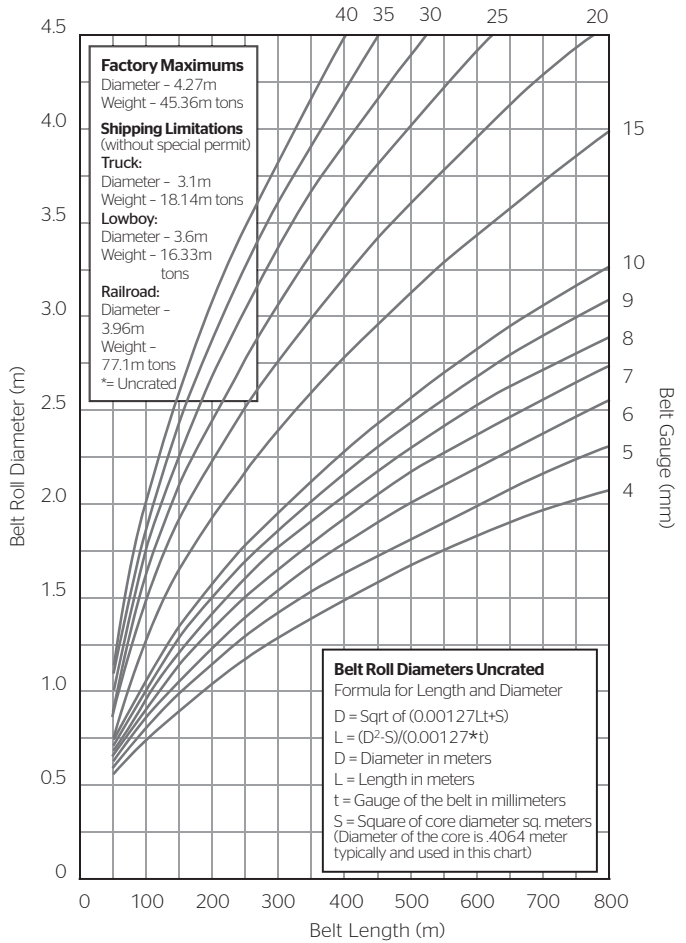
Type: \_\_\_\_\_  
 Mech (Type & Size): \_\_\_\_\_  
 PIN: \_\_\_\_\_  
 Vulc (Step Length): \_\_\_\_\_ in.

# Belt Roll Diameters

Imperial Belt Roll Diameters



Metric Belt Roll Diameters





# Terms and Conditions of Sale

## **ContiTech**

Quotation Provisions

### **Terms and conditions of sale**

ContiTech and its affiliates offer a number of different terms and conditions for the purchase of materials, services and products and the sale of products depending on the location of the transaction. These may vary from time to time and for different product categories and locations. Please see our terms and conditions of sale at: [www.contitech.us](http://www.contitech.us). While every effort is made to keep these up to date, there may be discrepancies. If you have any questions, please ask for a copy of our terms and conditions when accepting or placing orders with us.

## Investing in Research and in You

Every day, the ongoing commitment to research by conveyor belt manufacturer ContiTech pays off for our customers. It is demonstrated in part by a \$5 million-plus investment in our state-of-the-art worldwide research and development facilities.



### Innovation Center in Fairlawn, Ohio

With these advanced facilities and equipment at their disposal, our Research and Development team creates new products, cutting-edge technologies and improved quality assurance measures. This enables us to bring unique products to market faster than ever, while continuing to deliver conveyor belts that provide the industry's lowest cost-per-ton capabilities. In short, by increasing an already strong research and development drive, we ultimately increase your efficiency and decrease your downtime.

### Here's a brief look at some of the many investments we have made:



#### Dynamic Splice Tester

Proving Flexsteel® belts and splices for your next generation designs.

Our dynamic splice tester is one of two machines in the world capable of proving splice efficiencies 50% or greater on belt tensions over ST10000.

Tests: DIN 22110/3; internally developed test standards.



#### DIN Abrasion Tester

Designing belts to last longer.

All of our cover compounds are tested and reported per DIN 53516 non-rotating head test. This testing allows us to develop compounds like Survivor®, Stacker®, Survivor® Plus and Defender® Plus – all with superior wear resistance for longer belt life.

Tests: DIN 53516, ISO 4649.



#### Load Support Tester

Pushing technology to test real life situations.

A belt's ability to span the idler junction is critical to its success. That is why we developed this advanced testing system, which simulates idler angles from 20° to 60°, tests idler gaps from 10mm to 25mm and measures the amount of sag a belt experiences.

Tests: Internally developed test standards.



#### Six-Pulley Splice Tester

Developing stronger splices and higher tension fabric.

This dynamic splice test assists in developing high-tension fabric belts and stronger splices for future market requirements. It provides improved technical information and greatly reduces product development cycles.

Tests: DIN 22110/2.



#### Instron® 5500R

Increasing your uptime by reducing rips and tears.

How often is your conveyor down due to rips and tears? Our Instron® machine is used to develop stronger belts with some of the industry's best rip, tear and fastener pullout properties.

Tests: ASTM 378-12, 16 & 18; ISO 283, 505 & 1120; AS 13334.3 & .8; DIN 22102-2.6, 22110-6.1; internally developed test standards.



# ContiTech

## Conveyor Belt Group

Market segment  
Conveyor Belt

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1-800-263-7788



## ContiTech. Smart Solutions Beyond Rubber

The ContiTech division of the Continental Corporation is one of the world's leading industry specialists. As a technology partner, our name is synonymous with expertise in development and materials for components made of natural rubber and plastics and also in combination with other materials such as metal, fabrics or silicone. By integrating electronic components, we are also generating solutions for the future.

Beyond products, systems and services we also provide holistic solutions and have a formative influence on the industrial infrastructure. We see digitalization and current trends as an opportunity to work with our customers to add sustainable value - for both sides and for good.