

CONQUEST®



CONQUEST

DESCRIPTION:

This rugged, fabric-reinforced conveyor belt withstands high abuse applications. It's made with a revolutionary patented Triple-Warp® weave design, holds up to the most demanding applications, and delivers up to three times longer life, proving Conquest 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™
- Stacker®
- Survivor®

(See pages 74-78 for more specific details.)

See the process diagram for Aggregate, Hard Rock Mining, Sand and Gravel markets on page 6 for alternative belt recommendations.

Tension Range

400 to 800 PIW



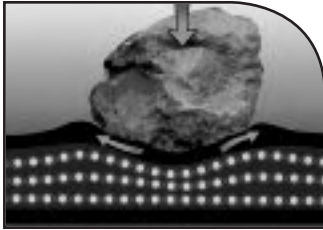
Features & Benefits

Patented polyester/nylon Triple-Warp[®] weave

The heavy Triple-Warp weave center ply is sandwiched between flexible abuse-resistant outer plies. Conquest belts from Goodyear Engineered Products are strong and provide a better overall value than multi-ply and straight-warp fabric constructions in high abuse applications.

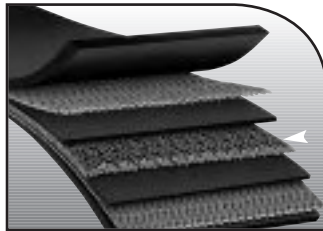
Tested for impact resistance

Loading point impact damage can be a major cause of belt failure. Goodyear EP's design engineers use an enhanced Dynamic Impact Tester to simulate loading impact force and its effects on belting. Conquest provides better impact resistance than plain weave constructions with equivalent PIW rating.



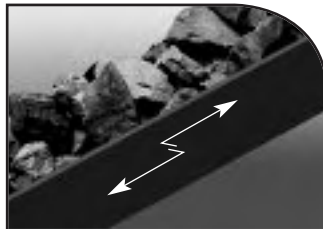
High transverse tear strength

The Triple-Warp fabric design incorporates extremely high transverse tear strength. This minimizes tears that result from material punctures as well as edge tears from misaligned belts.



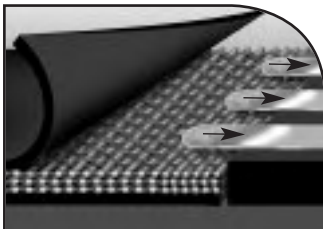
Superior rip resistance

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 belt. The Triple-Warp fabric design helps dislodge and expel foreign objects and contain rips to a small area.



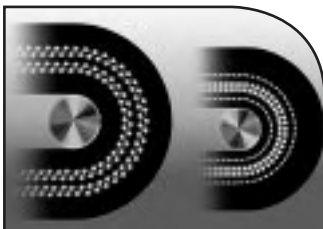
Superior mechanical fastener holding strength

Rigorous dynamic and static testing ensures that Conquest belts will provide superior mechanical fastener retention as compared with multi-ply and straight-warp constructions.



Triple-Warp design offers a high degree of flexibility

With its superior flexibility around small pulleys, a Conquest belt saves significant investment dollars compared with the large pulleys required for straight-warp belt systems. This translates into a cost-per-pulley savings of up to 80%.



F E A T U R E S	Conquest	Straight-Warp
Resists fastener pullout	Excellent	Good
Handles severe impact	Excellent	Excellent
Transverse tear resistance	Excellent	Excellent
Rip resistance	Excellent	Excellent
Flexibility around small pulley diameters	Excellent	Poor
Option to utilize various cover gauges	Excellent	Poor
Resists edge fraying or stringing	Excellent	Poor
Minimum cost and time for vulcanized splice	Good	Poor

CONQUEST

CONQUEST CONVEYOR BELT DATA - Imperial

	CONQUEST 400	CONQUEST 600	CONQUEST 800
Plies	1	3	3
Fabric Type	Triple-Warp	Triple-Warp	Triple-Warp
Vulcanized & Fastener Rating (piw)	400	600	800
Impact Index*	1.8	3.7	4.0
Nom. Carcass Gauge (in.)	0.131	0.265	0.313
Nom. Carcass Weight (lbs./sq. ft.)	0.460	1.40	1.70
Approx. 1/32" cover wt. (lbs./sq. ft.)	0.19	0.19	0.19
Avg. Permanent Elongation (%)**	1.2	1.0	0.8
Avg. Elastic Modulus (piw)	30,000	54,800	75,000
Step Length (in.)	Finger Splice	Finger Splice	Finger Splice
Recommended Fasteners	Plate	BR10	BR14
	Hinge	R5	R6
	Hinge	U35	U37/U37A

*Impact index provides a relative impact absorption value on any Goodyear Engineered Products' construction assuming that the material size, material shape, drop height, impact idlers/bed, top cover and pulley cover are the same.

**Average Permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations specific to each system based on Minuteman 2000 calculations.

CONQUEST LOAD SUPPORT (Maximum Belt Width) (in.)

PIW/Plies	Material Weight Trough Idlers	(0-640 kg/cu.m)			(641-1,280 kg/cu.m)			(1,281-1,920 kg/cu.m)			(Over 1,920 kg/cu.m)		
		20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
400/1		54	48	48	54	48	42	48	42	42	42	36	30
600/3		96	84	84	84	72	72	84	72	60	72	60	54
800/3		96	84	84	84	72	72	84	72	60	72	60	54

On systems with troughing idler spacing greater than 5 ft. OR idler roll gap greater than 1/2 in., consult Goodyear EP.

CONQUEST TROUGHABILITY (Minimum Belt Width) (in.)

Idlers	CONQUEST 400/1	CONQUEST 600/3	CONQUEST 800/3
20 degree idlers	18	30	30
35 degree idlers	24	36	36
45 degree idlers	24	42	42

If top cover and pulley cover are balanced, i.e. 3/16" x 3/16" or less than 1/16" differential, i.e. 3/16" x 5/32", 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 Goodyear EP.

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

CONQUEST MINIMUM PULLEY DIAMETERS (in.)

	CONQUEST 400/1	CONQUEST 600/3	CONQUEST 800/3
Over 80% Tension	20	24	30
60% to 80% Tension	18	20	24
40% to 60% Tension	14	18	20
Up to 40% Tension	12	16	18
Tails and Snubs	12	16	18

CONQUEST CONVEYOR BELT DATA - Metric

	CONQUEST 400	CONQUEST 600	CONQUEST 800
Plies	1	3	3
Fabric Type	Triple-Warp	Triple-Warp	Triple-Warp
Vulcanized & Fastener Rating (kN/m)	70	105	140
Impact Index*	1.8	3.7	4.0
Nom. Carcass Gauge (mm.)	3.3	6.7	8.0
Nom. Carcass Weight (kg/sq.m)	2.2	6.8	8.3
Approx. 1/32" cover wt. (kg/sq. m)	1.2	1.2	1.2
Avg. Permanent Elongation (%)**	1.2	1.0	0.8
Avg. Elastic Modulus (kN/m)	5,255	9,600	13,130
Step Length (mm.)	Finger Splice	Finger Splice	Finger Splice
Recommended Fasteners	Plate	BR10	BR14
	Hinge	R5	R6
	Hinge	U35	U37/U37A

*Impact index provides a relative impact absorption value on any Goodyear Engineered Products' construction assuming that the material size, material shape, drop height, impact idlers/bed, top cover and pulley cover are the same.

**Average Permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations specific to each system based on Minuteman 2000 calculations.

CONQUEST LOAD SUPPORT (Maximum Belt Width) (mm.)

PIW/Plies	Material Weight Trough Idlers	(0-640 kg/cu.m)			(641-1,280 kg/cu.m)			(1,281-1,920 kg/cu.m)			(Over 1,920 kg/cu.m)		
		20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
400/1		1380	1230	1230	1380	1230	1230	1230	1080	1085	1080	930	778
600/3		2450	2150	2150	2150	1850	1850	2150	1850	1550	1850	1550	1400
800/3		2450	2150	2150	2150	1850	1850	2150	1850	1550	1850	1550	1400

On systems with troughing idler spacing greater than 1.5 m OR idler roll gap greater than 12.7 mm., consult Goodyear EP.

CONQUEST TROUGHABILITY (Minimum Belt Width) (mm.)

Idlers	CONQUEST 400/1	CONQUEST 600/3	CONQUEST 800/3
20 degree idlers	450	750	750
35 degree idlers	600	900	900
45 degree idlers	600	1050	1050

If top cover and pulley cover are balanced, i.e. 4.7 mm. x 4.7 mm. or less than 1.5 mm. differential, i.e. 4.7 mm. x 3.9 mm., add 152 mm. to the minimum belt width. 152 mm. narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear EP.

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

CONQUEST MINIMUM PULLEY DIAMETERS (mm.)

	CONQUEST 400/1	CONQUEST 600/3	CONQUEST 800/3
Over 80% Tension	500	600	750
60% to 80% Tension	450	500	600
40% to 60% Tension	350	450	500
Up to 40% Tension	300	400	450
Tails and Snubs	300	400	450

PLYLON PLUS®

PLYLON PLUS

DESCRIPTION:

Goodyear Engineered Products' premium all-purpose fabric conveyor belt construction can be used in a variety of industries and applications with most of Goodyear EP's exclusive rubber cover compounds. This product has proven itself successful since its inception in 1995.

Markets

- Aggregate
- Baggage Handling
- Bulk Handling Terminal
- Cement
- Coal
- Foundry
- Grain
- Hard Rock
- Package Handling
- 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

Cover Compounds

- 6740A
- ARMA-SBR
- Defender™
- HT Nitrile
- OMEGA®
- Stacker®
- Survivor®

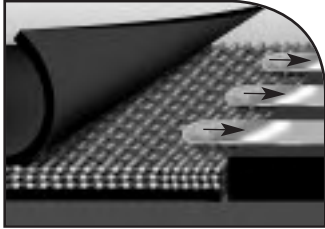
(See pages 74-78 for more specific details.)

See the process diagram for Aggregate, Hard Rock Mining, Sand and Gravel markets on page 6 for alternative belt recommendations.

Tension Range

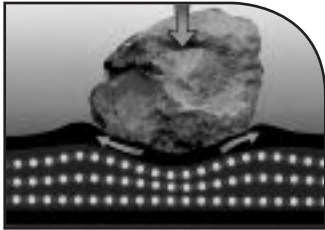
250 PIW to 1800 PIW

Features & Benefits



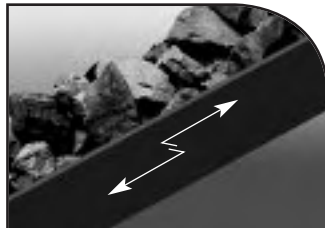
Excellent fastener holding retention

High strength nylon 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.



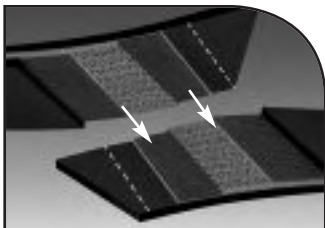
High ultimate strength

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.



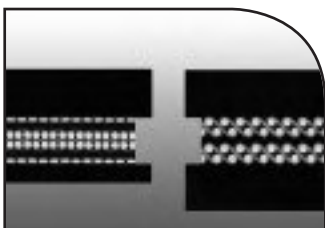
Reduced stretch

The combination of fabric design and dip process provides less elastic and permanent elongation on all specifications. This minimizes take-up concerns and reduces the number of splices at break-in. Contact your local Goodyear Engineered Products' representative to calculate permanent and elastic elongation requirements for your specific systems.



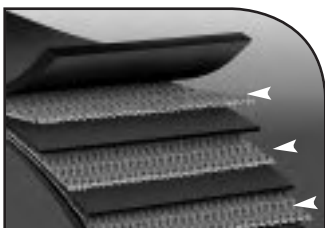
Standard bias step splices

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 table for proper step length on page 14).*



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: Nylon/Nylon fabric carcasses up to 625 PIW and Polyester/Nylon fabric carcasses from 400 - 1800 PIW.

PLYLON PLUS CONVEYOR BELT DATA - Imperial

	PLYLON PLUS 250	PLYLON PLUS 375	PLYLON PLUS 400	PLYLON PLUS 500	PLYLON PLUS 600	PLYLON PLUS 600	PLYLON PLUS 625	PLYLON PLUS 750	PLYLON PLUS 800	PLYLON PLUS 900	PLYLON PLUS 1000	PLYLON PLUS 1000	PLYLON PLUS 1200	PLYLON PLUS 1250	PLYLON PLUS 1350	PLYLON PLUS 1800
Number of Plies	2	3	2	4	3	4	5	3	4	2	4	5	6	5	3	4
Fabric Type*	N/N	N/N	P/N	N/N	P/N	N/N	N/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N
Vulcanized & Fastener Rating (piw)	250	375	400	500	600	600	625	750	800	900	1000	1000	1200	1250	1350	1800
Impact Index**	1.3	1.9	1.6	2.3	2.6	2.6	3.0	2.7	3.3	2.9	3.5	4.2	5.1	4.4	4.6	5.9
Nom. Carcass Gauge (in.)	0.146	0.200	0.182	0.254	0.258	0.278	0.324	0.273	0.354	0.314	0.374	0.450	0.546	0.475	0.490	0.636
Nom. Carcass Weight (lbs/sq.ft.)	0.81	1.12	1.02	1.39	1.42	1.56	1.77	1.52	1.95	1.88	2.08	2.48	3.02	2.65	2.93	3.82
Approx. 1/32" cover wt (lbs/sq.ft.)	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Avg. Permanent Elongation (%)***	1.3	1.3	0.8	1.3	0.8	1.7	1.3	0.8	0.8	1.5	0.8	0.8	0.8	0.8	1.5	1.5
Avg. Elastic Modulus (piw)	18,606	27,909	38,000	37,212	57,000	38,204	46,515	55,500	76,000	62,532	74,000	95,000	114,000	92,500	93,798	125,064
Step Length (in.)	10	10	16	10	16	14	10	18	16	36	18	16	16	18	36	36
Recommended Fasteners	Plate	190	BR-10	BR-10	BR-10	BR-10	BR-10	BR-10	BR-14	BR-14	NR	NR	NR	NR	NR	NR
	Hinge	R2	R5	R5	R5-1/2	R5-1/2	R5-1/2	R5-1/2	R6	R6	RAR8	RAR8	RAR8	RAR8	RAR8	NR
	Hinge	U35A	U35	U35	U35	U35	U35	U35	U37/U37A	U37/U37A	U37/U37A	U38A	U38A	U38A	U38	U38

Plylon 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 Goodyear Engineered Products' or fastener manufacturer. R-6 fasteners must be installed with stainless steel rivets when belt tensions exceed 800 piw for best results.

* N/N = Nylon/Nylon P/N = Poly/Nylon

** Impact index provides a relative impact absorption value on any Goodyear EP construction assuming that the material size, material shape, drop height, impact idlers/bed, top cover and pulley cover are the same.

*** Average permanent elongation values at 100% or rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations. Consult Goodyear EP for vulcanized splice design for 900/2, 1350/3, and 1800/4 constructions.

PLYLON PLUS LOAD SUPPORT (Maximum Belt Width) (in.)

PIW/Plies	Material Weight Trough Idlers	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
250/2		54	48	48	48	42	36	42	42	30	36	30	NR
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
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
600/4		96	84	84	84	72	72	84	72	60	72	60	54
625/5		96	84	84	84	72	72	84	72	60	72	60	54
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

On systems with troughing idler spacing greater than 5 ft. OR idler roll gap greater than 1/2 in., consult Goodyear EP.

PLYLON PLUS TROUGHABILITY (Minimum Belt Width) (in.) (Table based on ISO 703 Testing Procedure)

	PLYLON PLUS 250/2	PLYLON PLUS 375/3	PLYLON PLUS 400/2	PLYLON PLUS 500/4	PLYLON PLUS 600/3	PLYLON PLUS 600/4	PLYLON PLUS 625/5	PLYLON PLUS 750/3	PLYLON PLUS 800/4	PLYLON PLUS 900/2	PLYLON PLUS 1000/4	PLYLON PLUS 1000/5	PLYLON PLUS 1200/6	PLYLON PLUS 1250/5	PLYLON PLUS 1350/3	PLYLON PLUS 1800/4
20 degree idlers	18	24	18	30	24	30	36	24	30	24	30	36	42	36	30	36
35 degree idlers	24	30	24	36	30	36	42	30	36	30	36	42	48	42	36	42
45 degree idlers	30	36	30	42	36	42	48	36	42	36	42	48	54	48	42	48

If top cover and pulley cover are balanced (i.e. 3/16" x 3/16") or less than 1/16" differential (ie. 3/16" x 5/32"), 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 Goodyear EP.

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

PLYLON PLUS CONVEYOR BELT DATA - Metric

	PLYLON PLUS 250	PLYLON PLUS 375	PLYLON PLUS 400	PLYLON PLUS 500	PLYLON PLUS 600	PLYLON PLUS 600	PLYLON PLUS 625	PLYLON PLUS 750	PLYLON PLUS 800	PLYLON PLUS 900	PLYLON PLUS 1000	PLYLON PLUS 1000	PLYLON PLUS 1200	PLYLON PLUS 1250	PLYLON PLUS 1350	PLYLON PLUS 1800
Number of Plies	2	3	2	4	3	4	5	3	4	2	4	5	6	5	3	4
Fabric Type*	N/N	N/N	P/N	N/N	P/N	N/N	N/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N
Vulcanized & Fastener Rating (kN/m)	44	66	70	88	105	105	109	131	140	158	175	175	210	219	236	315
Impact Index**	1.3	1.9	1.6	2.3	2.6	2.6	3.0	2.7	3.3	2.9	3.5	4.2	5.1	4.4	4.6	5.9
Nom. Carcass Gauge (mm.)	3.7	5.1	4.6	6.5	6.6	7.1	8.2	6.9	9.0	8.0	9.5	11.4	13.9	12.1	12.4	16.2
Nom. Carcass Weight (kg/sq.m)	4.0	5.5	5.0	6.8	6.9	7.6	8.6	7.4	9.5	9.2	10.2	12.1	14.7	12.9	14.3	18.7
Approx. 1 mm. cover wt (kg/sq.m)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Avg. Permanent Elongation (%)***	1.3	1.3	0.8	1.3	0.8	1.7	1.3	0.8	0.8	1.5	0.8	0.8	0.8	0.8	1.5	1.5
Avg. Elastic modulus (kN/m)	3,260	4,890	6,650	6,520	9,980	6,690	8,150	9,720	13,310	10,950	12,960	16,640	19,960	16,200	16,430	21,900
Step Length (mm.)	250	250	410	250	410	360	250	460	410	910	460	410	410	460	910	910
Recommended Fasteners	Plate	190	BR-10	BR-10	BR-10	BR-10	BR-10	BR-10	BR-14	BR-14	NR	NR	NR	NR	NR	NR
	Hinge	R2	R5	R5	R5-1/2	R5-1/2	R5-1/2	R5-1/2	R6	R6	RAR8	RAR8	RAR8	RAR8	RAR8	NR
	Hinge	U35A	U35	U35	U35	U35	U35	U37/U37A	U37/U37A	U37/U37A	U38A	U38A	U38A	U38	U38	U38B

Plylon 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 Goodyear Engineered Products' or fastener manufacturer. R-6 fasteners must be installed with stainless steel rivets when belt tensions exceed 800 piw for best results.

* N/N = Nylon/Nylon P/N = Poly/Nylon

** Impact index provides a relative impact absorption value on any Goodyear EP construction assuming that the material size, material shape, drop height, impact idlers/bed, top cover and pulley cover are the same.

*** Average permanent elongation values at 100% or rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations. Consult Goodyear EP for vulcanized splice design for 900/2, 1350/3, and 1800/4 constructions.

PLYLON PLUS LOAD SUPPORT (Maximum Belt Width) (mm.)

PIW/Plies	Material Weight Trough Idlers	0-640 kg/m3			641-1280 kg/m3			1281-1920 kg/m3			Over 1920 kg/m3		
		20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
250/2		1400	1200	1200	1200	1050	900	1050	1050	750	900	750	NR
375/3		1850	1550	1550	1550	1550	1200	1400	1400	1200	1200	1050	900
400/2		1550	1400	1400	1400	1200	1050	1200	1200	1050	1050	900	750
500/4		2150	1850	1850	1850	1550	1400	1850	1550	1400	1550	1400	1200
600/3		2150	1850	1850	1850	1550	1400	1850	1550	1400	1550	1400	1200
600/4		2450	2150	2150	2150	1850	1850	2150	1850	1550	1850	1550	1400
625/5		2450	2150	2150	2150	1850	1850	2150	1850	1550	1850	1550	1400
750/3		2150	1850	1850	1850	1550	1400	1850	1550	1400	1550	1400	1200
800/4		2450	2150	2150	2150	1850	1850	2150	1850	1550	1850	1550	1400
900/2		2000	2000	1850	1850	1850	1550	1850	1550	1400	1550	1400	1200
1000/4		2450	2150	2150	2150	1850	1850	2150	1850	1550	1850	1550	1400
1000/5		2750	2450	2450	2450	2150	2150	2450	2150	1850	2150	1850	1850
1200/6		2950	2750	2750	2750	2450	2450	2750	2450	2150	2450	2150	2150
1250/5		2950	2750	2750	2750	2450	2450	2750	2450	2150	2450	2150	2000
1350/3		2450	2450	2150	2450	2450	2150	2450	2150	1850	2450	2150	1850
1800/4		3000	3000	2750	3000	3000	2750	2750	2750	2450	2750	2450	2150

On systems with troughing idler spacing greater than 1.5 m OR idler roll gap greater than 12.7 mm., consult Goodyear EP.

PLYLON PLUS TROUGHABILITY (Minimum Belt Width) (mm.) (Table based on ISO 703 Testing Procedure)

	PLYLON PLUS 250/2	PLYLON PLUS 375/3	PLYLON PLUS 400/2	PLYLON PLUS 500/4	PLYLON PLUS 600/3	PLYLON PLUS 600/4	PLYLON PLUS 625/5	PLYLON PLUS 750/3	PLYLON PLUS 800/4	PLYLON PLUS 900/2	PLYLON PLUS 1000/4	PLYLON PLUS 1000/5	PLYLON PLUS 1200/6	PLYLON PLUS 1250/5	PLYLON PLUS 1350/3	PLYLON PLUS 1800/4
20 degree idlers	450	600	450	750	600	750	900	600	750	600	750	900	1050	900	750	900
35 degree idlers	600	750	600	900	750	900	1050	750	900	750	900	1050	1200	1050	900	1050
45 degree idlers	750	900	750	1050	900	1050	1200	900	1050	900	1050	1200	1400	1200	1050	1200

If top cover and pulley cover are balanced (i.e. 5 mm. x 5 mm.) or less than 2 mm. differential (ie. 4 mm. x 3 mm.), add 150 mm. to the minimum belt width. 150 mm. narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear EP.

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

PLYLON PLUS MINIMUM PULLEY DIAMETERS (in.)

	PLYLON PLUS 250	PLYLON PLUS 375	PLYLON PLUS 400	PLYLON PLUS 500	PLYLON PLUS 600	PLYLON PLUS 600	PLYLON PLUS 625	PLYLON PLUS 750	PLYLON PLUS 800	PLYLON PLUS 900	PLYLON PLUS 1000	PLYLON PLUS 1000	PLYLON PLUS 1200	PLYLON PLUS 1250	PLYLON PLUS 1350	PLYLON PLUS 1800
Number of Plies	2	3	2	4	3	4	5	3	4	2	4	5	6	5	3	4
Over 80% Tension	16	18	16	24	24	30	30	30	30	36	36	36	42	42	42	48
60% to 80% Tension	14	16	14	20	20	24	24	24	24	30	30	30	36	36	36	42
40% to 60% Tension	12	14	12	18	18	20	20	20	20	24	24	24	30	30	36	42
Up to 40% Tension	10	12	10	16	16	18	18	18	18	20	20	20	30	24	30	36
Tails and Snubs	10	12	10	16	16	18	18	18	18	20	20	20	30	24	30	36

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

ELEVATOR DATA

PLYLON PLUS ELEVATOR DATA - Imperial

	PLYLON PLUS 250	PLYLON PLUS 375	PLYLON PLUS 400	PLYLON PLUS 500	PLYLON PLUS 600	PLYLON PLUS 750	PLYLON PLUS 800	PLYLON PLUS 900	PLYLON PLUS 1000	PLYLON PLUS 1000	PLYLON PLUS 1200	PLYLON PLUS 1250	PLYLON PLUS 1350	PLYLON PLUS 1800
Number of Plies	2	3	2	4	3	3	4	2	4	5	6	5	3	4
Fabric Type*	N/N	N/N	P/N	N/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N
Industrial Service Tension Capacity (piw)	195	290	310	385	465	580	620	700	775	775	930	970	1050	1400
Nom. Carcass Gauge (in.)	0.146	0.200	0.182	0.254	0.258	0.273	0.354	0.314	0.374	0.450	0.546	0.475	0.490	0.636
Nom. Carcass Weight (lbs/sq.ft.)	0.81	1.12	1.02	1.39	1.42	1.52	1.95	1.88	2.08	2.48	3.02	2.65	2.93	3.82
Approx 1/32" cover wt (lbs/sq.ft.)	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Avg. Elastic modulus (piw)	18,606	27,909	38,000	37,212	57,000	55,500	76,000	62,532	74,000	95,000	114,000	92,500	93,798	125,064
Recommended Plate Fastener	190	BR-10	BR-10	BR-10	BR-10	BR-14	BR-14	NR	NR	NR	NR	NR	NR	NR

Plylon 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 Goodyear Engineered Products or fastener manufacturer. R-6 fasteners must be installed with stainless steel rivets when belt tensions exceed 800 piw for best results. Consult Goodyear EP for vulcanized splice design for 900/2, 1350/3, and 1800/4 constructions.

**N/N = Nylon/Nylon P/N = Poly/Nylon*

PLYLON PLUS MINIMUM PULLEY DIAMETERS (in.)

	PLYLON PLUS 250	PLYLON PLUS 375	PLYLON PLUS 400	PLYLON PLUS 500	PLYLON PLUS 600	PLYLON PLUS 750	PLYLON PLUS 800	PLYLON PLUS 900	PLYLON PLUS 1000	PLYLON PLUS 1000	PLYLON PLUS 1200	PLYLON PLUS 1250	PLYLON PLUS 1350	PLYLON PLUS 1800
Number of plies	2	3	2	4	3	3	4	2	4	5	6	5	3	4
Over 80% Tension	16	18	18	24	30	30	36	36	36	42	48	48	48	54
60% to 80% Tension	14	16	16	22	24	24	30	30	30	36	42	42	42	48
Min. Head pulley diameter to 60 % tension	12	14	14	20	20	20	24	24	24	30	36	36	36	42

PLYLON PLUS MAXIMUM BUCKET PROJECTION (in.)

	PLYLON PLUS 250	PLYLON PLUS 375	PLYLON PLUS 400	PLYLON PLUS 500	PLYLON PLUS 600	PLYLON PLUS 750	PLYLON PLUS 800	PLYLON PLUS 900	PLYLON PLUS 1000	PLYLON PLUS 1000	PLYLON PLUS 1200	PLYLON PLUS 1250	PLYLON PLUS 1350	PLYLON PLUS 1800
Number of plies	2	3	2	4	3	3	4	2	4	5	6	5	3	4
Spaced Industrial Max. Bucket Projection	7	8	9	11	10	10	11	11	12	12	12	12	13	15
Continuous Industrial Max. Bucket Projection	6	8	9	11	12	12	14	14	15	16	20	20	22	26

PLYLON PLUS MINIMUM PULLEY DIAMETERS (mm.)

	PLYLON PLUS 250	PLYLON PLUS 375	PLYLON PLUS 400	PLYLON PLUS 500	PLYLON PLUS 600	PLYLON PLUS 600	PLYLON PLUS 625	PLYLON PLUS 750	PLYLON PLUS 800	PLYLON PLUS 900	PLYLON PLUS 1000	PLYLON PLUS 1000	PLYLON PLUS 1200	PLYLON PLUS 1250	PLYLON PLUS 1350	PLYLON PLUS 1800
Number of Plies	2	3	2	4	3	4	5	3	4	2	4	5	6	5	3	4
Over 80% Tension	400	450	400	600	600	750	750	750	750	900	900	900	1050	1050	1050	1200
60% to 80% Tension	350	400	350	500	500	600	600	600	600	750	750	750	900	900	900	1050
40% to 60% Tension	300	350	300	450	450	500	500	500	500	600	600	600	750	750	900	1050
Up to 40% Tension	250	300	250	400	400	450	450	450	450	500	500	500	750	600	750	900
Tails and Snubs	250	300	250	400	400	450	450	450	450	500	500	500	750	600	750	900

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

ELEVATOR DATA

PLYLON PLUS ELEVATOR BELT DATA - Metric

	PLYLON PLUS 250	PLYLON PLUS 375	PLYLON PLUS 400	PLYLON PLUS 500	PLYLON PLUS 600	PLYLON PLUS 750	PLYLON PLUS 800	PLYLON PLUS 900	PLYLON PLUS 1000	PLYLON PLUS 1000	PLYLON PLUS 1200	PLYLON PLUS 1250	PLYLON PLUS 1350	PLYLON PLUS 1800
Plies	2	3	2	4	3	3	4	2	4	5	6	5	3	4
Fabric Type	N/N	N/N	P/N	N/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N
Industrial Service Tension Capacity (Kn/M)	34	51	54	67	81	102	109	122	136	136	163	170	184	245
Nom. Carcass Gauge (mm.)	3.7	5.1	4.6	6.5	6.6	6.9	9.0	8.0	9.5	11.4	13.9	12.1	12.4	16.2
Nom. Carcass Weight (kg/sq.m)	4.0	5.5	5.0	6.8	6.9	7.4	9.5	9.2	10.2	12.1	14.7	12.9	14.3	18.7
Approx 1 mm. cover wt (kg/sq.m)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Avg. Elastic modulus (kN/m)	3,260	4,890	6,650	6,520	9,980	9,720	13,310	10,950	12,960	16,640	19,960	16,200	16,430	21,900
Recommended Plate Fastener	190	BR-10	BR-10	BR-10	BR-10	BR-14	BR-14	NR	NR	NR	NR	NR	NR	NR

Plylon 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 Goodyear Engineered Products or fastener manufacturer. R-6 fasteners must be installed with stainless steel rivets when belt tensions exceed 140 kN/m for best results. Consult Goodyear EP for vulcanized splice design for 900/2, 1350/3, and 1800/4 constructions.

**N/N = Nylon/Nylon P/N = Poly/Nylon*

PLYLON PLUS MINIMUM PULLEY DIAMETERS (mm.)

	PLYLON PLUS 250	PLYLON PLUS 375	PLYLON PLUS 400	PLYLON PLUS 500	PLYLON PLUS 600	PLYLON PLUS 750	PLYLON PLUS 800	PLYLON PLUS 900	PLYLON PLUS 1000	PLYLON PLUS 1000	PLYLON PLUS 1200	PLYLON PLUS 1250	PLYLON PLUS 1350	PLYLON PLUS 1800
Number of plies	2	3	2	4	3	3	4	2	4	5	6	5	3	4
Over 80% Tension	400	450	450	600	750	750	900	900	900	1050	1200	1200	1200	1400
60% to 80% Tension	350	400	400	550	600	600	750	750	750	900	1050	1050	1050	1250
Min. Head pulley diameter to 60 % tension	300	350	350	500	500	500	600	600	600	750	900	900	900	1100

PLYLON PLUS MAXIMUM BUCKET PROJECTION (mm.)

	PLYLON PLUS 250	PLYLON PLUS 375	PLYLON PLUS 400	PLYLON PLUS 500	PLYLON PLUS 600	PLYLON PLUS 750	PLYLON PLUS 800	PLYLON PLUS 900	PLYLON PLUS 1000	PLYLON PLUS 1000	PLYLON PLUS 1200	PLYLON PLUS 1250	PLYLON PLUS 1350	PLYLON PLUS 1800
Number of plies	2	3	2	4	3	3	4	2	4	5	6	5	3	4
Spaced Industrial Max. Bucket Projection	180	200	225	280	250	250	280	280	300	300	300	300	330	380
Continuous Industrial Max. Bucket Projection	150	200	225	280	300	300	350	350	380	410	510	510	560	660

Pylon®

PLYLON

DESCRIPTION:

Goodyear Engineered Products' Pylon is a polyester/nylon reinforced conveyor belt that provides an economical alternative to Pylon Plus® in less-demanding applications.

Markets

- Aggregate
- Cement
- Crushed Stone
- Hard Rock
- Power Generation
- Sand and Gravel
- Steel Production

Applications

- Block Plants
- Load Out
- Radial Stackers
- Ready Mix
- Stacker Conveyors
- Trash and Recycling Plants
- Wash Plant

Cover Compounds

- 6740A
- ARMA®-SBR
- Defender™
- HT Nitrile
- OMEGA®

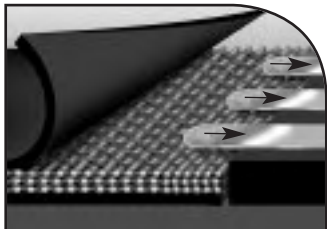
(See pages 74-78 for more specific details.)

See the process diagram for Aggregate, Hard Rock Mining, Sand and Gravel markets on page 6 for alternative belt recommendations.

Tension Range

220 PIW to 440 PIW

Features & Benefits



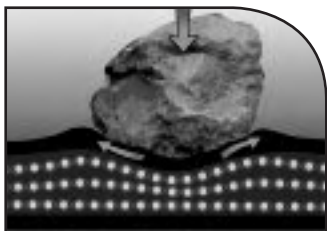
Excellent fastener retention

Pylon belt constructions offer superior mechanical fastener holding. Heavy polyester/nylon cords positioned for maximum strength resist fastener pull-out even in abusive conditions.



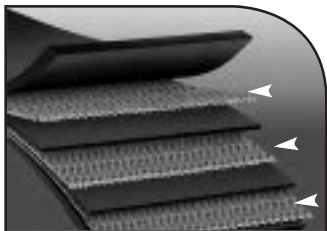
Reduced stretch

The combination of fabric design and dip process provides less elastic and permanent elongation on all specifications. This minimizes take-up concerns and reduces the number of splices at break-in. Contact your local Goodyear Engineered Products' representative to calculate permanent and elastic elongation requirements for your specific systems.



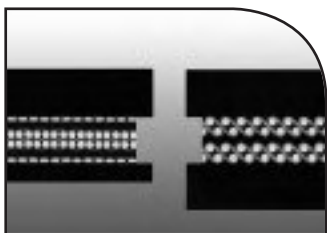
High-strength crimped cords absorb impact

By straightening on impact, the crimped warp cords enable the fabric to absorb impact loads and resist tearing. Pylon belting maintains the integrity of mechanical or vulcanized splices under demanding conditions.



Polyester/nylon fabric carcass

Pylon belting is designed to handle sand, gravel and small stone applications. The polyester-nylon fabric reinforcement provides greater breaking strength, impact and tear resistance than competitive brands.



Variety of cover compounds and cover gauges

Protect your product with the proper compound and cover gauge for the application.

PYLON

PLYLON CONVEYOR BELT DATA - Imperial

	PLYLON 220	PLYLON 330	PLYLON 440
Number of Plies	2	3	4
Fabric Type*	P/N	P/N	P/N
Vulcanized & Fastener Rating (piw)	220	330	440
Impact Index**	1.1	1.5	1.9
Nom. Approx. Carcass Gauge (in.)	0.12	0.16	0.22
Nom. Approx. Carcass Weight (lbs/sq.ft.)	0.7	0.94	1.3
Approx. 1/32 cover wt (lbs/sq.ft.)	0.19	0.19	0.19
Permanent Elongation	0.8	0.8	0.8
Avg. Elastic modulus (piw)	27,000	40,500	54,000
Step Length (in.)	10	10	10
Recommended Fasteners	Plate	190	BR-10
	Hinge	R2	R5
	Hinge	U35A	U35

Plylon 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 = Polyester/Nylon

**Impact index provides a relative impact absorption value on any Goodyear Engineered Products' construction assuming that the material size, material shape, drop height, impact idlers/bed, top cover and pulley cover are the same.

PLYLON LOAD SUPPORT (Maximum Belt Width) (in.)

PIW/Plies	Material Weight Trough Idlers	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
220/2		48	42	36	48	36	36	42	36	30	36	30	NR
330/3		60	54	48	60	48	42	54	48	42	48	42	36
440/4		72	60	54	72	54	48	60	54	48	60	48	42

On systems with troughing idler spacing greater than 5 ft. OR idler roll gap greater than 1/2 in., consult Goodyear EP.

PLYLON TROUGHABILITY (Minimum Belt Width) (in.) (Table based on ISO 703 Testing Procedure)

Idlers	PLYLON 220/2	PLYLON 330/3	PLYLON 440/4
20 degree idlers	14	18	24
35 degree idlers	18	24	30
45 degree idlers	24	30	36

If top cover and pulley cover are balanced (i.e. 3/16" x 3/16") or less than 1/16" differential (ie. 3/16" x 5/32"), 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 Goodyear EP.

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

PLYLON ELEVATOR DATA - IMPERIAL

	PLYLON 220/2	PLYLON 330/3	PLYLON 440/4
Number of Plies	2	3	4
Fabric Type	P/N	P/N	P/N
Industrial Service Tension Capacity (piw)	170	250	350
Nom. Carcass Gauge (in.)	0.12	0.16	0.22
Nom. Carcass Weight (lbs/sq. ft.)	0.70	0.94	1.30
Approx. 1/32" cover wt (lbs./sq.ft.)	0.19	0.19	0.19
Avg. Elastic modulus (piw)	27,000	40,500	54,000

PLYLON MINIMUM PULLEY DIAMETERS (in.)

	PLYLON 220/2	PLYLON 330/3	PLYLON 440/4
Number of Plies	2	3	4
Over 80% Tension	16	18	24
60% to 80% Tension	14	16	20
40% to 60% Tension	10	12	16
Up to 40% Tension	10	12	16
Tails and Snubs	10	12	16

PLYLON MAXIMUM BUCKET PROJECTION (in.)

	PLYLON 220/2	PLYLON 330/3	PLYLON 440/4
Number of Plies	2	3	4
Spaced Industrial Max. Bucket Projection	6	7	10
Continuous Industrial Max. Bucket Projection	5	7	10

PLYLON CONVEYOR BELT DATA - Metric

	PLYLON 220	PLYLON 330	PLYLON 440
Number of Plies	2	3	4
Fabric Type*	P/N	P/N	P/N
Vulcanized & Fastener Rating (kN/m)	39	58	77
Impact Index**	1.1	1.5	1.9
Nom. Approx. Carcass Gauge (mm.)	3.1	4.1	5.6
Nom. Approx. Carcass Weight (kg/sq.m)	3.4	4.6	6.3
Approx. 1 mm. cover wt (kg/sq.m)	1.2	1.2	1.2
Permanent Elongation	0.8	0.8	0.8
Avg. Elastic modulus (kN/m)	4,730	7,090	9,460
Step Length (mm.)	250	250	250
Recommended Fasteners			
Plate	140	190	BR-10
Hinge	R2	R2	R5
Hinge	U35A	U35A	U35

Wingfoot 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 = Polyester/Nylon

**Impact index provides a relative impact absorption value on any Goodyear Engineered Products' construction assuming that the material size, material shape, drop height, impact idlers/bed,

PLYLON LOAD SUPPORT (Maximum Belt Width) (mm.)

PIW/Plies	Material Weight Trough Idlers	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
220/2		1200	1050	900	1200	900	900	1050	900	750	900	750	NR
330/3		1500	1400	1200	1500	1200	1050	1400	1200	1050	1200	1050	900
440/4		1850	1500	1400	1850	1400	1200	1500	1400	1200	1500	1200	1050

On systems with troughing idler spacing greater than 1.5 m OR idler roll gap greater than 12.7 mm., contact Goodyear EP.

PLYLON TROUGHABILITY (Minimum Belt Width) (mm.) (Table based on ISO 703 Testing Procedure)

Idlers	PLYLON 220/2	PLYLON 330/3	PLYLON 440/4
20 degree idlers	350	450	600
35 degree idlers	450	600	750
45 degree idlers	600	750	900

If top cover and pulley cover are balanced (i.e. 5 mm. x 5 mm.) or less than 2 mm. differential (ie. 4 mm. x 3 mm.), add 150 mm. to the minimum belt width. 150 mm. narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear EP.

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

PLYLON ELEVATOR DATA METRIC

	PLYLON 220/2	PLYLON 330/3	PLYLON 440/4
Number of Plies	2	3	4
Fabric Type	P/N	P/N	P/N
Industrial Service Tension Capacity (kN/m)	30	44	61
Nom. Carcass Gauge (mm.)	3.1	4.1	5.6
Nom. Carcass Weight (kg/sq m)	3.4	4.6	6.3
Approx. 1/32" cover wt (kg/sq m)	1.2	1.2	1.2
Avg. Elastic modulus (kN/m)	4,730	7,090	9,460

PLYLON MINIMUM PULLEY DIAMETERS (mm.)

	PLYLON 220/2	PLYLON 330/3	PLYLON 440/4
Number of Plies	2	3	4
Over 80% Tension	400	450	600
60% to 80% Tension	350	400	500
40% to 60% Tension	250	300	400
Up to 40% Tension	250	300	400
Tails and Snubs	250	300	400

PLYLON MAXIMUM BUCKET PROJECTION (mm.)

	PLYLON 220/2	PLYLON 330/3	PLYLON 440/4
Number of Plies	2	3	4
Spaced Industrial Max. Bucket Projection	150	180	250
Continuous Industrial Max. Bucket Projection	125	180	250

RAIDER®

RAIDER

DESCRIPTION:

Goodyear Engineered Products' economical polyester/polyester fabric belt construction is offered in 2-ply 220 PIW and 3-ply 330 PIW with a Grade II rubber compound. Raider belts are recommended for material less than 3" in diameter.

Markets

- Aggregate
- Package Handling
- Sand and Gravel

Applications

- 3" Minus Rock
- Load Out
- Low Abuse
- Radial Stacker
- Ready Mix
- Stacker

Cover Compounds

- Grade II

(See pages 74-78 for more specific details.)

See the process diagram for Aggregate, Hard Rock Mining, Sand and Gravel markets on page 6 for alternative belt recommendations.

Tension Range

220 PIW to 330 PIW

RAIDER CONVEYOR BELT DATA - Imperial

	RAIDER 220	RAIDER 330
Number of Plies	2	3
Fabric Type*	P/P	P/P
Vulcanized & Fastener Rating (piw)	220	330
Impact Index**	1.0	1.4
Nom. Carcass Gauge (in.)	0.110	0.162
Nom. Carcass Weight (lbs/sq.ft.)	0.69	0.98
Approx. 1/32" cover wt (lbs/sq.ft.)	0.19	0.19
Avg. Permanent Elongation (%) ***	0.80	0.80
Avg. Elastic modulus (piw)	23,000	34,500
Step Length (in.)	10	10
Recommended Plate Fastener	140	190
Hinge	R2	R2
Hinge	U35A	U35A

RAIDER CONVEYOR BELT DATA - Metric

	RAIDER 220	RAIDER 330
Number of Plies	2	3
Fabric Type*	P/P	P/P
Vulcanized & Fastener Rating (kN/m)	39	58
Impact Index**	1.0	1.4
Nom. Carcass Gauge (mm.)	2.8	4.1
Nom. Carcass Weight (kg/sq.m)	3.27	4.8
Approx. 1 mm. cover wt (kg/sq.m)	1.2	1.2
Avg. Permanent Elongation (%) ***	0.80	0.80
Avg. Elastic modulus (kN/m)	4,030	6,040
Step Length (mm.)	250	250
Recommended Plate Fastener	140	190
Hinge	R2	R2
Hinge	U35A	U35A

Raider 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

**Impact index provides a relative impact absorption value on any Goodyear Engineered Products' construction assuming that the material size, material shape, drop height, impact idlers/bed, top cover and pulley cover are the same.

*** Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations specific to each system based on Minuteman calculations.

RAIDER LOAD SUPPORT (Maximum Belt Width) (in.)

PIW/Plies	Material Weight	0-40 lbs/cu.ft.			41-80 lbs/cu.ft.			81-120 lbs/cu.ft.			Over 120 lbs/cu.ft.			
		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
220/2			48	42	36	48	36	36	42	36	30	36	30	NR
330/3			60	54	48	60	48	42	54	48	42	48	42	36

On systems with troughing idler spacing greater than 5 ft. OR idler roll gap greater than 1/2 in., consult Goodyear EP.

RAIDER LOAD SUPPORT (Maximum Belt Width) (mm.)

PIW/Plies	Material Weight	0-640 kg/cu.m			641-1280 kg/cu.m			1281-1920 kg/cu.m			Over 1920 kg/cu.m			
		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
220/2			1200	1050	900	1200	900	900	1050	900	750	900	750	NR
330/3			1500	1400	1200	1500	1200	1050	1400	1200	1050	1200	1050	900

On systems with troughing idler spacing greater than 1.5 m OR idler roll gap greater than 12.7 mm., contact Goodyear EP.

RAIDER TROUGHABILITY (Minimum Belt Width) (in.)

(Table based on ISO 703 Testing Procedure)

Idlers	RAIDER 220/2	RAIDER 330/3
20 degree idlers	14	18
35 degree idlers	18	24
45 degree idlers	24	30

If top cover and pulley cover are balanced (ie. 3/16 x 3/16) or less than 1/16" differential (ie. 3/16 x 5/32), add 6" to the minimum belt width. Additional break in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50 degrees Fahrenheit.

RAIDER MINIMUM PULLEY DIAMETERS (in.)

	RAIDER 220/2	RAIDER 330/3
Over 80% Tension	16	18
60% to 80% Tension	14	16
40% to 60% Tension	10	12
Up to 40% Tension	10	12
Tails and Snubs	10	12

RAIDER TROUGHABILITY (Minimum Belt Width) (mm.)

(Table based on ISO 703 Testing Procedure)

Idlers	RAIDER 220/2	RAIDER 330/3
20 degree idlers	350	450
35 degree idlers	450	600
45 degree idlers	600	750

If top cover and pulley cover are balanced (ie. 5 mm. x 5 mm.) or less than 2 mm. differential (ie. 4 mm. x 3 mm.), add 150 mm. to the minimum belt width. Additional break in time is required when the belt has been stored prior to installation in ambient temperatures of less than 10 degrees Centigrade.

RAIDER MINIMUM PULLEY DIAMETERS (mm.)

	RAIDER 220/2	RAIDER 330/3
Over 80% Tension	400	450
60% to 80% Tension	350	400
40% to 60% Tension	250	300
Up to 40% Tension	250	300
Tails and Snubs	250	300

SOLAR-SHIELD®

SOLAR-SHIELD

DESCRIPTION:

Goodyear Engineered Products' Solar-Shield heat belt is offered with polyester/polyester, polyester/nylon and fiberglass fabric reinforcements. It offers high performance in extreme hot material applications. The fiberglass 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

(See pages 74-78 for more specific details.)

** Meets Canadian specifications.
Available with Nylon/Nylon carcass,
not fiberglass.*

Tension Range

220 PIW to 1200 PIW

Features & Benefits



Heat-resistant cover resists cracking and hardening

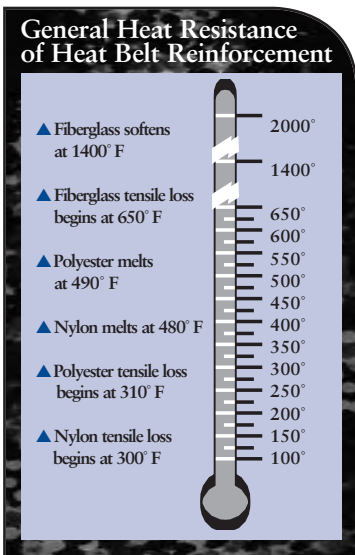
Solar-Shield belting performs over the long run, retaining its flexibility despite punishing conditions and loads. Less cracking and hardening translates into longer life and reduced replacement costs. The Solar-Shield compound retains its heat-resistant qualities after prolonged exposure to 400°F hot loads.



High-temperature resistance to tearing and abrasion

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

SOLAR-SHIELD



Synthetic carcass construction

Solar-Shield's 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.

SOLAR-SHIELD CONVEYOR BELT DATA - Imperial

	SOLAR-SHIELD 220/2	SOLAR-SHIELD 220/2	SOLAR-SHIELD 330/3	SOLAR-SHIELD 330/3	SOLAR-SHIELD 440/4	SOLAR-SHIELD 600/3	SOLAR-SHIELD 800/4	SOLAR-SHIELD 1000/5	SOLAR-SHIELD 1200/6
Number of Plies	2	2	3	3	4	3	4	5	6
Fabric Type*	P/P	GL	P/P	GL	P/P	P/N	P/N	P/N	P/N
Vulcanized & Fastener Rating (piw)	220	220	330	330	440	600	800	1000	1200
Nom. Carcass Gauge (in.)	0.106	0.148	0.181	0.233	0.252	0.225	0.310	0.395	0.480
Nom. Carcass Weight (lbs/sq.ft.)	0.62	0.85	1.05	1.41	1.46	1.30	1.80	2.31	2.81
Approx. 1/32" cover wt (lbs/sq.ft.)	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Avg. Elastic modulus (piw)	24,106	37,000	36,159	55,500	48,212	57,000	76,000	95,000	114,000
Step Length (in.)	12	18	12	18	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 GL = Glass P/N = Poly / Nylon

For Nylon/Nylon carcass, use Pylon Plus table and add 6" for minimum trough.

SOLAR-SHIELD LOAD SUPPORT (Maximum Belt Width) (in.)

PIW/Plies - Fabric	Material Weight Trough Idlers	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
220/2 - P/P		48	42	36	48	36	36	42	36	30	36	30	NR
220/2 - GL		54	48	42	48	42	36	42	42	NR	36	30	NR
330/3 - P/P		72	60	60	60	54	48	54	48	42	48	42	36
330/3 - GL		72	60	60	60	54	48	54	48	42	48	42	NR
440/4 - P/P		84	72	72	72	60	54	72	60	54	60	54	48
600/3 - P/N		84	72	72	72	60	54	72	60	54	60	54	48
800/4 - P/N		96	84	84	84	72	72	84	72	60	72	60	54
1000/5 - P/N		108	96	96	96	84	84	96	84	72	84	72	72
1200/6 - P/N		116	108	108	108	96	96	108	96	84	96	84	84

On systems with troughing idler spacing greater than 5 ft. OR idler roll gap greater than 1/2 in., consult Goodyear Engineered Products.

SOLAR-SHIELD TROUGHABILITY (Minimum Belt Width) (in.) (Table based on ISO 703 Testing Procedure)

Idlers	SOLAR-SHIELD 220/2 P/P	SOLAR-SHIELD 220/2 GL	SOLAR-SHIELD 330/3 P/P	SOLAR-SHIELD 330/3 GL	SOLAR-SHIELD 440/4 P/P	SOLAR-SHIELD 600/3 P/N	SOLAR-SHIELD 800/4 P/N	SOLAR-SHIELD 1000/5 P/N	SOLAR-SHIELD 1200/6 P/N
20 degree idlers	18	18	24	24	30	30	36	42	48
35 degree idlers	24	24	30	30	36	36	42	48	54
45 degree idlers	30	30	36	36	42	42	48	54	60

If top cover and pulley cover are balanced (ie. 3/16" x 3/16") or less than 1/16" differential (ie. 3/16" x 5/32"), 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 Goodyear EP.

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

SOLAR-SHIELD MINIMUM PULLEY DIAMETERS (in.)

	SOLAR-SHIELD 220/2 P/P	SOLAR-SHIELD 220/2 GL	SOLAR-SHIELD 330/3 P/P	SOLAR-SHIELD 330/3 GL	SOLAR-SHIELD 440/4 P/P	SOLAR-SHIELD 600/3 P/N	SOLAR-SHIELD 800/4 P/N	SOLAR-SHIELD 1000/5 P/N	SOLAR-SHIELD 1200/6 P/N
Over 80% Tension	16	30	18	42	24	24	30	36	42
60% to 80% Tension	14	24	16	36	20	20	24	30	36
40% to 60% Tension	12	20	14	30	18	18	20	24	30
Up to 40% Tension	10	18	12	24	16	16	18	20	30
Tails and Snubs	10	18	12	24	16	16	18	20	30

SOLAR-SHIELD CONVEYOR BELT DATA - Metric

	SOLAR-SHIELD 220/2	SOLAR-SHIELD 220/2	SOLAR-SHIELD 330/3	SOLAR-SHIELD 330/3	SOLAR-SHIELD 440/4	SOLAR-SHIELD 600/3	SOLAR-SHIELD 800/4	SOLAR-SHIELD 1000/5	SOLAR-SHIELD 1200/6
Number of Plies	2	2	3	3	4	3	4	5	6
Fabric Type*	P/P	GL	P/P	GL	P/P	P/N	P/N	P/N	P/N
Vulcanized & Fastener Rating (kN/m)	39	39	58	58	77	105	140	175	210
Nom. Carcass Gauge (mm.)	2.7	3.8	4.6	5.9	6.4	5.7	7.9	10.0	12.2
Nom. Carcass Weight (kg/sq.m)	3.0	4.2	5.1	6.9	7.1	6.3	8.8	11.3	13.7
Approx. 1 mm. cover wt (kg/sq.m)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Avg. Elastic modulus (kN/m)	4,220	6,480	6,330	9,720	8,440	9,980	13,310	16,640	19,960
Step Length (mm.)	300	460	300	460	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 GL = Glass P/N = Poly/Nylon

For Nylon/Nylon carcass, use Pylon Plus table and add 6" for minimum trough.

SOLAR-SHIELD LOAD SUPPORT (Maximum Belt Width) (mm.)

PIW/Plies - Fabric	Material Weight Trough Idlers	0-640 kg/m3			641-1280 kg/m3			1281-1920 kg/m3			Over kg/m3		
		20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
220/2 - P/P		1200	1050	900	1200	900	900	1050	900	750	900	750	NR
220/2 - GL		1400	1200	1050	1200	1050	900	1050	1050	NR	900	750	NR
330/3 - P/P		1850	1500	1500	1500	1400	1200	1400	1200	1050	1200	1050	900
330/3 - GL		1850	1500	1500	1500	1400	1200	1400	1200	1050	1200	1050	NR
440/4 - P/P		2150	1850	1850	1850	1500	1400	1850	1500	1400	1500	1400	1200
600/3 - P/N		2150	1850	1850	1850	1500	1400	1850	1500	1400	1500	1400	1200
800/4 - P/N		2450	2150	2150	2150	1850	1850	2150	1850	1500	1850	1500	1400
1000/5 - P/N		2750	2450	2450	2450	2150	2150	2450	2150	1850	2150	1850	1850
1200/6 - P/N		2950	2750	2750	2750	2450	2450	2750	2450	2150	2450	2150	2150

On systems with troughing idler spacing greater than 1.5 m OR idler roll gap greater than 12.7 mm., consult Goodyear Engineered Products.

SOLAR-SHIELD TROUGHABILITY (Minimum Belt Width) (mm.) (Table based on ISO 703 Testing Procedure)

Idlers	SOLAR-SHIELD 220/2 P/P	SOLAR-SHIELD 220/2 GL	SOLAR-SHIELD 330/3 P/P	SOLAR-SHIELD 330/3 GL	SOLAR-SHIELD 440/4 P/P	SOLAR-SHIELD 600/3 P/N	SOLAR-SHIELD 800/4 P/N	SOLAR-SHIELD 1000/5 P/N	SOLAR-SHIELD 1200/6 P/N
20 degree idlers	450	450	600	600	750	750	900	1050	1200
35 degree idlers	600	600	750	750	900	900	1050	1200	1400
45 degree idlers	750	750	750	900	1050	1050	1200	1400	1500

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

150 mm. narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear EP.

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

SOLAR-SHIELD MINIMUM PULLEY DIAMETERS (mm.)

	SOLAR-SHIELD 220/2 P/P	SOLAR-SHIELD 220/2 GL	SOLAR-SHIELD 330/3 P/P	SOLAR-SHIELD 330/3 GL	SOLAR-SHIELD 440/4 P/P	SOLAR-SHIELD 600/3 P/N	SOLAR-SHIELD 800/4 P/N	SOLAR-SHIELD 1000/5 P/N	SOLAR-SHIELD 1200/6 P/N
Over 80% Tension	400	750	450	1050	600	600	750	900	1050
60% to 80% Tension	350	600	400	900	500	500	600	750	900
40% to 60% Tension	300	500	350	750	450	450	500	600	750
Up to 40% Tension	250	450	300	600	400	400	450	500	750
Tails and Snubs	250	450	300	600	400	400	450	500	750

WOOD SAWYER® PLUS & WOOD SAWYER®

DESCRIPTION:

Increase efficiency and decrease downtime by installing Goodyear Engineered Products' Wood Sawyer Plus or Wood Sawyer 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

(See pages 34-35 for wood products application guide.)

Cover Compounds

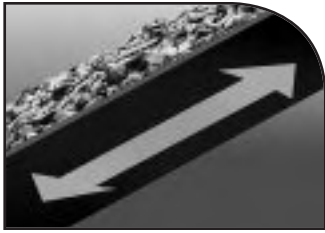
- Defender™
- MORS

(See pages 74-78 for more specific details.)

Tension Range

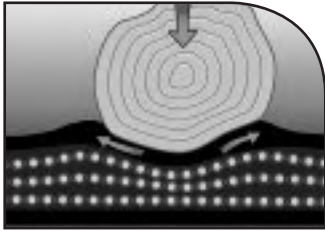
220 PIW to 800 PIW

Features & Benefits



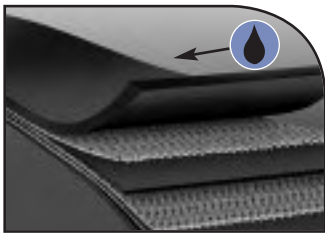
High ultimate strength

Goodyear Engineered Products' Wood Sawyer and 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.



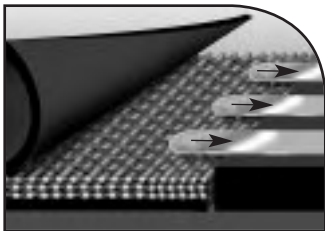
Superior abuse resistance

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.



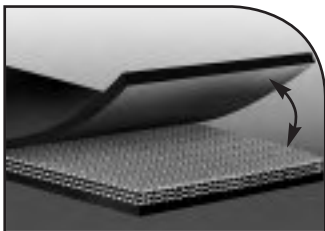
Superior MORS cover compound

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.



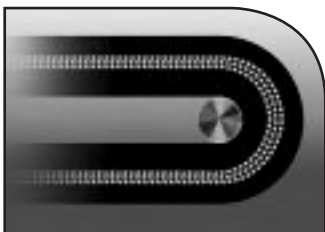
Excellent fastener holding

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.



Outstanding flexibility

Unique crimped warp enables the outer ply to elongate around small pulleys. This does not interfere with the integrity of the warp cord and provides increased flexibility with longer splice life.

WOOD SAWYER PLUS CONVEYOR BELT DATA - Imperial

	WS PLUS 250/2	WS PLUS 375/3	WS PLUS 400/2	WS PLUS 440/4	WS PLUS 500/4	WS PLUS 600/3	WS PLUS 600/4	WS PLUS 625/5	WS PLUS 750/3	WS PLUS 800/4
Number of Plies	2	3	2	4	4	3	4	5	3	4
Fabric Type*	N/N	N/N	P/N	N/N	N/N	P/N	N/N	N/N	P/N	P/N
Vulcanized & Fastener Rating (piw)	250	375	400	440	500	600	600	625	750	800
Impact Index**	1.3	1.9	1.6	N/A	2.3	2.6	2.6	3.0	2.7	3.3
Nom. Carcass Gauge (in.)	0.146	0.200	0.182	0.272	0.254	0.258	0.278	0.324	0.273	0.354
Nom. Carcass Weight (lbs/sq.ft.)	0.81	1.12	1.02	1.63	1.39	1.42	1.56	1.77	1.52	1.95
Approx 1/32 cover wt (lbs/sq.ft.)	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Avg. Permanent Elongation (%) ***	1.3	1.3	0.8	1.5	1.3	0.8	1.7	1.3	0.8	0.8
Avg. Elastic modulus (piw)	18,606	27,909	38,000	31,816	37,212	57,000	38,204	46,515	55,500	83,600
Step Length (in.)	10	10	16	8	10	16	14	10	18	16
Recommended Fastener	Plate	BR-10	BR-10	BR-10	BR-10	BR-10	BR-10	BR-10	BR-14	BR-14
	Hinge	R2	R5	R5	R5	R5-1/2	R5-1/2	R5-1/2	R6	R6
	Hinge	U35A	U35	U35	U35	U35	U35	U37/U37A	U37/U37A	U37/U37A

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. Contact Goodyear Engineered Products or fastener manufacturer. 440/4 N/N is a rib weave construction for slider bed service.

*N/N = Nylon/Nylon P/N = Poly/Nylon

** Impact index provides a relative impact absorption value on any Goodyear EP construction assuming that the material size, material shape, drop height, impact idlers/bed, top cover and pulley cover are the same.

*** Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations.

WOOD SAWYER PLUS LOAD SUPPORT (Maximum Belt Width) (in.)

PIW/Plies	Material Weight Trough Idlers	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
250/2		54	48	48	48	42	36	42	42	30	36	30	NR
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		84	72	72	72	60	54	72	60	54	60	54	48
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
600/4		96	84	84	84	72	72	84	72	60	72	60	54
625/5		96	84	84	84	72	72	84	72	60	72	60	54
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

On systems with troughing idler spacing greater than 5 ft. OR idler roll gap greater than 1/2 in., consult Goodyear EP.

WOOD SAWYER PLUS TROUGHABILITY (Minimum Belt Width) (in.) (Table based on ISO 703 Testing Procedure)

	WS PLUS 250/2	WS PLUS 375/3	WS PLUS 400/2	WS PLUS 440/4	WS PLUS 500/4	WS PLUS 600/3	WS PLUS 600/4	WS PLUS 625/5	WS PLUS 750/3	WS PLUS 800/4
Idlers										
20 degree idlers	18	24	18	30	30	24	30	36	24	30
35 degree idlers	24	30	24	36	36	30	36	42	30	36
45 degree idlers	30	36	30	42	42	36	42	48	36	42

If top cover and pulley cover are balanced (ie. 3/16" x 3/16") or less than 1/16" differential (ie. 3/16" x 5/32"), 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 Goodyear EP.

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

WOOD SAWYER PLUS MINIMUM PULLEY DIAMETERS (in.)

	WS PLUS 250/2	WS PLUS 375/3	WS PLUS 400/2	WS PLUS 440/4	WS PLUS 500/4	WS PLUS 600/3	WS PLUS 600/4	WS PLUS 625/5	WS PLUS 750/3	WS PLUS 800/4
Number of Plies	2	3	2	4	4	3	4	5	3	4
Over 80% Tension	16	18	16	24	24	24	30	30	30	30
60% to 80% Tension	14	16	14	20	20	20	24	24	24	24
40% to 60% Tension	12	14	12	18	18	18	20	20	20	20
Up to 40% Tension	10	12	10	16	16	16	18	18	18	18
Tails and Snubs	10	12	10	16	16	16	18	18	18	18

WOOD SAWYER PLUS CONVEYOR BELT DATA - Metric

	WS PLUS 250/2	WS PLUS 375/3	WS PLUS 400/2	WS PLUS 440/4	WS PLUS 500/4	WS PLUS 600/3	WS PLUS 600/4	WS PLUS 625/5	WS PLUS 750/3	WS PLUS 800/4	
Plies	2	3	2	4	4	3	4	5	3	4	
Fabric Type*	N/N	N/N	P/N	N/N	N/N	P/N	N/N	N/N	P/N	P/N	
Vulcanized & Fastener Rating (kN/m)	44	66	70	77	88	105	105	109	131	140	
Impact Index**	1.3	1.9	1.6	N/A	2.3	2.6	2.6	3.0	2.7	3.3	
Nom. Carcass Gauge (mm.)	3.7	5.1	4.6	6.9	6.5	6.6	7.1	8.2	6.9	9.0	
Nom. Carcass Weight (kg/sq.m)	4.0	5.5	5.0	8.0	6.8	6.9	7.6	8.6	7.4	9.5	
Approx. 1 mm. cover wt (kg/sq.m)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
Avg. Permanent Elongation (%) ***	1.3	1.3	0.8	1.5	1.3	0.8	1.7	1.3	0.8	0.8	
Avg. Elastic modulus (kN/m)	3,260	4,890	6,650	5,570	6,520	9,980	6,690	8,150	9,720	14,640	
Step Length (mm.)	250	250	410	200	250	410	360	250	460	410	
Recommended Fastener	Plate	190	BR-10	BR-10	BR-10	BR-10	BR-10	BR-10	BR-10	BR-14	BR-14
	Hinge	R2	R5	R5	R5	R5-1/2	R5-1/2	R5-1/2	R5-1/2	R6	R6
	Hinge	U35A	U35	U35	U35	U35	U35	U35	U36	U36	U36

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. Contact Goodyear Engineered Products or fastener manufacturer. 440/4 N/N is a rib weave construction for slider bed service.

*N/N = Nylon/Nylon P/N = Poly/Nylon

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

Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations.

*** Average permanent elongation values at 100% or rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations. Consult Goodyear EP for vulcanized splice design for 900/2, 1350/3, and 1800/4 constructions.

WOOD SAWYER PLUS LOAD SUPPORT (Maximum Belt Width) (mm.)

PIW/Plies	Material Weight Trough Idlers	0-640 kg/cu.m			641-1280 kg/cu.m			1281-1920 kg/cu.m			Over 1920 kg/cu.m		
		20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
250/2		1400	1200	1200	1200	1050	900	1050	1050	750	900	750	NR
375/3		1850	1550	1550	1550	1550	1200	1400	1400	1200	1200	1050	900
400/2		1550	1400	1400	1400	1200	1050	1200	1200	1050	1050	900	750
440/4		2150	1850	1850	1850	1550	1400	1850	1550	1400	1550	1400	1200
500/4		2150	1850	1850	1850	1550	1400	1850	1550	1400	1550	1400	1200
600/3		2150	1850	1850	1850	1550	1400	1850	1550	1400	1550	1400	1200
600/4		2450	2150	2150	2150	1850	1850	2150	1850	1550	1850	1550	1400
625/5		2450	2150	2150	2150	1850	1850	2150	1850	1550	1850	1550	1400
750/3		2150	1850	1850	1850	1550	1400	1850	1550	1400	1550	1400	1200
800/4		2450	2150	2150	2150	1850	1850	2150	1850	1550	1850	1550	1400

On systems with troughing idler spacing greater than 1.5 m OR idler roll gap greater than 12.7 mm., consult Goodyear EP.

WOOD SAWYER PLUS TROUGHABILITY (Minimum Belt Width) (mm.) (Table based on ISO 703 Testing Procedure)

	WS PLUS 250/2	WS PLUS 375/3	WS PLUS 400/2	WS PLUS 440/4	WS PLUS 500/4	WS PLUS 600/3	WS PLUS 600/4	WS PLUS 625/5	WS PLUS 750/3	WS PLUS 800/4
Idlers										
20 degree idlers	450	600	450	750	750	600	750	900	600	750
35 degree idlers	600	750	600	900	900	750	900	1050	750	900
45 degree idlers	750	900	750	1050	1050	900	1050	1200	900	1050

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

150 mm. narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear EP.

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

WOOD SAWYER PLUS MINIMUM PULLEY DIAMETERS (mm.)

	WS PLUS 250/2	WS PLUS 375/3	WS PLUS 400/2	WS PLUS 440/4	WS PLUS 500/4	WS PLUS 600/3	WS PLUS 600/4	WS PLUS 625/5	WS PLUS 750/3	WS PLUS 800/4
Number of Plies	2	3	2	4	4	3	4	5	3	4
Over 80% Tension	400	450	400	600	600	600	750	750	750	750
60% to 80% Tension	350	400	350	500	500	500	600	600	600	600
40% to 60% Tension	300	350	300	450	450	450	500	500	500	500
Up to 40% Tension	250	300	250	400	400	400	450	450	450	450
Tails and Snubs	250	300	250	400	400	400	450	450	450	450

WOOD SAWYER CONVEYOR BELT DATA - Imperial

	WS 220	WS 330	WS 440
Number of Plies	2	3	4
Fabric Type*	P/P	P/P	P/P
Vulcanized & Fastener Rating (piw)	220	330	440
Nom. Carcass Gauge (in.)	0.120	0.162	0.212
Nom. Carcass Weight (lbs/sq.ft.)	0.72	0.98	1.28
Approx. 1/32" cover wt (lbs/sq.ft.)	0.19	0.19	0.19
Avg. Permanent Elongation (%) **	0.80	0.80	0.80
Avg. Elastic modulus (kN/m)	23000	34500	46000
Step Length (in.)	10	10	10
Recommended Plate Fastener	140	190	BR-10
Hinge	R2	R2	R5
Hinge	U35A	U35A	U35

WOOD SAWYER CONVEYOR BELT DATA - Metric

	WS 220	WS 330	WS440
Number of Plies	2	3	4
Fabric Type*	P/P	P/P	P/P
Vulcanized & Fastener Rating (kN/m)	39	58	77
Nom. Carcass Gauge (mm.)	3.0	4.1	5.4
Nom. Carcass Weight (kg/sq.m)	3.5	48	6.2
Approx. 1mm. cover wt (kg/sq.m)	1.2	1.2	1.2
Avg. Permanent Elongation (%) **	0.80	0.80	0.80
Avg. Elastic modulus (kN/m)	4030	6040	8060
Step Length (mm.)	254	254	254
Recommended Plate Fastener	140	190	BR-10
Hinge	R2	R2	R5
Hinge	U35A	U35A	U35

Wood Sawyer 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 Goodyear Engineered Products' field sales or GAD for elastic & total elongation calculations specific to each system based on Minuteman 2000 calculations.

WOOD SAWYER TROUGHABILITY (Minimum Belt Width) (in.)

(Table based on ISO 703 Testing Procedure)

	WS 220/2	WS 330/3	WS 440/4
20 degree idlers	14	18	24
35 degree idlers	18	24	30
45 degree idlers	24	30	36

If top cover and pulley cover are balanced (ie. 3/16" x 3/16") or less than 1/16" differential (ie. 3/16" x 5/32"), add 6" to the minimum belt width. Additional break in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50 degrees Fahrenheit.

WOOD SAWYER TROUGHABILITY (Minimum Belt Width) (mm.)

(Table based on ISO 703 Testing Procedure)

	WS 220/2	WS 330/3	WS 440/4
20 degree idlers	350	450	600
35 degree idlers	450	600	750
45 degree idlers	600	750	900

If top cover and pulley cover are balanced (ie. 5 mm. x 5 mm.) or less than 2 mm. differential (ie. 4 mm. x 3 mm.), add 150 mm. to the minimum belt width. Additional break in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50 degrees Fahrenheit.

WOOD SAWYER MINIMUM PULLEY DIAMETERS (in.)

	WS 220/2	WS 330/3	WS 440/4
Over 80% Tension	16	18	24
60% to 80% Tension	14	16	20
40% to 60% Tension	10	12	16
Up to 40% Tension	10	12	16
Tails and Snubs	10	12	16

WOOD SAWYER MINIMUM PULLEY DIAMETERS (mm.)

	WS 220/2	WS 330/3	WS 440/4
Over 80% Tension	400	450	600
60% to 80% Tension	350	400	500
40% to 60% Tension	250	300	400
Up to 40% Tension	250	300	400
Tails and Snubs	250	300	400

WOOD SAWYER LOAD SUPPORT (Maximum Belt Width) (in.)

PIW/Plies	Material Weight Idlers	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
220/2		48	42	36	48	36	36	42	36	30	36	30	NR
330/3		60	54	48	60	48	42	54	48	42	48	42	36
440/4		72	60	54	72	54	48	60	54	48	60	48	42

On systems with troughing idler spacing greater than 5 ft. OR idler roll gap greater than 1/2 in., consult Goodyear Engineered Products.

WOOD SAWYER LOAD SUPPORT (Maximum Belt Width) (mm.)

PIW/Plies	Material Weight Idlers	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
220/2		1200	1050	900	1200	900	900	1050	900	750	900	750	NR
330/3		1500	1400	1200	1500	1200	1050	1400	1200	1050	1200	1050	900
440/4		1850	1500	1400	1850	1400	1200	1500	1400	1200	1500	1200	1050

On systems with troughing idler spacing greater than 1.5 m OR idler roll gap greater than 12.7 mm., consult Goodyear EP.

WOOD SAWYER BAREBACK CONVEYOR BELT DATA - Imperial

	WS 220	WS 330	WS 440
Number of Plies	2	3	4
Fabric Type*	P/P	P/P	P/P
Vulcanized & Fastener Rating (piw)	220	330	440
Approx. 1/32" cover wt (lbs/sq.ft.)	0.19	0.19	0.19
Avg. Permanent Elongation (%) **	0.80	0.80	0.80
Avg. Elastic modulus (piw)	23000	34500	46000
Step Length (in.)	10	10	10
Recommended Plate Fastener	140	190	BR-10
Hinge	R2	R2	R5
Hinge	U35A	U35A	U35
Top Cover			
5/32" & under			
Nom. Carcass Gauge (in.)	0.144	0.196	0.272
Nom. Carcass Weight (lbs/sq.ft.)	0.78	1.10	1.57
3/16"			
Nom. Carcass Gauge (in.)	0.160	0.244	0.344
Nom. Carcass Weight (lbs/sq.ft.)	0.88	1.39	2.00
1/4" to 3/8"			
Nom. Carcass Gauge (in.)	NA	0.28	0.398
Nom. Carcass Weight (lbs/sq.ft.)	NA	1.61	2.32

WOOD SAWYER BAREBACK CONVEYOR BELT DATA - Metric

	WS 220	WS 330	WS 440
Number of Plies	2	3	4
Fabric Type*	P/P	P/P	P/P
Vulcanized & Fastener Rating (kN/m)	39	58	77
Approx. 1mm. cover wt (kg/sq.m)	1.2	1.2	1.2
Avg. Permanent Elongation (%) **	0.80	0.80	0.80
Avg. Elastic modulus (kN/m)	4030	6040	8060
Step Length (mm.)	254	254	254
Recommended Plate Fastener	140	190	BR-10
Hinge	R2	R2	R5
Hinge	U35A	U35A	U35
Top Cover			
4mm. & under			
Nom. Carcass Gauge (mm.)	3.66	4.98	6.91
Nom. Carcass Weight (kg/sq.m)	3.81	5.37	7.67
5mm.			
Nom. Carcass Gauge (mm.)	4.06	6.20	8.74
Nom. Carcass Weight (kg/sq.m)	4.30	6.79	9.76
6 to 10mm.			
Nom. Carcass Gauge (mm.)	NA	7.11	10.11
Nom. Carcass Weight (kg/sq.m)	NA	7.86	11.33

Wood Sawyer 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 Goodyear EP's field sales or GAD for elastic & total

elongation calculations specific to each system based on Minuteman 2000 calculations.

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

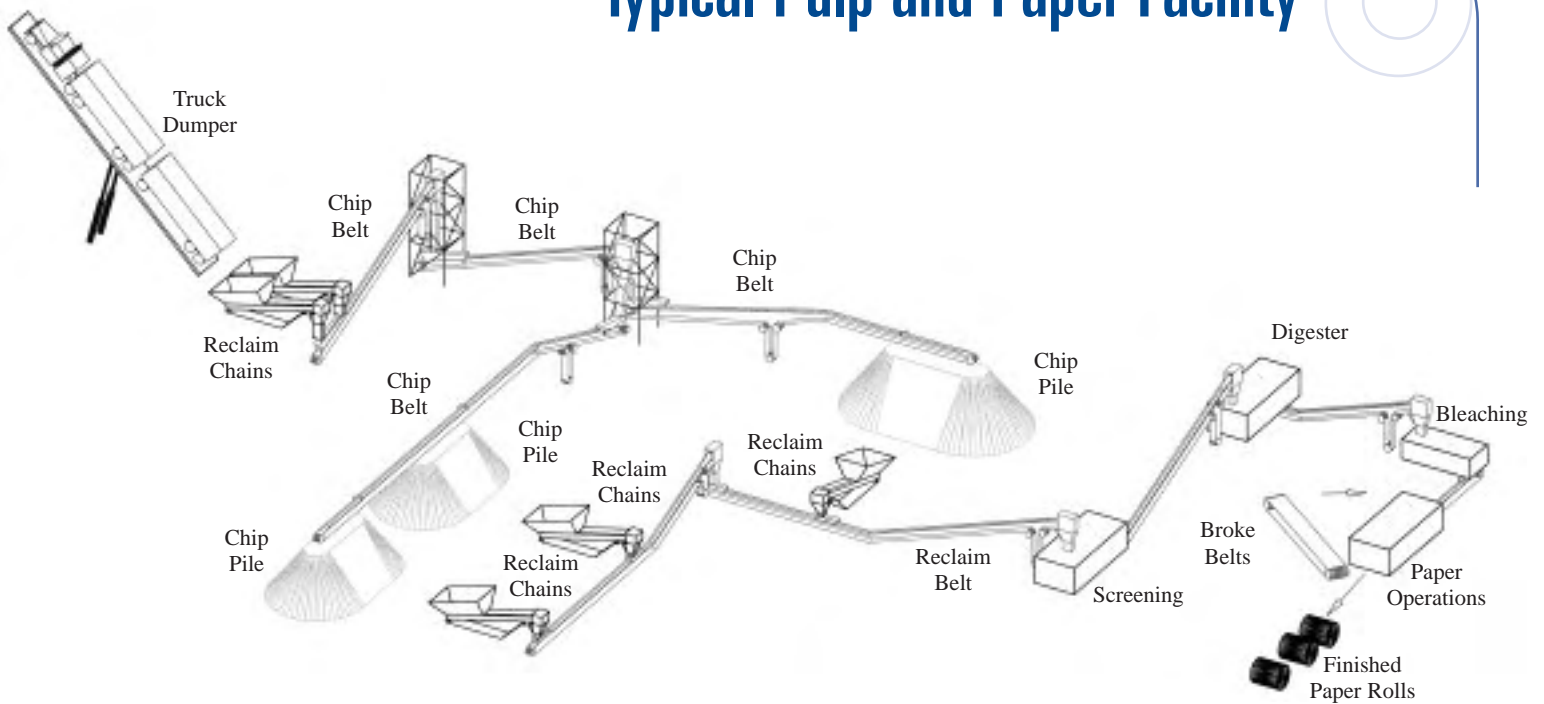
WOOD PRODUCT APPLICATIONS

WOOD PRODUCT APPLICATIONS

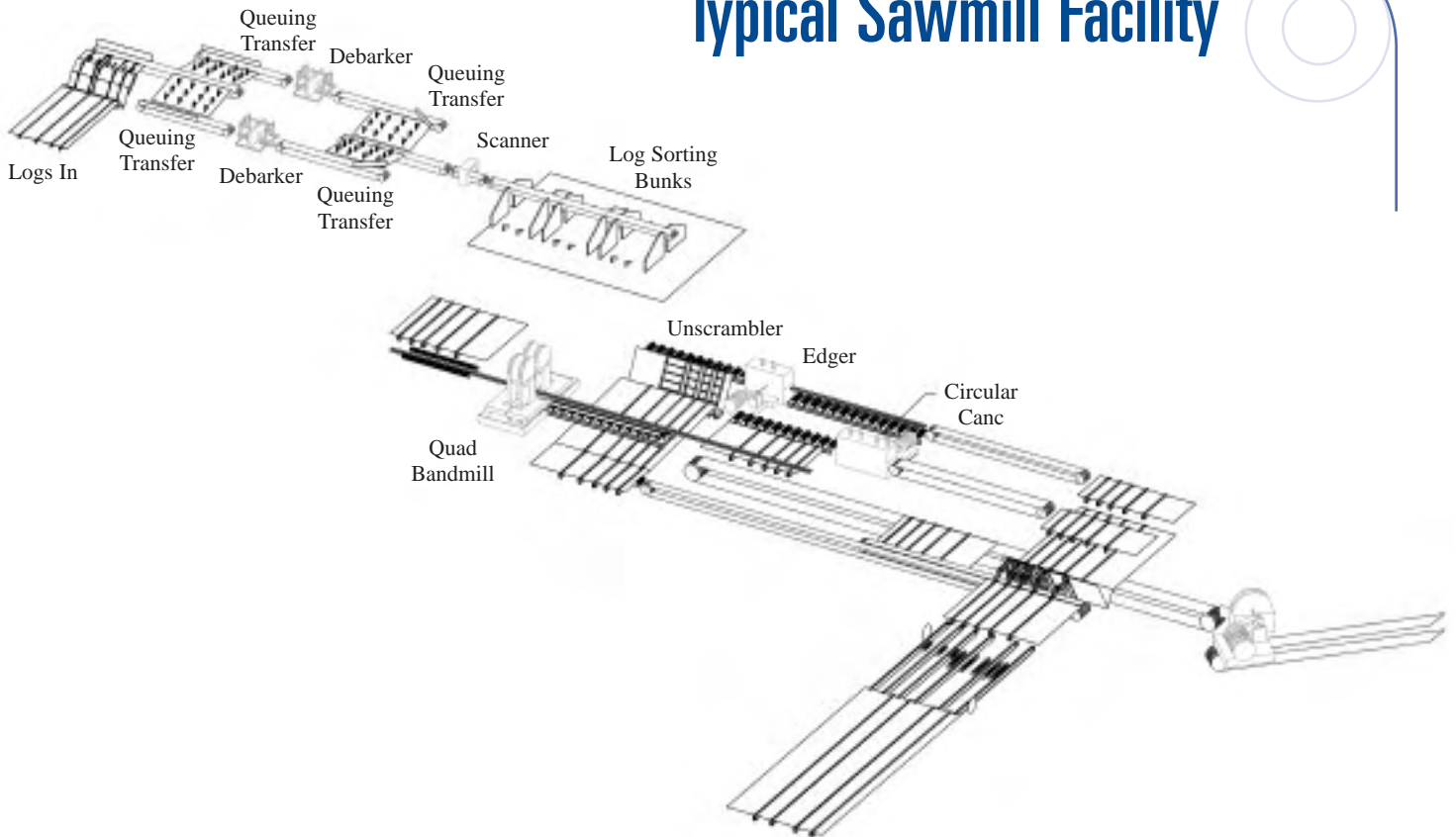
Service Requirements	Goodyear Engineered Product Options	Special Service Constructions	Top Cover Options*	Application Requirements
<ul style="list-style-type: none"> • Log Decks • Debarkers • Log Sorters • Chipper End Feed 	<p>Conquest®</p> <p>Wood Sawyer® Plus</p> <p>Pylon Plus®</p>	<p>Triple-Warp</p> <p>600/3 Poly/Nylon Crowfoot Weave, Heavy Skims</p> <p>440/4 Nylon/Nylon Rib Weave</p>	<p>Stacker®</p> <p>Defender™</p> <p>Sliderback Pulley Cover</p>	<p>Severe Impact Cutting and Gouging</p> <p>Low Coefficient of Friction</p> <p>Sliderback Pulley Cover</p>
<ul style="list-style-type: none"> • Wood Chips & Bark Belts • Hog Fuel 	<p>Wood Sawyer Plus</p> <p>Wood Sawyer Plus Xtra-Grip</p> <p>Wood Sawyer®</p> <p>Wood Sawyer Xtra-Grip</p>	<p>125PPI Nylon/Nylon Plain Weave</p> <p>110PPI Poly/Poly</p>	<p>MORS</p> <p>Defender</p>	<p>Terpene and Oil</p> <p>Xtra-Grip for High Incline Service</p>
<ul style="list-style-type: none"> • Chipper Belts • Saw Cut-Offs • Sawdust Belts • Saw Dry-Hogs • Pulp Belts • Broke Belts 	<p>Conquest</p> <p>Wood Sawyer Plus</p> <p>Pylon Plus</p>	<p>Bare Back and Friction Back Belt Styles (All Products)</p> <p>125PPI Nylon/Nylon Plain Weave</p> <p>110PPI Poly/Poly and Plain Weave</p> <p>110PPI Nylon/Nylon Rib Weave</p>	<p>MORS</p> <p>Defender</p>	<p>Extensive Range of Widths</p> <p>Small Pulleys</p> <p>Bare or Friction Surface Bottom Typical</p>
<ul style="list-style-type: none"> • Veneer Belts • Tray Belts 	<p>Wood Sawyer Plus</p> <p>Wood Sawyer</p>	<p>220 and 330 Poly/Poly Tan Slowdown</p> <p>225/3 and 330/3 Poly/Poly Tray</p>	<p>MORS</p> <p>Defender</p>	<p>Terpene and Oil</p> <p>Severe Abrasion</p>

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

Typical Pulp and Paper Facility



Typical Sawmill Facility



PATHFINDER® SUPREME

DESCRIPTION:

Goodyear's Pathfinder Supreme is a Polyester/Nylon fabric reinforced belt designed to stand up to the unique operating conditions of grain handling facilities. Pathfinder Supreme's exceptionally low electrical resistance and the maximum degree of oil resistance provide excellent operational safety and long life.

Markets



- Agriculture
- Grain
- Bulk Handling Terminals

Applications



- Grain Elevator
- Grain Storage
- Grain Transfer

Cover Compounds



- Supreme
- PF+ Oil Resistant*
- PF+ CSA*

(See page 38 for more specific details.)

** Meets Canadian specifications.*

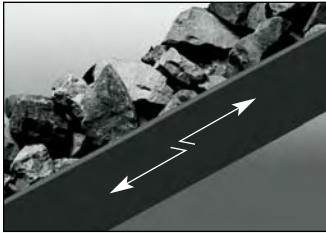


Tension Range

220 PIW to 1250 PIW

Features

Benefits



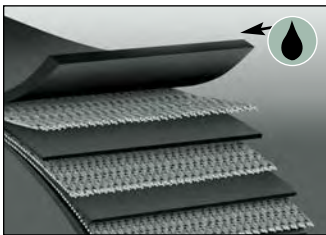
High ultimate strength

Pathfinder Supreme is designed to withstand harsh operating conditions. The force required to break a 48” Pathfinder Supreme 330 belt is 158,400 pounds.



Low belt elongation

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



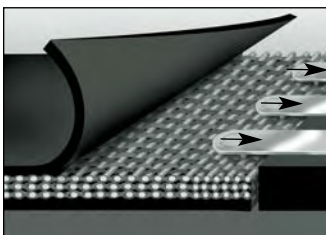
Oil resistant covers

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.



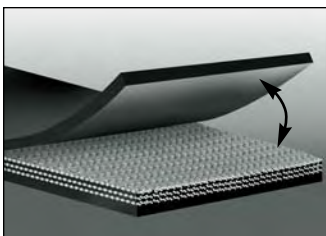
Static conductive, low electrical resistance, flame resistance

Pathfinder Supreme belts offer an exceptionally low electrical resistance of one megohm or less, far below Federal OSHA and ISO standard of 300 megohms. Internal testing ensures that belts meet or exceed the USMSHA 30 CRF 18.65 requirement for flame resistance.



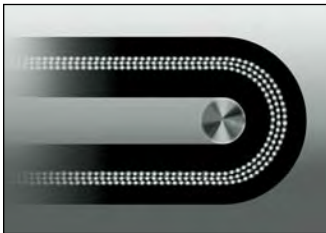
Superior fastener holding capabilities

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



Excellent adhesion values

Oil resistant skim coats, combined with Goodyear’s fabric treatment process, provide excellent adhesion values. Vulcanized splice life is maximized and the damaging effects of structural abuse to the edge of the belt are 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 SUPREME CONVEYOR BELT DATA - Imperial

	PF 220	PF 330	PF 400	PF 440	PF 600	PF 750	PF 800	PF 1000	PF 1000	PF 1200	PF 1250
Number of Plies	2	3	2	4	3	3	4	4	5	6	5
Fabric Type*	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N
Vulcanized & Fastener Rating (piw)	220	330	400	440	600	750	800	1000	1000	1200	1250
Elevator Rating (piw)	200	280	380	400	540	650	740	910	910	1090	1130
Maximum Bucket Projection (in.)	6	8	9	10	11	11	12	13	13	13	13
Approx. Carcass Gauge (in.)	0.134	0.183	0.172	0.232	0.238	0.253	0.324	0.344	0.410	0.496	0.435
Approx. Carcass Weight (lbs/sq.ft.)	0.95	1.26	1.10	1.55	1.49	1.59	1.99	2.12	2.48	2.98	2.65
Approx 1/32 cover wt (lbs/sq.ft.)	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Belt modulus (piw)	25,500	38,220	41,800	50,960	62,700	55,500	83,600	74,000	104,500	125,400	92,500
Step Length (in.)	12	12	16	12	16	18	16	18	16	16	18
Recommended Fasteners	Plate	140	190	BR-10	BR-10	BR-10	BR-14	BR-14	NA	NA	NA
	Hinge	R2	R2	R5	R5	R5-1/2	R6	R6	RAR8	RAR8	RAR8
	Hinge	U35A	U35A	U35	U35	U35	U37/U37A	U37/U37A	U38A	U38A	U38

Pathfinder 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. Consult Goodyear or fastener manufacturer.

*P/N = Poly / Nylon

PATHFINDER SUPREME LOAD SUPPORT (Maximum Belt Width) (in.)

Type of Idler	Degree of Idlers	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
Pathfinder Supreme	220/2	48	42	36	66	54	48	72	60	54
Pathfinder Supreme	330/3	66	54	48	72	66	60	78	72	66
Pathfinder Supreme	400/2	48	42	36	66	54	48	72	60	54
Pathfinder Supreme	440/4	72	66	60	84	78	72	84	84	78
Pathfinder Supreme	600/3	66	54	48	72	66	60	78	72	66
Pathfinder Supreme	750/3	66	54	48	72	66	60	78	72	66
Pathfinder Supreme	800/4	78	66	60	84	78	72	84	84	84
Pathfinder Supreme	1000/4	78	66	60	84	78	72	84	84	84
Pathfinder Supreme	1000/5	84	78	72	96	84	78	96	96	84
Pathfinder Supreme	1200/6	96	84	78	96	84	78	108	108	96
Pathfinder Supreme	1250/5	84	78	72	96	84	78	96	96	84

On In-Line systems with troughing idler spacing greater than 5 ft. OR idler roll gap greater than 1/2", consult Goodyear.

PATHFINDER SUPREME TROUGHABILITY (Minimum Belt Width) (in.) (Table based on ISO 703 Testing Procedure)

	PF 220/2	PF 330/3	PF 400/2	PF 440/4	PF 600/3	PF 750/3	PF 800/4	PF 1000/4	PF 1000/5	PF 1200/6	PF 1250/5
Idlers	18	24	18	30	24	24	30	30	36	42	36
20 degree idlers	24	30	24	36	30	30	36	36	42	48	42
35 degree idlers	30	36	30	42	36	36	42	42	48	54	48

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

PATHFINDER SUPREME MINIMUM PULLEY DIAMETERS (in.)

	PF 220	PF 330	PF 400	PF 440	PF 600	PF 750	PF 800	PF 1000	PF 1000	PF 1200	PF 1250
Number of Plies	2	3	2	4	3	3	4	4	5	6	5
Over 80% Tension	18	20	18	30	24	30	30	36	36	42	42
61% 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

PATHFINDER SUPREME CONVEYOR BELT DATA - Metric

	PF 220	PF 330	PF 400	PF 440	PF 600	PF 750	PF 800	PF 1000	PF 1000	PF 1200	PF 1250	
Number of Plies	2	3	2	4	3	3	4	4	5	6	5	
Fabric Type*	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	
Vulcanized & Fastener Rating (kN/m)	39	58	70	77	105	131	140	175	175	210	219	
Elevator Rating (kN/m)	35	49	67	70	95	114	130	159	159	191	198	
Maximum Bucket Projection (mm)	152	203	229	254	279	279	305	330	330	330	330	
Approx. Carcass Gauge (mm)	3.4	4.6	4.4	5.9	6.0	6.4	8.2	8.7	10.4	12.6	11.0	
Approx. Carcass Weight (kg/sq.m)	4.6	6.1	5.4	7.6	7.3	7.8	9.7	12.1	10.4	14.5	12.9	
Approx 1 mm cover wt (kg/sq.m)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	
Belt modulus (kN/m)	4,470	6,690	7,320	8,920	10,980	9,720	14,640	18,300	12,960	21,960	16,200	
Step Length (mm)	300	300	410	300	410	460	410	460	410	410	460	
Recommended Fasteners	Plate	140	190	BR-10	BR-10	BR-10	BR-14	BR-14	NR	NR	NR	NR
	Hinge	R2	R2	R5	R5	R5-1/2	R6	R6	RAR8	RAR8	RAR8	RAR8
	Hinge	U35A	U35A	U35	U35	U35	U37/U37A	U37/U37A	U38A	U38A	U38	U38

Pathfinder 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. Consult Goodyear or fastener manufacturer.

*P/N = Poly / Nylon

PATHFINDER SUPREME LOAD SUPPORT (Maximum Belt Width) (mm)

Type of Idler	Degree of Idlers	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
Pathfinder Supreme	220/2	1200	1050	900	1700	1400	1200	1850	1500	1400
Pathfinder Supreme	330/3	1700	1400	1200	1850	1700	1500	2000	1850	1700
Pathfinder Supreme	400/2	1200	1050	900	1700	1400	1200	1850	1500	1400
Pathfinder Supreme	440/4	1850	1700	1500	2150	2000	1850	2150	2150	2000
Pathfinder Supreme	600/3	1700	1400	1200	1850	1700	1500	2000	1850	1700
Pathfinder Supreme	750/3	1700	1400	1200	1850	1700	1500	2000	1850	1700
Pathfinder Supreme	800/4	2000	1700	1500	2150	2000	1850	2150	2150	2150
Pathfinder Supreme	1000/4	2000	1700	1500	2150	2000	1850	2150	2150	2150
Pathfinder Supreme	1000/5	2150	2000	1850	2450	2150	2000	2450	2450	2150
Pathfinder Supreme	1200/6	2450	2150	2000	2450	2150	2000	2750	2750	2450
Pathfinder Supreme	1250/5	2150	2000	1850	2450	2150	2000	2450	2450	2150

On In-Line systems with troughing idler spacing greater than 1.5 m OR idler roll gap greater than 12.7mm, consult Goodyear.

PATHFINDER SUPREME TROUGHABILITY (Minimum Belt Width) (mm) (Table based on ISO 703 Testing Procedure)

	PF 220/2	PF 330/3	PF 400/2	PF 440/4	PF 600/3	PF 750/3	PF 800/4	PF 1000/4	PF 1000/5	PF 1200/6	PF 1250/5
Idlers	220/2	330/3	400/2	440/4	600/3	750/3	800/4	1000/4	1000/5	1200/6	1250/5
20 degree idlers	450	600	450	750	600	600	750	750	900	1050	900
35 degree idlers	600	750	600	900	750	750	900	900	1050	1200	1050
45 degree idlers	750	900	750	1050	900	900	1050	1050	1200	1350	1200

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

PATHFINDER SUPREME MINIMUM PULLEY DIAMETERS (mm)

Specifications	PF 220	PF 330	PF 400	PF 440	PF 600	PF 750	PF 800	PF 1000	PF 1000	PF 1200	PF 1250
Number of Plies	2	3	2	4	3	3	4	4	5	6	5
Over 80% Tension	450	500	450	750	600	750	750	900	900	1050	1050
61% to 80% Tension	400	450	400	600	500	600	600	750	750	900	900
40% to 60% Tension	350	400	350	500	450	500	500	600	600	750	750
Up to 40% Tension	300	400	300	500	400	450	450	500	500	750	600
Tails and Snubs	300	400	300	500	400	450	450	500	500	750	600

XTRA-GRIP™

DESCRIPTION:

Goodyear's XTRA-GRIP™ conveyor belting provides increased material transfer inclines of five degrees or more due to its 1/4" high Chevron ribbed pattern versus conventional smooth belting. XTRA-GRIP is available in either 2-ply 250 PIW or 3-ply 375 PIW nylon/nylon abuse resistant construction.

Markets



- Aggregate
- Baggage Handling
- Bulk Handling Terminal
- Cement
- Coal
- Foundry
- Grain
- Hard Rock
- Package Handling
- Pulp and Paper
- Sand and Gravel
- Steel Production
- Wood Products

to name a few.

Applications



- Stacker Conveyors
- Ship Unloaders
- Trash and Recycling Plants
- Wood Chips
- Bark Belts
- Grain Transfer
- Grain Storage

to name a few.

Cover Compounds



- Guardian™
- MORS
- OMEGA®
- 6740A
- ARMA®-SBR
- Stacker®
- ORS-Chemivic®
- Premarc®
- Supreme

(See pages 44-49 for more specific details.)



Tension Range

250 PIW and 375 PIW

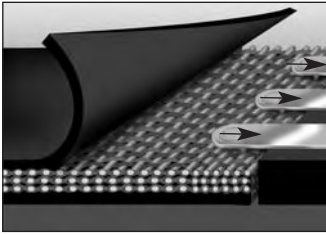
Features

Benefits



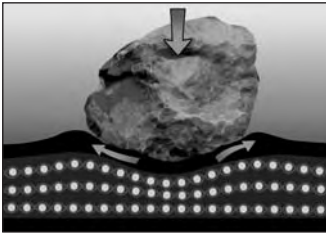
Load gripping rib pattern

The ribs of XTRA-GRIP belting are 1/4" high chevrons that increase the permissible angle of incline by 5 degrees or more. XTRA-GRIP works especially well with materials that have a high water content where slipping of reload on the belt might otherwise occur. The staggered Chevron design can be run in either direction and are an integral part of the belt.



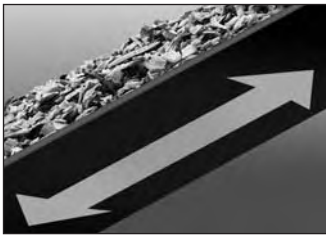
Excellent fastener holding retention

High strength nylon fill cords enhance mechanical fastener holding ability and resist fastener pull-out for more 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 lowest cost-per-ton conveyed.



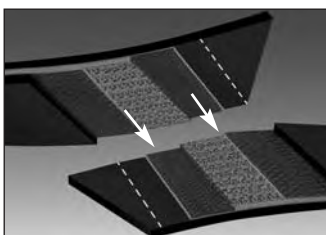
High ultimate strength

XTRA-GRIP belts withstand severe tension spikes at start-up, retain mechanical fasteners and withstand continuous flexing around pulleys. This higher ultimate strength makes a critical difference in abusive operating conditions.



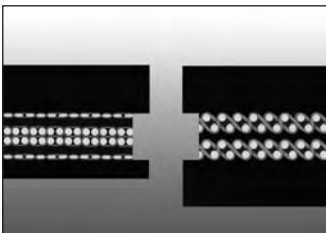
Reduced stretch

The combination of fabric design and dip process provides less elastic and permanent elongation on all specifications. This minimizes take-up concerns and reduces the number of splices at break-in. Contact your local Goodyear 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 XTRA-GRIP retains 100% of belt tension rating during running conditions. (See data table for proper step length on page 40).



Variety of cover compounds

Protect your product with the proper compound and cover gauge for the application. Goodyear's XTRA-GRIP conveyor belting can be customized to fit your application.

XTRA-GRIP™ CONVEYOR BELT DATA - Imperial

	XTRA-GRIP 250	XTRA-GRIP 375
Number of Plies	2	3
Fabric Type*	N/N	N/N
Vulcanized & Fastener Rating (piw)	250	375
Impact Index**	1.3	1.9
Approx. Carcass Gauge (in.)	0.144	0.199
Approx. Carcass Weight (lbs/sq.ft.)	0.75	1.06
Approx 1/32" cover wt (lbs/sq.ft.)	0.19	0.19
Average Permanent Elongation (%)***	1.3	1.3
Elastic modulus (piw)	18,606	27,909
Step Length (in.)****	10	10
Recommended Fasteners	Plate	BR-10
	Hinge	R5
	Hinge	U35A

XTRA-GRIP 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 diameter, and system tension. Consult Goodyear or fastener manufacturer.

*N/N =Nylon/Nylon

**Impact index provides a relative impact absorption value on any Goodyear construction assuming that the material size, material shape, drop height, impact idlers/bed, top cover and pulley cover are the same.

***Average permanent elongation values at 100% or rated belt tension are based on ISO 9856 test procedure. Consult Goodyear field sales or GAD for elastic & total elongation calculations.

****Consult Goodyear for vulcanized splice design for 900/2, 1350/3, and 1800/4 constructions.

XTRA-GRIP™ LOAD SUPPORT (Maximum Belt Width) (in.)

	Material Weight Trough Idlers	0-40 lbs/cu.ft.			41-80 lbs/cu.ft.			81-120 lbs/cu.ft.			81-120 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
XTRA-GRIP	250/2	54	48	48	48	42	36	42	42	30	36	30	NR
XTRA-GRIP	375/3	72	60	60	60	60	48	54	54	48	48	42	36

On In-Line systems with troughing idler spacing greater than 5 ft. OR idler roll gap greater than 1/2 in., consult Goodyear.

XTRA-GRIP™ TROUGHABILITY (Minimum Belt Width) (in.) (Table based on ISO 703 Testing Procedure)

	XTRA-GRIP 250/2	XTRA-GRIP 375/3
Idlers		
20 degree idlers	18	24
35 degree idlers	24	30
45 degree idlers	30	36

6" narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear. Additional break in time is required when the belt has been stored prior to installation in ambient temperatures of less than 50 degrees Fahrenheit.

XTRA-GRIP™ MINIMUM PULLEY DIAMETERS (in.)

	XTRA-GRIP 250	XTRA-GRIP 375
Specifications		
Number of Plies	2	3
Over 80% Tension	16	18
60% to 80% Tension	14	16
40% to 60% Tension	12	14
Up to 40% Tension	10	12
Tails and Snubs	10	12

XTRA-GRIP™ CONVEYOR BELT DATA - Metric

	XTRA-GRIP 250	XTRA-GRIP 375
Number of Plies	2	3
Fabric Type*	N/N	N/N
Vulcanized & Fastener Rating (kN/m)	44	66
Impact Index	1.3	1.9
Approx. Carcass Gauge (mm)	3.7	5.1
Approx. Carcass Weight (kg/sq.m)	3.7	5.2
Approx 1mm cover wt (kg/sq.m)	1.2	1.2
Average Permanent Elongation (%)**	1.3	1.3
Elastic modulus (kN/m)	3,260	4,890
Step Length (mm)***	250	250
Recommended Fasteners	Plate	BR-10
	Hinge	R5
	Hinge	U35A

XTRA-GRIP 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 diameter, and system tension. Consult Goodyear or fastener manufacturer.

*N/N = Nylon/Nylon

**Average permanent elongation values at 100% or rated belt tension are based on ISO 9856 test procedure. Consult Goodyear field sales or GAD for elastic & total elongation calculations.

***Consult Goodyear for vulcanized splice design for 900/2, 1350/3, and 1800/4 constructions.

XTRA-GRIP™ LOAD SUPPORT (Maximum Belt Width) (mm)

	Material Weight Trough Idlers	0-640 kg/m ³			641-1280 kg/m ³			1281-1920 kg/m ³			Over 1920 kg/m ³		
		20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
XTRA-GRIP	250/2	1400	1200	1200	1200	1050	900	1050	1050	750	900	750	NR
XTRA-GRIP	375/3	1850	1550	1550	1550	1550	1200	1400	1400	1200	1200	1050	900

On In-Line systems with troughing idler spacing greater than 1.5 m OR idler roll gap greater than 12.7 mm, consult Goodyear.

XTRA-GRIP™ TROUGHABILITY (Minimum Belt Width) (mm) (Table based on ISO 703 Testing Procedure)

	XTRA-GRIP 250/2	XTRA-GRIP 375/3
Idlers		
20 degree idlers	450	600
35 degree idlers	600	750
45 degree idlers	750	900

152 mm narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear. Additional break in time is required when the belt has been stored prior to installation in ambient temperatures of less than 10 degrees Centigrade.

XTRA-GRIP™ MINIMUM PULLEY DIAMETERS (mm)

	XTRA-GRIP 250	XTRA-GRIP 375
Specifications		
Number of Plies	2	3
Over 80% Tension	400	450
60% to 80% Tension	350	400
40% to 60% Tension	300	350
Up to 40% Tension	250	300
Tails and Snubs	250	300

COAL QUEST®

It's not just tough. It's Triple-Warp® tough.

Goodyear Engineered Products' long history of innovation continues with the development of our exclusive, *patented*, polyester x nylon Triple-Warp® fabric weave. It's what makes Coal Quest your best choice in *severe applications such as panel, mainline or slope belts*. Coal Quest belt is available in 1-ply 400, 3-ply 600, 3-ply 800, and 3-ply

1,000 PIW configurations. The design of Coal Quest features a Triple-Warp fabric center ply surrounded by a pair of abuse-resistant and flexible outer plies. Coal Quest belts make for a construction that provides a wide range of benefits — superior mechanical fastener holding strength, unbeatable vulcanized splice capabilities, a high degree of flexibility, and great impact, tear and rip resistance.

COAL QUEST

Designed for down-under durability

TOP & BOTTOM COVERS

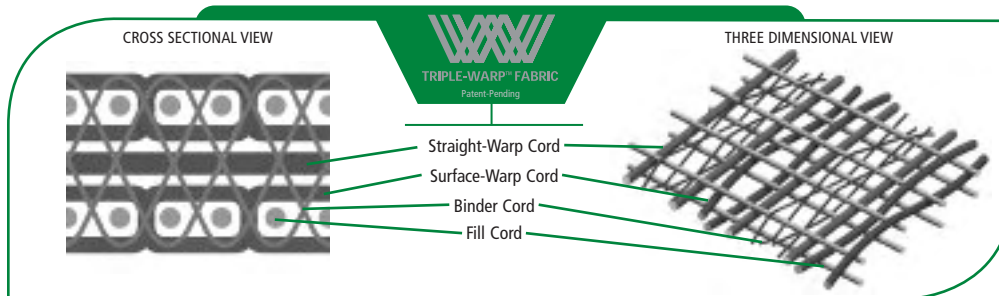
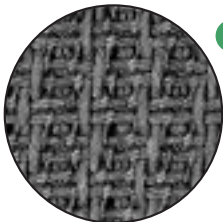
The versatility to reduce the bottom cover gauge means lowering your overall belt cost without sacrificing performance, and a reduction in belt weight, which reduces system energy consumption. Unlike the heavier bottom covers required by straight-warp belts, Coal Quest customers can stipulate the exact cover gauge their belts require, both top and bottom.

ABUSE-RESISTANT OUTER PLYS

Coal Quest constructions feature two rugged plies to provide further belt strength and added flexibility.

TRIPLE-WARP® CENTER PLY

Three independent warp cords in combination with nylon fill cords, join together to increase overall ply integrity in the patented Triple-Warp construction of Goodyear EP's Coal Quest belting. The combination of high strength crimped surface and straight-warp cords helps fend off rips, tears, punctures and other abusive elements. This provides an even greater measure of belt strength vs. traditional straight-warp and multi-ply fabric weaves. Typical straight-warp designs offer only small binder yarns to maintain the integrity of the weave which may result in edge stringing.

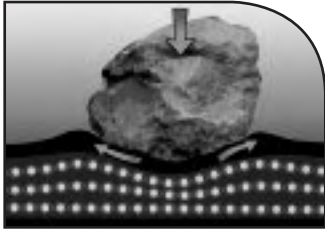


Tension Range

400 PIW to 1000 PIW

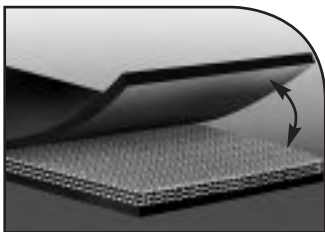
Features & Benefits

Underground coal belts are offered with standard ARMA covers that provide outstanding abrasion resistance while meeting MSHA standard 28-3 for fire-resistance. For increased abrasion resistance, optional ARMAII covers provide the same fire resistance rating but with 40% better abrasion resistance. See the compounds section on page 72 for available compounds.



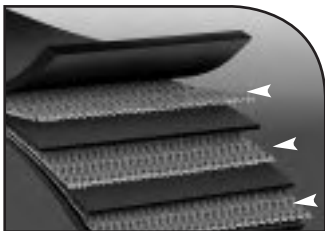
Impact Resistance

At Goodyear Engineered Products, our underground belts come well prepared to withstand the worst. That's because loading impact damage, a major cause of belt failure, is already assessed and predicted at our Technical Center laboratory. During the design phase, our design engineers utilize an enhanced Dynamic Impact Tester to accurately simulate loading impact force and its effects on belting. It is information like this that contributed to the design of our Triple-Warp™ fabric weave.



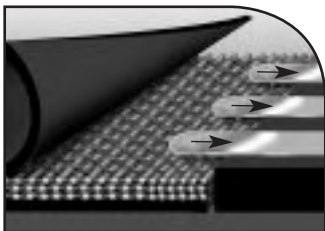
Tear Resistance

A misaligned belt can suffer edge tears by running into the structure. Tears can also occur as a result of material punctures. Thanks to the extremely high transverse tear strength of Coal Quest belts, these occurrences are minimized and contained.



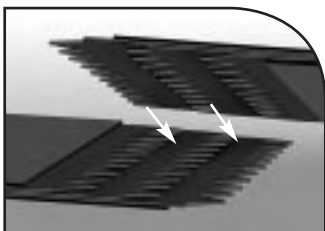
Rip Resistance

Scrap metal and other debris can penetrate and greatly damage a belt. If these foreign objects get hung up in the structure, it can lead to equipment damage, material spillage and even slits or cuts in long sections of the belt. The Triple-Warp fabric design of Coal Quest belting helps dislodge and expel foreign objects and contain rips to a small area.



Fastener Retention

The mechanical fastener splices of Coal Quest belts are rated at 100% of the rated working tension. At Goodyear EP's world-class Technical Center, these splices have undergone rigorous dynamic and static testing, which enables the belt to offer superior mechanical fastener retention vs. multi-ply and straight-warp constructions.



Vulcanized Finger Splice

Goodyear EP recommends a finger over finger vulcanized splice for Coal Quest 3-ply 600 PIW belting at 100% rated tension. This splice method takes advantage of the superior strength properties of the Coal Quest carcass to offer 100% of the rated belt tension.



6-Pulley Dynamic Splice Fatigue Tester

F E A T U R E S	Coal Quest	Straight-Warp	Multi-Ply
Resists fastener pullout	Excellent	Good	Excellent
Handles severe impact	Excellent	Excellent	Good
Transverse tear resistance	Excellent	Excellent	Good
Rip resistance	Excellent	Excellent	Good
Flexibility around small pulley diameters	Excellent	Poor	Excellent
Option to utilize various cover gauges	Excellent	Poor	Excellent
Resists edge fraying or stringing	Excellent	Poor	Excellent
Minimum cost and time for vulcanized splice	Good	Poor	Excellent

COAL QUEST CONVEYOR BELT DATA - Imperial

	COAL QUEST 400	COAL QUEST 600	COAL QUEST 800	COAL QUEST 1000
Number Of Plies	1	3	3	3
Fabric Type	P/N	P/N	P/N	P/N
Vulcanized & Fastener Rating (piw)	400	600	800	1000
Carcass Gauge (in.)	0.131	0.286	0.318	0.356
Carcass Weight (lbs/sq.ft.)	0.46	1.39	1.64	1.81
Approx. 1/32" cover wt (lbs/sq.ft.)	0.21	0.21	0.21	0.21
Avg. Permanent Elongation (%) *	1.20	1.00	1.40	1.90
Elastic modulus (piw)	30,000	55,500	60,500	72,000
Splice Step Length (in.)	Finger	Finger	Finger	Finger
Recommended Fasteners:	Hinge R5	R5-1/2	R6	R6
	Hinge U35	U35	U36	U37

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 Goodyear Engineered Products or fastener manufacturer. R6 fasteners must be installed with stainless steel rivets when belt tension exceeds 800 piw for best results. P/N = Poly / Nylon N/N = Nylon/Nylon

** Average Permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations. Consult Goodyear EP for vulcanized splice method for Coal Quest constructions. (Do not use any bias or overlap design).*

COAL QUEST LOAD SUPPORT (Minimum Belt Width) (in.)

Material Weight	0-65 lbs/cu.ft.			65-100 lbs/cu.ft.		
	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
Coal Quest 400/1	54	48	42	54	48	42
Coal Quest 600/3	72	60	54	60	54	48
Coal Quest 800/3	84	72	60	72	60	54
Coal Quest 1000/3	96	84	72	84	72	60

On In-Line systems with troughing idler spacing greater than 5 ft. or idler roll gap greater than 1/2". Consult Goodyear EP.

COAL QUEST TROUGHABILITY (Minimum Belt Width) (in.) (Table based on ISO 703 Testing Procedure)

	COAL QUEST 400	COAL QUEST 600	COAL QUEST 800	COAL QUEST 1000
Number Of Plies	1	3	3	3
20 degree idlers	18	30	30	30
35 degree idlers	24	36	36	36
45 degree idlers	24	42	42	42

6" narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear EP.

COAL QUEST MINIMUM PULLEY DIAMETERS (in.)

	COAL QUEST 400	COAL QUEST 600	COAL QUEST 800	COAL QUEST 1000
Number Of Plies	1	3	3	3
Over 80% Tension	20	24	30	30
60% to 80% Tension	18	20	24	24
40% to 60% Tension	14	18	20	20
Up to 40% Tension	12	16	18	18
Tails and Snubs	12	16	18	18

COAL QUEST CONVEYOR BELT DATA - Metric

	COAL QUEST 400	COAL QUEST 600	COAL QUEST 800	COAL QUEST 1000
Number Of Plies	1	3	3	3
Fabric Type	P/N	P/N	P/N	P/N
Vulcanized & Fastener Rating (kN/m)	70	105	140	175
Carcass Gauge (mm.)	3.33	7.26	8.08	9.04
Carcass Weight (kg/m ²)	2.25	6.79	8.01	8.84
Approx 1/32" cover wt (kg/m ²)	1.03	1.03	1.03	1.03
Elastic modulus (kN/m)	5255	9722	10598	12613
Avg. Permanent Elongation (%) *	1.2	1	1.4	1.9
Splice Step Length (mm.)	Finger	Finger	Finger	Finger
Recommended Fasteners:	Hinge	R5	R6	R6
	Hinge	U35	U35	U36

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 Goodyear Engineered Products or fastener manufacturer. R6 fasteners must be installed with stainless steel rivets when belt tension exceeds 140kN/m for best results. P/N = Poly / Nylon N/N = Nylon/Nylon

** Average Permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations. Consult Goodyear EP for vulcanized splice method for Coal Quest constructions. (Do not use any bias or overlap design).*

COAL QUEST LOAD SUPPORT (Minimum Belt Width) (mm.)

Material Weight	(0-640 kg/cu.m.)			(641-1,280 kg/cu.m.)		
	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
Coal Quest 400						
Coal Quest 600	1829	1524	1372	1524	1372	1219
Coal Quest 800	2134	1829	1524	1829	1524	1372
Coal Quest 1000	2438	2134	1829	2134	1829	1524

On In-Line systems with troughing idler spacing greater than 1.5m or idler roll gap greater than 12.7mm. Consult Goodyear EP.

COAL QUEST TROUGHABILITY (Minimum Belt Width) (mm.) (Table based on ISO 703 Testing Procedure)

	COAL QUEST 400	COAL QUEST 600	COAL QUEST 800	COAL QUEST 1000
Number Of Plies	1	3	3	3
20 degree idlers	457	762	762	762
35 degree idlers	610	914	914	914
45 degree idlers	610	1067	1067	1067

152mm. narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear EP.

COAL QUEST MINIMUM PULLEY DIAMETERS (mm.)

	COAL QUEST 400	COAL QUEST 600	COAL QUEST 800	COAL QUEST 1000
Number Of Plies	1	3	3	3
Over 80% Tension	508	610	762	762
61% to 80% Tension	457	508	610	610
40% to 60% Tension	356	457	508	508
Up to 40% Tension	305	406	457	457
Tails and Snubs	305	406	457	457

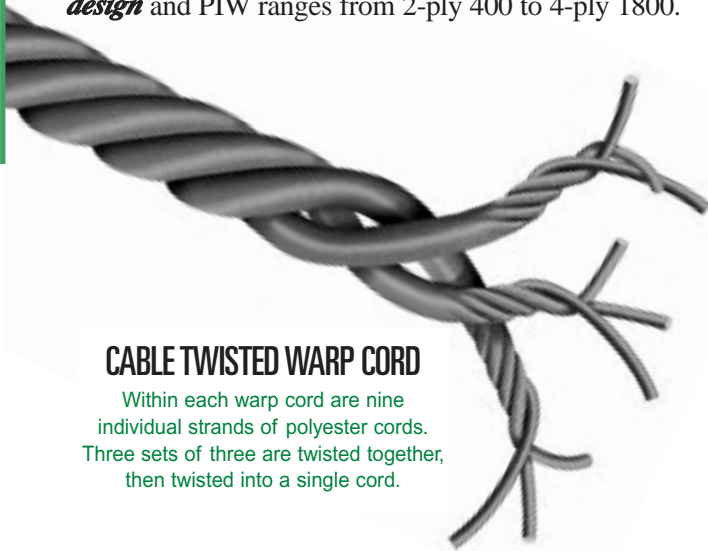
GLIDE[®] PLUS

The belt that's built to take it.

GLIDE PLUS

In applications that include *mainline, slope, panel belt and other applications*, our Glide Plus belt has proven its dependability. The workhorse of our underground line-up, millions of feet of Glide Plus are operating underground worldwide with outstanding success.

The key is our unique *double-faced 2-1 twill fabric design* and PIW ranges from 2-ply 400 to 4-ply 1800.



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 2/1000, 3/1350, 4/1800 construction

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

Glide Plus conveyor belt demonstrates superior resistance to tears, rips and impact. It also provides unsurpassed adhesion values, and patented anti-stringing and fraying properties. In addition, our Glide Plus belt is designed with an average safety factor of 10:1, with an average breaking strength of up to 18,000 lbs./square inch.

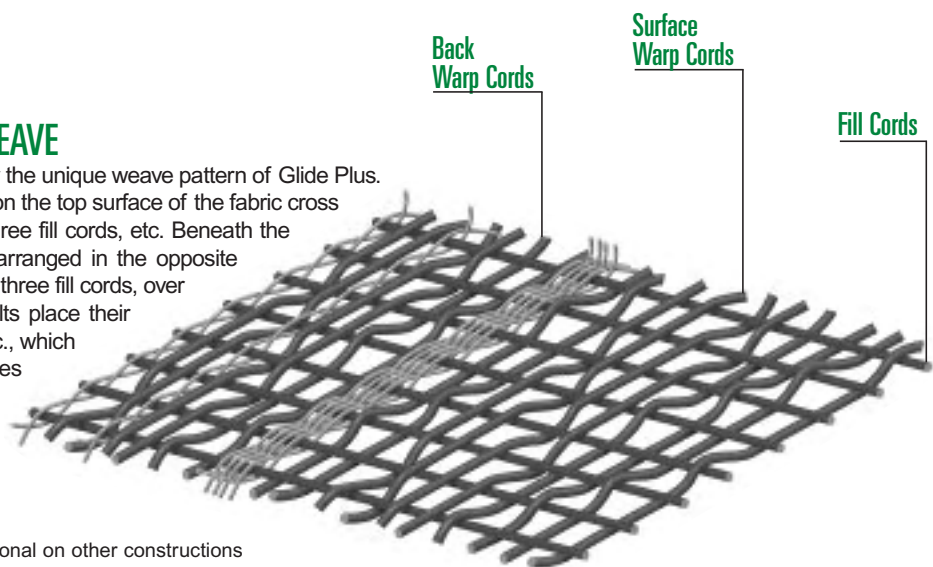
If you want to reduce your downtime and maximize up time, Glide Plus from Goodyear Engineered Products offers superior strength and durability for a lower cost per ton conveyed.

DOUBLE-FACED 3/1 TWILL WEAVE

Superior flexibility is further ensured by the unique weave pattern of Glide Plus. As shown below, the face warp cords on the top surface of the fabric cross three fill cords, go under one, cross three fill cords, etc. Beneath the fabric are back warp cords. They're 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, etc., which compromises flexibility and promotes edge fray.

Warp Cords (Surface / Back)

Fill Cords



* Offered in 2/1000, 3/1350, 4/1800, optional on other constructions

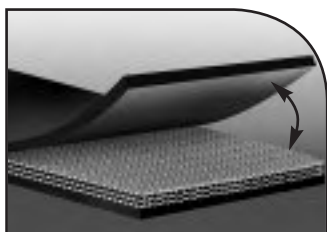
Tension Range

400 PIW to 1800 PIW

Features & Benefits

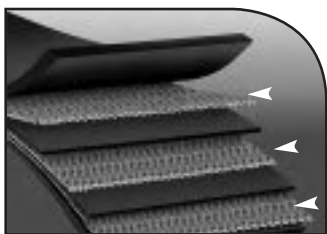
Abrasion Resistance

Underground coal belts are offered with standard ARMA covers that provide outstanding abrasion resistance while meeting MSHA standard 28-3 for fire-resistance. For increased abrasion resistance, optional ARMAII covers provide the same fire resistance rating but with 50% better abrasion resistance. See the compounds section on page 72 for available compounds.



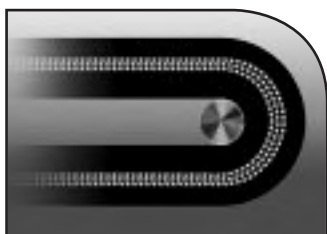
Excellent Adhesion

The adhesion values of Glide Plus belting help reduce edge separation and prolong splice life, thereby preventing premature belt failure. High levels of adhesion help to prevent idler junction failure by providing increased load support over the idler junction gap. And by reducing the risk of delamination, the belt's high adhesion values help extend belt life.



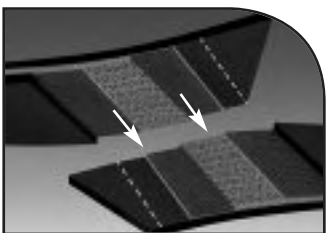
Rip Resistance

Often times, scrap metal and debris become lodged in the conveyor belt structure. When this happens, equipment damage, material spillage and even long cuts in the belt can occur. The double-faced twill weave design found in all Glide Plus belting helps dislodge and expel foreign objects from the system, while keeping belt rips confined to a small area.



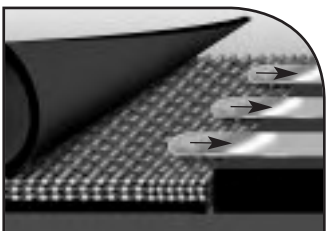
Transverse Tear

Thanks to the double-faced twill weave design of Glide Plus belts, belt tears and material punctures are kept to a minimum. Should they occur, however, the belt's unique twill weave design keeps them contained to help maintain your conveyor system's productivity.



Increased Dynamic Flexibility

Glide Plus belt customers enjoy significant pulley cost savings, since smaller pulleys may be utilized. And smaller pulleys allow you to conserve space in your underground applications without sacrificing belt performance. In addition, the cabled warp cord design of the Glide Plus belt provides extended splice life by offering superior resistance to mechanical and vulcanized splice fatigue.



Vulcanized Splice

Splice longevity and integrity is assured in normal running conditions up to 100% of the belt's rated tension. This means minimized downtime.

Fastener Retention

The unique twill weave design enhances fastener holding ability and helps to expel any foreign objects that may penetrate the belt.

* Offered in 2/1000, 3/1350, 4/1800, optional on other constructions

GLIDE PLUS CONVEYOR BELT DATA - Imperial

	GLIDE 400	GLIDE 500	GLIDE 600	GLIDE 750	GLIDE 800	GLIDE 1000	GLIDE 1000	GLIDE 1250	GLIDE 1350	GLIDE 1800
Number Of Plies	2	2	3	3	4	2	4	5	3	4
Fabric Type	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N
Vulcanized & Fastener Rating (piw)	400	500	600	750	800	1000	1000	1250	1350	1800
Carcass Gauge (in.)	0.169	0.222	0.249	0.292	0.339	0.315	0.396	0.500	0.471	0.637
Carcass Weight (lbs/sq.ft.)	0.96	1.26	1.42	1.62	1.94	1.95	2.21	2.79	2.92	3.95
Approx. 1/32" cover wt (lbs/sq.ft.)	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Elastic modulus (piw)	38,500	36,800	57,750	55,200	77,000	60,000	73,600	92,000	90,000	125,050
Avg. Permanent Elongation (%) *	0.9	1.4	0.9	1.4	0.9	1.5	1.4	1.4	1.5	1.5
Splice Step Length (in.)	16	18	16	18	16	Finger	18	18	Finger	Finger
Recommended Fastener Plate	BR-10	BR-10	BR-10	BR-14	BR-14	NR	NR	NR	NR	NR
Hinge	R5	R5-1/2	R5-1/2	R6	R6	R6	R6	R6	R8	NR
Hinge	U35	U35	U35	U36	U36	U38A	U38A	U38	U38	U38

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 Goodyear Engineered Products or fastener manufacturer. R6 fasteners must be installed with stainless steel rivets when belt tension exceed 800 piw for best results.

P/N = Poly / Nylon N/N = Nylon/Nylon

** Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations. Consult Goodyear EP for vulcanized splice method for 1000/2, 1350/3, and 1800/4 constructions. (Do not use any bias or overlap design). Minimum cover thickness is 1/8" for vulcanized splice.*

GLIDE PLUS LOAD SUPPORT (Minimum Belt Width) (in.)

Material Weight Idlers	0-65 lbs/cu.ft.			65-100 lbs/cu.ft.		
	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
Glide 400/2	48	48	42	42	42	36
Glide 500/2	60	54	48	54	48	42
Glide 600/3	72	60	54	72	60	54
Glide 750/3	72	60	54	66	60	54
Glide 800/4	84	72	72	84	72	60
Glide 1000/2	72	72	60	72	60	54
Glide 1000/4	84	72	72	84	72	60
Glide 1250/5	108	96	96	108	96	84
Glide 1350/3	96	96	84	96	84	72
Glide 1800/4	118	118	108	108	108	96

On In-Line systems with troughing idler spacing greater than 5 ft. or idler roll gap greater than 1/2". Consult Goodyear EP.

GLIDE PLUS TROUGHABILITY (Minimum Belt Width) (in.) (Table based on ISO 703 Testing Procedure)

	Glide 400	Glide 500	Glide 600	Glide 750	Glide 800	Glide 1000	Glide 1000	Glide 1250	Glides 1350	Glide 1800
Number Of Plies	2	2	3	3	4	2	4	5	3	4
20 degree idlers	18	24	24	24	30	24	30	36	30	36
35 degree idlers	24	30	30	30	36	30	36	42	36	42
45 degree idlers	30	36	36	36	42	36	42	48	42	48

6" narrower widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear EP.

GLIDE PLUS TROUGHABILITY (Minimum Pulley Diameters) (in.)

	Glide 400	Glide 500	Glide 600	Glide 750	Glide 800	Glide 1000	Glide 1000	Glide 1250	Glides 1350	Glide 1800
Number Of Plies	2	2	3	3	4	2	4	5	3	4
Over 80% Tension	22	22	24	24	30	36	36	42	42	48
61% to 80% Tension	18	18	20	20	24	30	30	36	36	42
40% to 60% Tension	16	16	18	20	20	24	24	30	36	42
Up to 40% Tension	14	14	16	18	18	20	20	24	30	36
Tails and Snubs	14	14	16	18	18	20	20	24	30	36

GLIDE PLUS CONVEYOR BELT DATA - Metric

	Glide 400	Glide 500	Glide 600	Glide 750	Glide 800	Glide 1000	Glide 1000	Glide 1250	Glide 1350	Glide 1800
Number Of Plies	2	2	3	3	4	2	4	5	3	4
Fabric Type	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N	P/N
Vulcanized & Fastener Rating (kN/m)	70	87	105	131	140	175	175	210	236	315
Carcass Gauge (mm.)	4.29	5.64	6.32	7.42	8.61	8.00	10.06	12.70	11.96	16.18
Carcass Weight (kg/m ²)	4.69	6.15	6.93	7.91	9.47	9.69	10.79	13.62	14.26	19.29
Approx. 1/32" cover wt (kg/m ²)	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Elastic modulus (kN/m)	6,744	6,446	10,116	9,670	13,489	10,510	12,893	16,116	15,766	21,906
Avg. Permanent Elongation (%) *	0.9	1.4	0.9	1.4	0.9	1.5	1.4	1.4	1.5	1.5
Splice Step Length (mm.)	406	457	406	457	406	Finger	457	457	Finger	Finger
Recommended Fastener Plate	BR-10	BR-10	BR-10	BR-14	BR-14	NR	NR	NR	NR	NR
Hinge	R5	R5-1/2	R5-1/2	R6	R6	R6	R6	R6	R8	NR
Hinge	U35	U35	U35	U36	U36	U38A	U38A	U38	U38	U38B

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 Goodyear Engineered Products or fastener manufacturer. R6 fasteners must be installed with stainless steel rivets when belt tension exceeds 140kN/m for best results.

P/N = Poly / Nylon N/N = Nylon/Nylon

** Average permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations. Consult Goodyear EP for vulcanized splice method for 1000/2, 1350/3, and 1800/4 constructions. (Do not use any bias or overlap design). Minimum cover thickness is 3.175mm. for vulcanized splice.*

GLIDE PLUS LOAD SUPPORT (Maximum Belt Width) (mm.)

Material Weight	0-640 kg/cu.m.			641-1,280 kg/cu.m.		
	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
Idlers						
Glide 400/2	1219	1219	1067	1067	1067	914
Glide 500/2	1524	1372	1219	1372	1219	1067
Glide 600/3	1829	1524	1372	1829	1524	1372
Glide 750/3	1829	1524	1372	1676	1524	1372
Glide 800/4	2134	1829	1829	2134	1829	1524
Glide 1000/2	1829	1829	1524	1829	1524	1372
Glide 1000/4	2134	1829	1829	2134	1829	1524
Glide 1250/5	2743	2438	2438	2743	2438	2134
Glide 1350/3	2438	2438	2134	2438	2134	1829
Glide 1800/4	2997	2997	2743	2743	2743	2438

On In-Line systems with troughing idler spacing greater than 1.5m or idler roll gap greater than 12.7mm. Consult Goodyear EP.

GLIDE PLUS TROUGHABILITY (Minimum Belt Width) (mm.) (Table based on ISO 703 Testing Procedure)

	Glide 400	Glide 500	Glide 600	Glide 750	Glide 800	Glide 1000	Glide 1000	Glide 1250	Glides 1350	Glide 1800
Number Of Plies	2	2	3	3	4	2	4	5	3	4
20 degree idlers	457	610	6010	610	762	610	762	914	762	914
35 degree idlers	610	762	762	762	914	762	914	1067	914	1067
45 degree idlers	762	914	914	914	1067	914	1067	1219	1067	1219

On In-Line systems with troughing idler spacing greater than 1.5m or idler roll gap greater than 12.7mm. Consult Goodyear EP.

GLIDE PLUS TROUGHABILITY (Minimum pulley diameters) (mm.)

	Glide 400	Glide 500	Glide 600	Glide 750	Glide 800	Glide 1000	Glide 1000	Glide 1250	Glides 1350	Glide 1800
Number Of Plies	2	2	3	3	4	2	4	5	3	4
Over 80% Tension	559	559	610	610	762	914	914	1067	1067	1219
61% to 80% Tension	457	457	508	508	610	762	762	914	914	1067
40% to 60% Tension	406	406	457	508	508	610	610	762	914	1067
Up to 40% Tension	356	356	406	457	457	508	508	610	762	914
Tails and Snubs	356	356	406	457	457	508	508	610	762	914

CONTENDER®

The lightweight choice for heavyweight value.

CONTENDER

Goodyear Engineered Products' Contender belt is a specially designed construction that's built to handle rugged underground mining conditions. It's lightweight and flexible for superior performance in thin seam, *one- or two-section mines*. Contender belting is also designed for outstanding fastener retention and impact resistance to help decrease downtime.

Contender belting is composed of a durable all-nylon carcass, woven with a crimped weave for excellent abuse resistance. The fabric is treated with Goodyear EP's exclusive dipping process to help provide optimum strength, minimum elongation, and dependable adhesions.

Highly abrasion-resistant covers are another reason why Contender belting goes the distance. The covers also provide a high coefficient of friction to protect against idler wear while assuring positive idler contact. Contender belting meets or exceeds MSHA's Test Code 30, Code of Regulations 18.65 for flame resistance.

Tension Range

220, 330, and 400 PIW

CONTENDER CONVEYOR BELT DATA - Imperial

	CONTENDER 400
Number Of Plies	2
Fabric Type	N/N
Vulcanized & Fastener Rating (piw)	400
Carcass Gauge (in.)	0.157
Carcass Weight (lbs/sq.ft.)	0.81
Approx. 1/32" cover wt (lbs/sq.ft.)	0.21
Elastic modulus (piw)	20,200
Avg. Permanent Elongation (%) *	2.00
Splice Step Length (in.)	14
Hinge	R5
Hinge	U35

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 N/N = Nylon/Nylon

** Average Permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult Goodyear Engineered Products' field sales or GAD for elastic & total elongation calculations.*

CONTENDER CONVEYOR BELT DATA - Metric

	CONTENDER 400
Number Of Plies	2
Fabric Type	N/N
Vulcanized & Fastener Rating (kN/m)	70
Carcass Gauge (mm.)	3.99
Carcass Weight (kg/m2)	3.95
Approx. 1/32" cover wt (kg/m2)	1.03
Elastic modulus (kN/m)	3,538
Avg. Permanent Elongation (%) *	2.00
Splice Step Length (mm.)	356
Hinge	R5
Hinge	U35

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 N/N = Nylon/Nylon

** Average Permanent elongation values at 100% of rated belt tension are based on ISO 9856 test procedure. Consult Goodyear EP's field sales or GAD for elastic & total elongation calculations.*

CONTENDER LOAD SUPPORT (Minimum Belt Width) (in.)

Material Weight	0-65 lbs/cu.ft.			65-100 lbs/cu.ft.		
	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
Contender 400	48	48	42	42	42	36

On In-Line systems with troughing idler spacing greater than 5 ft. or idler roll gap greater than 1/2". Consult Goodyear EP.

CONTENDER LOAD SUPPORT (Minimum Belt Width) (mm.)

Material Weight	(0-640 kg/cu.m.)			(641-1,280 kg/cu.m.)		
	20 deg	35 deg	45 deg	20 deg	35 deg	45 deg
Contender 400	1219	1219	1067	1067	1067	914

On In-Line systems with troughing idler spacing greater than 1.5m or idler roll gap greater than 12.7mm. Consult Goodyear EP.

CONTENDER TROUGHABILITY (Minimum Belt Width) (in.) (Table based on ISO 703 Testing Procedure)

	CONTENDER 400
20 degree idlers	18
35 degree idlers	24
45 degree idlers	30

If top cover and pulley cover are balanced (ie. 3/16" x 3/16") or less than 1/16" differential (ie. 3/16" x 5/32"), add 6" to the minimum belt width.

6" narrow widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear EP.

CONTENDER TROUGHABILITY (Minimum Belt Width) (mm.) (Table based on ISO 703 Testing Procedure)

	CONTENDER 400
20 degree idlers	457
35 degree idlers	610
45 degree idlers	762

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

152mm. narrow widths are possible if the belt is broken in for an extended period of time fully loaded. Consult Goodyear EP.

CONTENDER Minimum Pulley Diameters (in.)

	CONTENDER 400
Over 80% Tension	22
61% to 80% Tension	18
40% to 60% Tension	16
Up to 40% Tension	14
Tails and Snubs	14

CONTENDER Minimum Pulley Diameters (mm.)

	CONTENDER 400
Over 80% Tension	559
61% to 80% Tension	457
40% to 60% Tension	406
Up to 40% Tension	356
Tails and Snubs	356



FLEXSTEEL



FLEXSTEEL CONVEYOR BELT



BELT CONSTRUCTION

BELT CONSTRUCTION

Flexsteel belts from Goodyear Engineered Products are custom designed to meet the specific needs of the given application, providing superior protection against the abuse of conveying virtually any material. The 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



B E L T C O N S T R U C T I O N

Top Cover

- Protects steel cords
- Various compounds available

Insulation Gum

- Penetrates and adheres to steel cords
- Provides superior corrosion resistance
- Provides improved splice efficiency

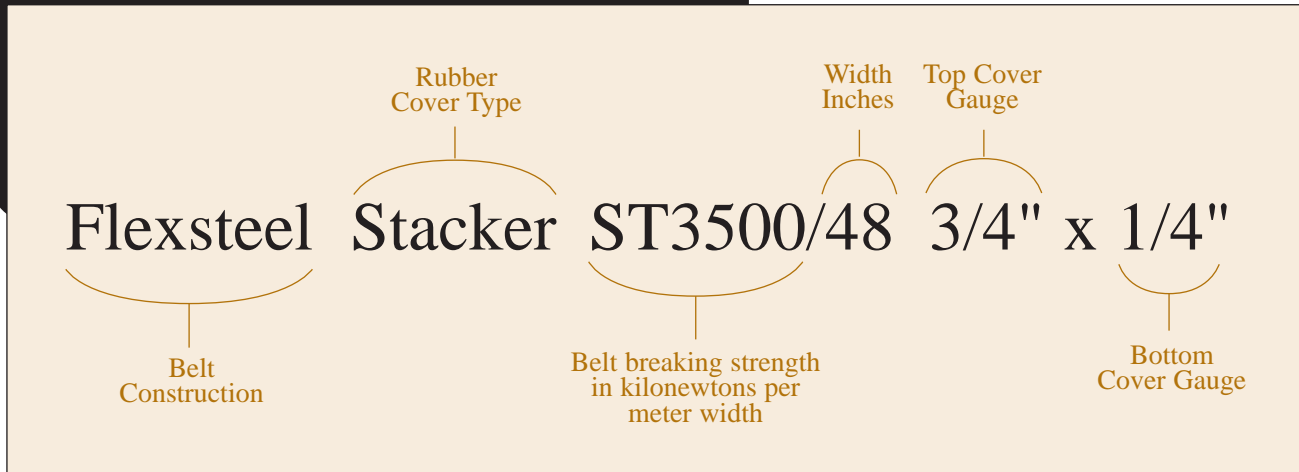
Steel Cord

- Provides superior bonding to covers and insulation gum
- Allows high flexibility and low elongation
- Galvanized to provide barrier against corrosion

Bottom Cover

- Protects steel cords
- Various compounds available
- Helps determine power consumption

BELT CONSTRUCTION NOMENCLATURE EXAMPLE:



FLEXSTEEL®

FLEXSTEEL

DESCRIPTION:

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 five production plants on four 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 application

Cover Compounds

- 6740A
- ARMA® II
- ARMA® SBR
- Easyrider™
- FRAS-C
- Omega®
- Stacker®
- Survivor
- Other compounds available on request

Tension Range

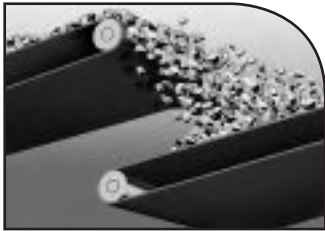
ST500 to over ST8000

Features & Benefits



High Tension Capabilities

Flexsteel belts handle the most demanding applications. Goodyear Engineered Products continues to lead the industry in designing the strongest belts to meet the growing demand for long overland systems.



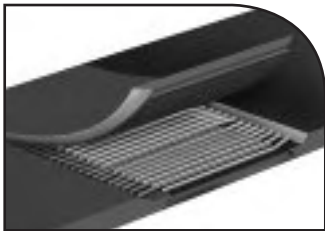
Fewer Transfer Points

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.



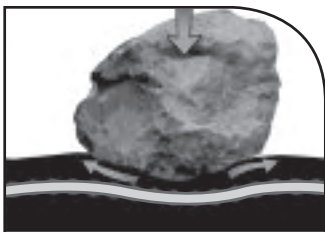
Limited Take-up Travel

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 Goodyear EP's 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's a long time.



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.

Features & Benefits



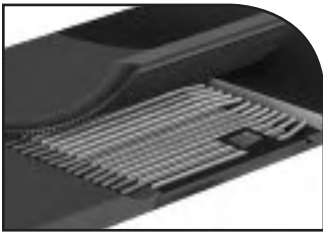
Exceptional Belt Training

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 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. It all adds up to the a lower cost-per-ton of material conveyed, which can make a major improvement in your bottom line.



Sensor Guard with RFID Technology

Perhaps the most important feature of a Flexsteel belt is that it is available with Sensor Guard. The most widely known and most field-proven rip detection system in the world, Sensor Guard has saved companies millions of dollars in potential production losses, downtime, and spare belting.

Sensor Guard is now available with RFID technology to quickly identify the location of rips. See page 82 for details.

Packaging The Way You Want It

Packaging options include keeper bars, round steel reels, oblong reels, and cassette 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.



Keeper Bar



Round Reel



Oblong Reel

SUPERIOR STRENGTH, DURABILITY, EASE OF INSTALLATION

Goodyear Engineered Products' 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 oilsand systems operation 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 .25% at rated tension, allowing for acceptable take-up travel design on long overlands, as well as short Stacker/Reclaimer systems.

Goodyear EP has the capability to manufacture Flexsteel belts in long lengths up to 168" (4.2m) roll diameters, or 50 short ton (45.4 M.T.) rolls at some production locations. This allows for the minimum number of slices 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 Goodyear EP innovation, Preform Splice kits. Like the name implies, 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.

FLEXSTEEL

FLEXSTEEL: A TECHNICALLY SUPERIOR PRODUCT

Generations of Goodyear EP engineers have been involved for over 50 years in the design and application of steel reinforced conveyor belting. This cumulative experience translates into state-of-the-art technology, assuring superior product design, and maximum performance for our customers.

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

ZINC GALVANIZED STEEL CORD:

Goodyear EP designs and selects its 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 to 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 Goodyear EP to develop a superior insulation gum bonding rubber, which penetrates and adheres to the steel cords, resulting in excellent adhesions, corrosion resistance and splice efficiencies.

OUTER RUBBER COVERS:

The advanced compounds in Goodyear EP'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 oilsands in Canada, which require a compound that withstands both low temperatures and oil.

Easyrider™

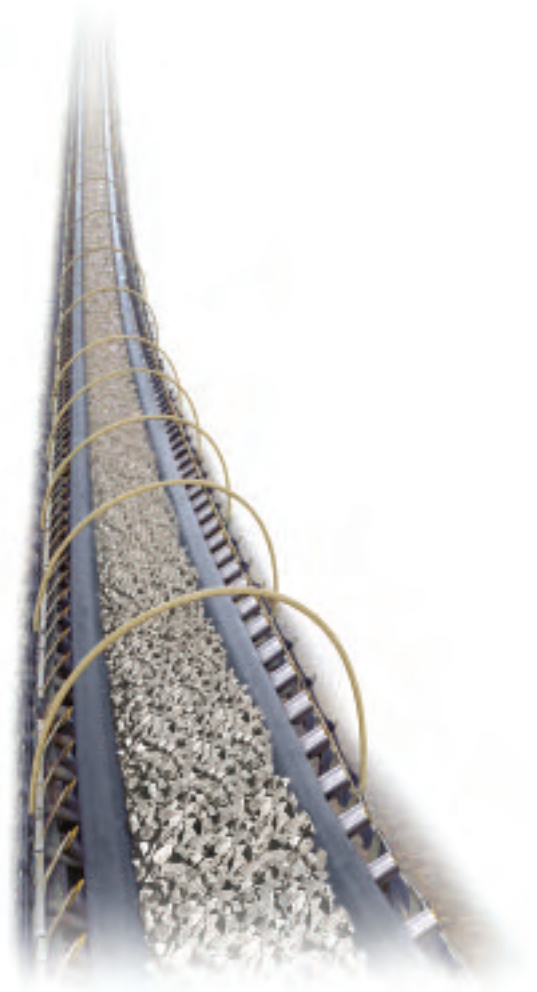
There has been significant technical progress in the transport of bulk materials in the last several years. The next step to improved conveyor efficiency is the reduction of power required to operate these high performance systems. Just as some tires provide lower rolling resistance, depending upon their 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, like Goodyear Engineered Products' Easyrider, will help reduce total system power. Based on field measurement tests, Easyrider pulley covers will reduce the power consumption by up to 12%. This savings is on-going basis, year after year, resulting in an overall reduction to operating costs.

As an example, if your energy costs are \$1 million per year, a 12% savings available with Easyrider represents a savings of \$120,000 compared to other compounds! Over ten years, this can add up to savings of \$1.2 million or more depending on your operation.

Goodyear EP has worked with Conveyor Dynamics, Inc., (CDI) to fully develop Easyrider.



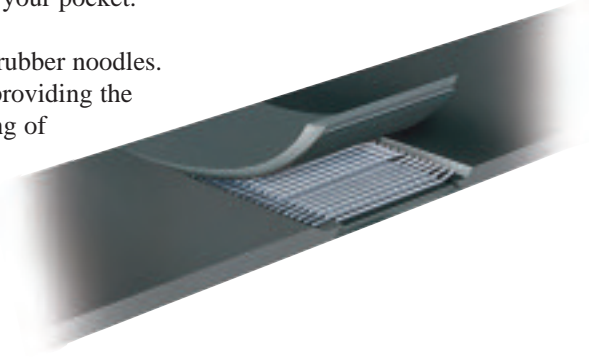
With Easyrider, there's reduced indentation energy loss.

Preform™

New 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. Goodyear Engineered Products' 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.



FLEXSTEEL

Preform Panel

The above cross-sectional view illustrates the Preform concept, and is not representative of an actual splice. This illustration shows how the top and bottom multi-groove panels encase each cord, eliminating the need for noodles and ensuring cord alignment. [In an actual splice, cords would lead in from both belt ends, and the cord ends would not be wrapped as shown.]

Preform™ Splice Method

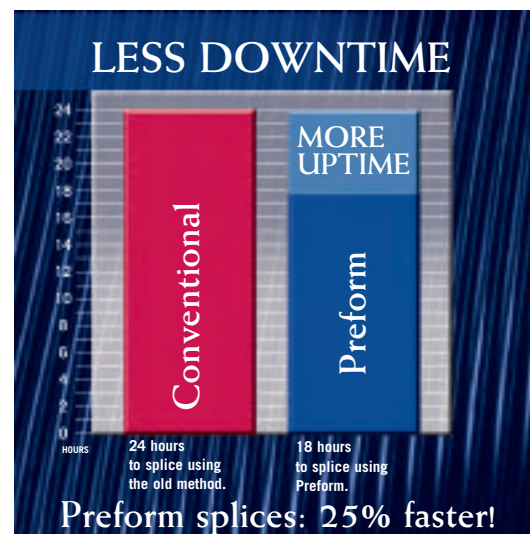
Preform™ splices utilize preformed, multi-grooved top and bottom cover panels, eliminating the need for cements and noodles. Cement drying times are eliminated, reducing the possibility of splice contamination from dust infiltration. Cord laying time is significantly reduced, and the correct cord spacing 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 the Goodyear EP's 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

Goodyear EP's Preform splices have been made successfully in many countries around the world. Savings of 16% to 25% were based on actual filed measurements, comparing one splice technique versus the other, on the same belt, at the same time. Reduced splicing time, means more up time and increasing productivity.



FLEXSTEEL STANDARD SPECIFICATIONS - Imperial

Belt Tension Rating	Minimum Ultimate Tension	Operating Tension	Cable Diameter (nominal)	Cable Pitch (approximate)	Belt Modulus
	PIW	PIW	inches	inches	PIW
ST800	4568	685	0.142	0.688	329000
ST1000	5710	856	0.142	0.547	411000
ST1250	7138	1070	0.205	0.855	514000
ST1600	9136	1370	0.205	0.666	657000
ST2000	11420	1712	0.205	0.533	822000
ST2500	14275	2140	0.205	0.450	1030000
ST3150	17987	2697	0.315	0.768	1290000
ST3500	19985	2996	0.315	0.690	1440000
ST4000	22840	3424	0.362	0.792	1640000
ST4500	25695	3852	0.394	0.805	1850000
ST5000	28550	4280	0.433	1.098	2050000
ST5400	30835	4623	0.433	1.023	2220000

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" wide belts.

FLEXSTEEL BELT THICKNESS - Imperial

Belt Tension Rating	PIW	600-1000	1001-2250	2251-3200	3201-3700	3701-4200	4201-4623
Cable Diameter	Inches	0.142	0.205	0.315	0.362	0.394	0.433

APPROXIMATE BELT THICKNESS = CABLE DIAMETER + COVER GAUGES

FLEXSTEEL BELT WEIGHT - Imperial

Belt Tension Rating	PIW	685	856	1070	1370	1712	2140	2697	2996	3424	3852	4280	4623
Carcass Weight	(lb/ft ²)	1.5	1.6	2.2	2.4	2.7	3	4.2	4.4	5	5.5	6.4	6.7

Cover Compound	Stacker	Premarc	Style B	Style B - LT	Style B - Hot	ARMA/SBA	MSHA - LT	LTORS
Cover Weight per 1/32" (lb/ft ²)	0.18	0.19	0.19	0.19	0.19	0.2	0.2	0.19

APPROXIMATE BELT WEIGHT = CARCASS WEIGHT + COVER WEIGHT Minimum pulley cover requirements 5/32". Minimum pulley cover requirements for belts with Sensor Guard® 3/16". LT designates Low Temperature compound.

FLEXSTEEL STANDARD SPECIFICATIONS - Imperial

Belt Tension Rating	Minimum Recommended Pulley Diameters (Percent of Rated Tension)				
	PIW	75-100%	50-75%	<50%	Snubs
600-1000		30"	24"	18"	16"
1001-2250		42"	36"	24"	20"
2251-3200		54"	42"	36"	30"
3201-3700		60"	48"	42"	36"
3701-4200		66"	54"	48"	42"
4201-4623		72"	60"	54"	48"

Snubs are defined as having 6" 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. Contact Goodyear Engineered Products for belt tension ratings higher than 4623 PIW.

RECOMMENDED TRANSITION DISTANCES Minimum Transition Distance

Idler	Percent of Rated			TensionSteel Transition Length W=Belt Width		
	More than 90	60 to 90	Less than 60	2.0W	1.6W	1.0W
20	More than 90	60 to 90	Less than 60	2.0W	1.6W	1.0W
35	More than 90	60 to 90	Less than 60	3.4W	2.6W	1.8W
45	More than 90	60 to 90	Less than 60	4.0W	3.2W	2.2W

FLEXSTEEL STANDARD SPECIFICATIONS - Metric

Belt Tension Rating	Minimum Ultimate Tension	Operating Tension	Cable Diameter (nominal)	Cable Pitch (approximate)	Belt Modulus
	kN/m	kN/m	mm.	mm.	kN/m
ST800	800	120	3.6	17.5	58000
ST1000	1000	150	3.6	13.9	72000
ST1250	1250	187	5.2	21.7	90000
ST1600	1600	240	5.2	16.9	115000
ST2000	2000	300	5.2	13.5	144000
ST2500	2500	375	5.2	11.4	180000
ST3150	3150	472	8	19.5	227000
ST3500	3500	525	8	17.5	252000
ST4000	4000	600	9.2	20.1	288000
ST4500	4500	675	10	20.4	324000
ST5000	5000	750	11	27.9	360000
ST5400	5400	810	11	26	389000

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 1220mm. wide belts.

FLEXSTEEL BELT THICKNESS - Metric

Belt Tension Rating	kN/m	ST701-ST1168	ST1169	ST2629-ST3738	ST3739-ST4322	ST3739-ST4906	ST4907-ST5400
Cable Diameter	mm..	3.6	5.2	8	9.2	10	11

APPROXIMATE BELT THICKNESS = CABLE DIAMETER + COVER GAUGES

FLEXSTEEL BELT WEIGHT - Metric

Belt Tension Rating	kN/m	ST800	ST1000	ST1250	ST1600	ST2000	ST2500	ST3150	ST3500	ST4000	ST4500	ST5000	ST5400
Carcass Weight	(kg/m ²)	7.3	7.8	10.7	11.7	13.2	14.6	20.5	21.5	24.4	26.9	31.2	32.7

Cover Compound	Stacker	Premarc	Style B	Style B - LT	Style B - Hot	ARMA/SBR	MSHA - LT	LTORS
Cover Weight per 1 mm. (kg/m ²)	1.13	1.17	1.17	1.17	1.17	1.25	1.25	1.17

APPROXIMATE BELT WEIGHT = CARCASS WEIGHT + COVER WEIGHT Minimum pulley cover requirements 4mm. Minimum pulley cover requirements for belts with Sensor Guard® 5mm. LT designates Low Temperature compound.

FLEXSTEEL STANDARD SPECIFICATIONS - Metric

Belt Tension Rating	Minimum Recommended Pulley Diameters (Percent of Rated Tension)			
	75-100%	50-75%	<50%	Snubs
kN/m				
ST701-ST1168	762 mm	610 mm	457 mm	406 mm
ST1169-ST2628	1067 mm	914 mm	610 mm	508 mm
ST2629-ST3738	1372 mm	1067 mm	914 mm	762 mm
ST3739-ST4322	1542 mm	1219 mm	1067 mm	914 mm
ST4323-ST4906	1676 mm	1372 mm	1219 mm	1067 mm
ST4907-ST5400	1829 mm	1524 mm	1372 mm	1219 mm

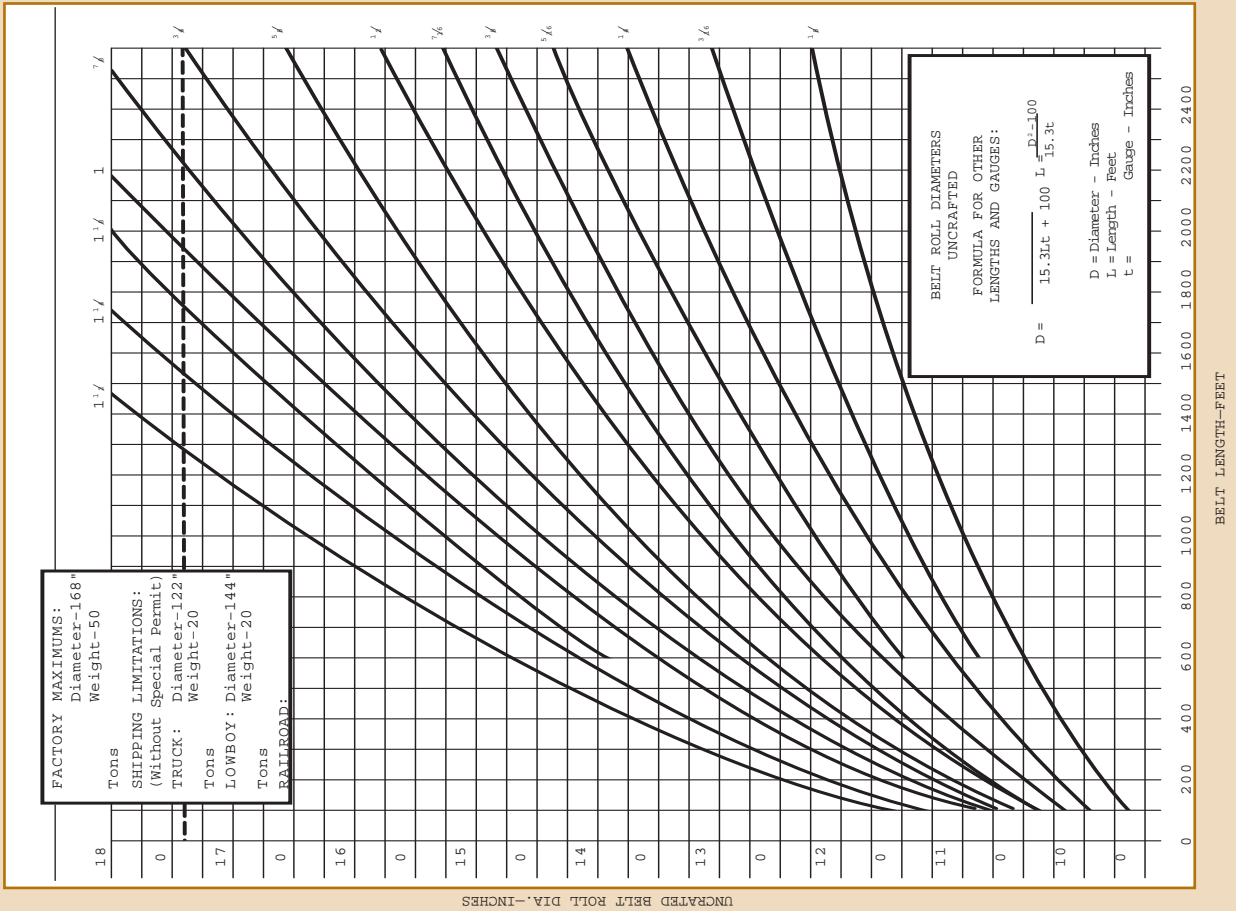
Snubs are defined as having 6" or less belt contact and tension less than 50% of belt rating. Pulley sizes for Flexsteel belts are determined by face pressure on the pulley and/or the pulley-to-cable diameter ratio. All pulleys must be flat as crowned pulleys will cause excessive center tension in the high modulus steel cable product. Contact Goodyear Engineered Products for belt tension ratings higher than ST5400 kN/m)

RECOMMENDED TRANSITION DISTANCES Minimum Transition Distance

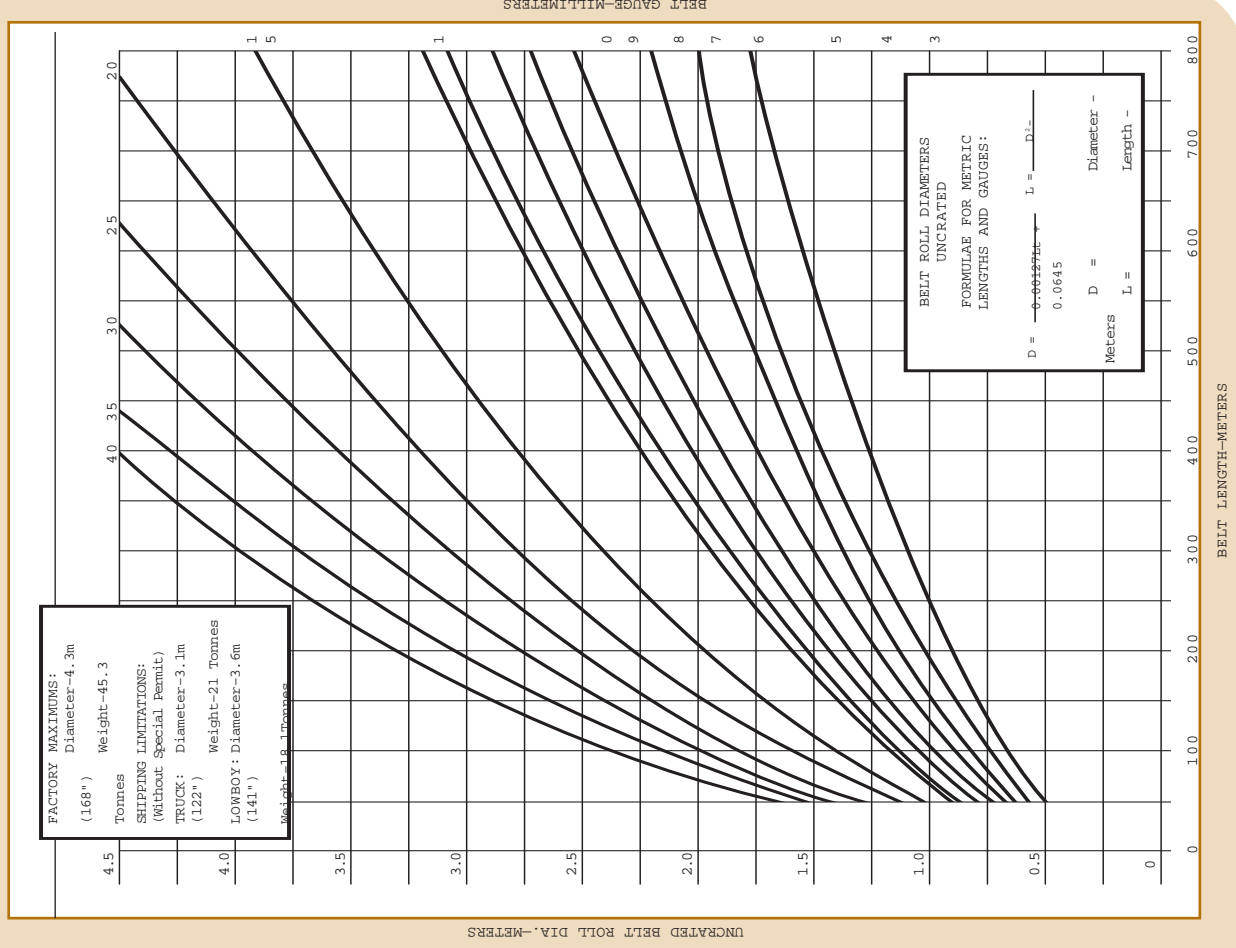
Idler	Percent of Rated			TensionSteel Transition Length W=Belt Width		
20	More than 90	60 to 90	Less than 60	4.0W	3.2W	2.8W
35	More than 90	60 to 90	Less than 60	6.8W	5.2W	3.6W
45	More than 90	60 to 90	Less than 60	8.0W	6.4W	4.4W

FLEXSTEEL® BELT ROLL DIAMETERS

IMPERIAL BELT ROLL DIAMETERS



METRIC BELT ROLL DIAMETERS



FLEXSTEEL UNDERGROUND

ABOVEGROUND

ABOVEGROUND FLEXSTEEL

UNDERGROUND

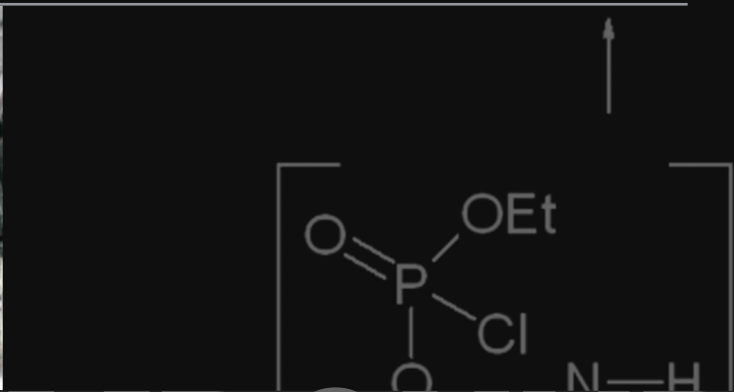
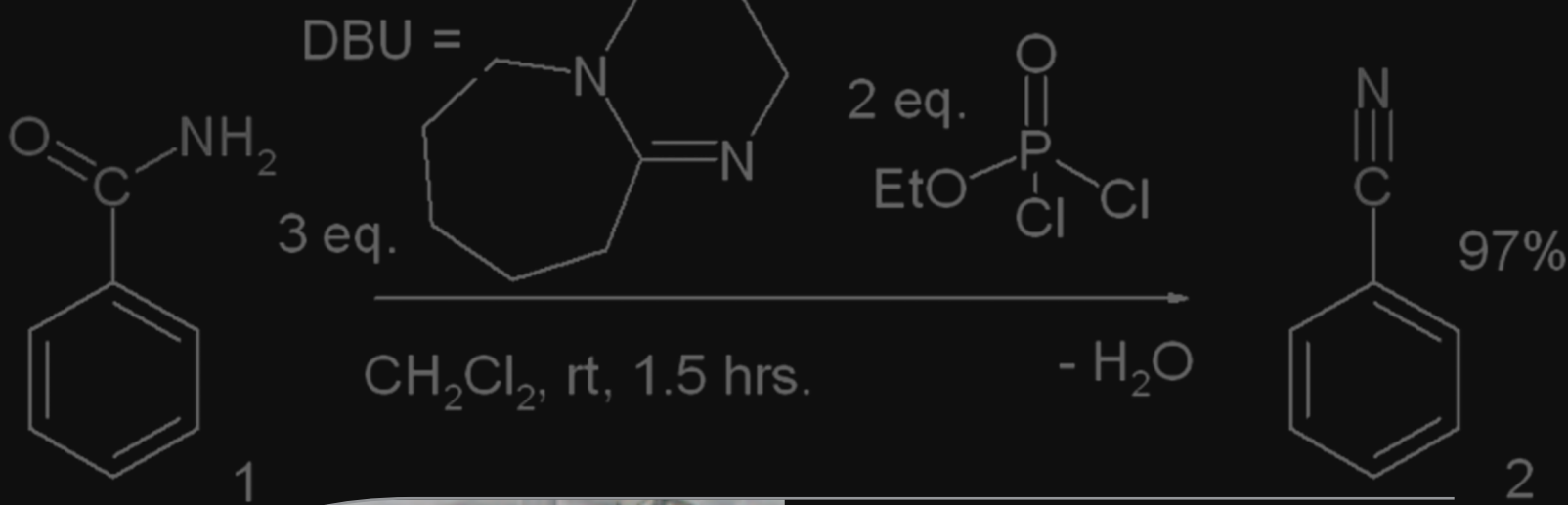
COVER COMPOUNDS

FLEXSTEEL

FLEXSTEEL UNDERGROUND

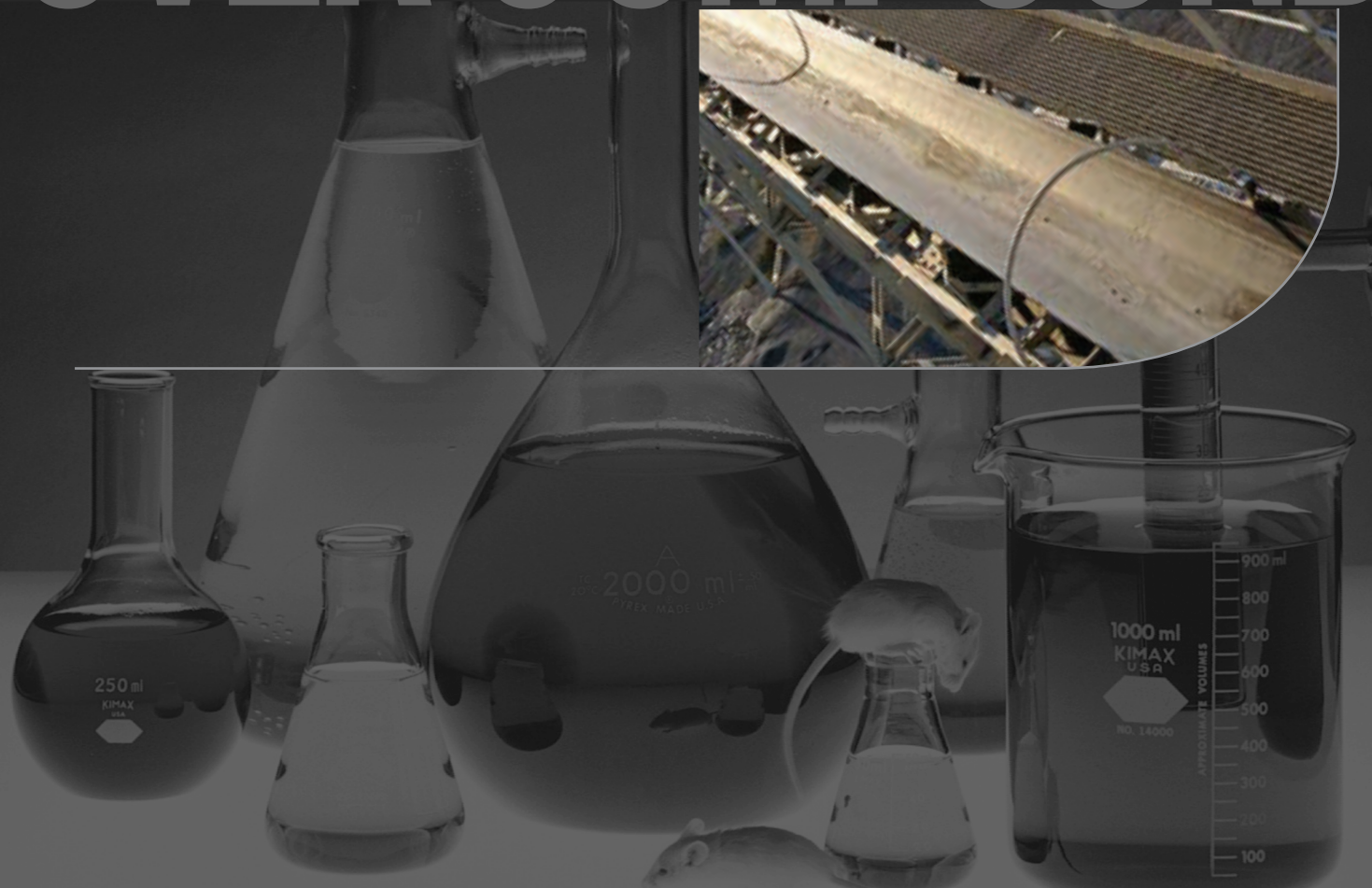
ABOVEGROUND

ABOVEGROUND FLEXSTEEL



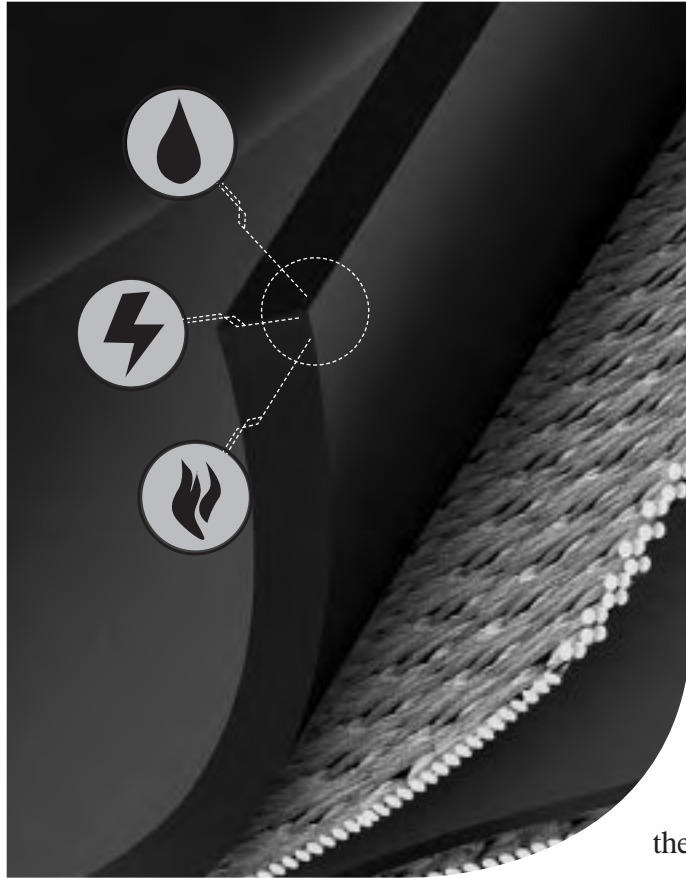
COVER COMPOUNDS

ABOVEGROUND UNDERGROUND FLEXSTEEL®



COVER COMPOUNDS

COVER COMPOUNDS



Protecting your investment with cover compounds from Goodyear Engineered Products.

Goodyear Engineered Products' 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.

Goodyear EP's 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. Goodyear EP owns 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.

C O V E R C O M P O U N D S

Aboveground • Underground • Flexsteel

COVER COMPOUNDS

COMPOUNDS	M A R K E T S													
	Coal Mining	Coal - Prep Plants	Aggregate	Cement	Wood - Pulp & Paper	Steel or Foundry	Package Handling	Hard Rock Handling	Grain Handling	Bulk Handling	Power Generation	Baggage Handling Terminal	Sand and Gravel	Overland Transportation
ALUMINA - HOT					•									
ARMA II	•	•								•				
ARMA	•	•								•				
ARMA - SBR		•								•				•
DEFENDER™		•	•	•	•	•	•		•		•	•	•	
EASYRIDER™														•
FRAS-C		•			•				•	•				•
GRADE II			•								•	•		
HT NITRILE				•										
MORS					•									
OMEGA®	•	•			•				•	•				•
PATHFINDER® SUPREME								•						
SOLAR-SHIELD®				•	•									
STACKER®			•	•	•		•		•					•
SURVIVOR®			•	•	•		•		•			•		•
6740-A				•	•									•

ALUMINA-HOT: Specifically designed compound intended for usage at alumina facilities where the alumina product is at or above 160°F.

ARMA (Abrasion Resistant, Mining Application): Designed for underground applications and meets Mine Safety and Health Administration designation 28-3 for flame resistance while maintaining good abrasion characteristics.

ARMA-SBR: Designed especially for above-ground prep plant and power plant applications. ARMA-SBR offers 33% more abrasion resistance than MSHA-SBR while maintaining Mine Safety and Health Administration Designation (MSHA) 28-3 for flame resistance.

ARMA II: Designed especially for mining applications that require fire resistance. Offers 40% more abrasion resistance than ARMA-SBR while maintaining Mine Safety and Health Administration designation 28-3 for flame resistance.

DEFENDER™: An RMA Grade II rubber compound designed to provide excellent abrasion resistance, good gouge resistance and excellent flexing life.

EASYRIDER™: A low rolling resistance compound for the pulley side only which is designed to reduce the energy cost by minimizing friction losses. Proven with over 200 miles of belt in operation, energy consumption is reduced by as much as 20% compared to standard compounds.

FRAS-C: Fire retardant anti-static belting is certified by the Canadian Department of Energy, Mines and Resources, Ottawa to CAN/CSA M422-M87, Type C, for below surface use as well as other mining operations.

GLOBAL X: RMA Grade I. Offers superior cut, gouge resistance and very good abrasion resistance.

GRADE II: An RMA Grade II rubber compound designed to provide good abrasion resistance, good gouge resistance and excellent flexing life.

HT NITRILE: An oil-resistant compound formulated for applications demanding higher resistance to heat, oil and abrasion. It is resistant to temperatures up to 300°F, abrasion flexing, oxidation and the effect of corrosive atmospheres.

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

OMEGA®: Moderate resistance to oil and static conductive. O.M.E.G.A. qualifies as fire resistant under Mining Safety and Health Administration Designation (MSHA) 28-3.

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.

PATHFINDER® PLUS: 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.

SOLAR-SHIELD®: A premium hot material compound with excellent heat resistance. It is designed to carry hot loads at temperatures up to 400°F and still retain its excellent heat resistant qualities. Solar-Shield has maximum resistance against hardening and cracking. Available in two fabric reinforcements: polyester for up to 400°F and fiberglass to resist burn through for up to 1000°F.

STACKER®: Premium RMA Grade I Rubber Compound, designed for superior resistance to cutting, gouging, and abrasion.

SURVIVOR®: Superior abrasion resistance. Ideal for crushed stone, trap rock, ore, copper, taconite and other abrasive applications.

6740-A: Compounded for excellent heat and abrasion resistance in temperature ranges of 350°F for lumpy material and up to 250°F for hot baking loads.

ABRASION COMPOUNDS

COMPOUND	International Standards	Abrasion Resistance	Low Temperature	High Temperature (Lumpy Material)	Cut & Gouge Resistance	Oil Resistance	Flame Resistance
Survivor®	RMA Grade I, DIN Z, AS Grade A, N & E	Superior	-55°F	150°F	Very Good	No	No
Stacker®	RMA Grade I, DIN W & Z, AS Grade N & E	Excellent	-55°F	150°F	Excellent	No	No
Defender™	RMA Grade II, AS Grade E	Excellent	-40°F	212°F	Very Good	No	No

ABRASION & FLAME RESISTANCE

ARMA®-SBR	RMA Grade II, AS Grade E	Very Good	-30°F	212°F	Good	No	MSHA 2G18.65
FRAS-C	RMA Grade II, AS Grade E, CSA-C	Good	-40°F	160°F	Fair	No	MSHA 2G18.65, CSA-C

ABRASION & OIL RESISTANCE

HT Nitrile		Very Good	-10°F	300°F	Fair	Superior	No
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CUT & GOUGE COMPOUNDS

COMPOUND	International Standards	Cut & Gouge Resistance	Abrasion Resistance	Low Temperature	High Temperature (Lumpy Material)	Oil Resistance	Flame Resistance
Global X®	RMA Grade I, DIN X, Y & Z, AS Grade M, N & E	Superior	Very Good	-55°F	150°F	No	No
Stacker®	RMA Grade I, DIN W & Z, AS Grade N & E	Excellent	Excellent	-55°F	150°F	No	No
Premarc®	RMA Grade II, AS Grade E	Very Good	Excellent	-55°F	150°F	No	No
Defender™	RMA Grade II, AS Grade E	Very Good	Excellent	-40°F	212°F	No	No

HEAT COMPOUNDS

COMPOUND	International Standard	High Temperature (Lumpy Material)	Low Temperature	Abrasion Resistance	Cut & Gouge Resistance	Oil Resistance	Flame Resistance	ISO 284 Static Conductive	ASTM D2240A Shore A Hardness
Solar-Shield®	---	400°F	-40°F	Very Good	Fair	No	No	Yes	65-75
Alumina-HOT	---	400°F	-40°F	Very Good	Fair	No	No	Yes	65-75
Style 6740A	RMA Grade II, AS Grade E	350°F	-40°F	Very Good	Very Good	No	No	Yes	52-62
Defender™	RMA Grade II, AS Grade E	212°F	-30°F	Excellent	Very Good	No	No	Yes	55-65

OIL COMPOUNDS

COMPOUND	International Standards	Oil Resistance	Low Temperature	High Temperature (Lumpy Material)	Abrasion Resistance	Cut & Gouge Resistance	Flame Resistance	ISO 284 Static Conductive	ASTM D2240A Shore A Hardness
Pathfinder® Supreme	---	Very Good	-30°F	150°F	Fair	Fair	MSHA 2G18.65	Yes	59-69
Pathfinder Plus	---	Very Good	-40°F	150°F	Fair	Fair	MSHA 2G18.65	Yes	59-69
MORS - Wood Sawyer®	---	Good	-20°F	150°F	Good	Good	No	Yes	57-67

FLAME RESISTANT COMPOUNDS

COMPOUND	International Standards	Flame Resistance	Low Temperature	High Temperature (Lumpy Material)	Abrasion Resistance	Cut & Gouge Resistance	Oil Resistance	ISO 284 Static Conductive	ASTM D2240A Shore A Hardness
ARMA® II	RMA Grade II, AS Grade E	MSHA 2G18.65	-40°F	150°F	Excellent	Very Good	No	Yes	53 - 63
ARMA®-SBR	RMA Grade II, AS Grade E	MSHA 2G18.65	-30°F	150°F	Very Good	Good	No	Yes	52-62
FRAS-C	RMA Grade II, AS Grade E, CSA-C	MSHA 2G18.65 CSA-C	-40°F	160°F	Good	Fair	No	Yes	60-70
O.M.E.G.A.®	---	MSHA 2G18.65	-20°F	150°F	Good	Fair	Good	Yes	56-66
Pathfinder® Supreme	---	MSHA 2G18.65	-30°F	150°F	Fair	Fair	Very Good	Yes	59-69

HEAT & OIL COMPOUNDS

COMPOUND	International Standard	High Temperature (Lumpy Material)	Oil Resistance	Low Temperature	Abrasion Resistance	Cut & Gouge Resistance	Flame Resistance	ISO 284 Static Conductive	ASTM D2240A Shore A Hardness
HT Nitrile	RMA Grade II	300°F	Superior	-15°F	Very good	Fair	No	No	56-66



SENSOR GUARD



SENSOR GUARD®



SENSOR GUARD®

SENSOR GUARD

SENSOR GUARD® ELECTRONIC BELT PROTECTION SYSTEM: PROTECTING YOUR STEEL CORD INVESTMENT.

At Goodyear Engineered Products, we know that even with a quality belt, a soundly engineered system and an effective preventative maintenance program, any conveyor system can suffer belt rips. As conveyors get longer, 3,000 HP and higher drives become more common, generating tensions in the hundreds-of-thousands-of-pounds range (700+ KN range). Even the most advanced belt constructions are designed to withstand ripping forces totaling only 1/10 the force generated in actual service.



The detectors are hard-wired to the control unit and transmit pulses every time a loop is detected.

Distance between Detector Loops varies depending on the level of desired protection, i.e., 100' (30m) loop intervals.

Sensors are embedded in the belt.

RFID chip reader is mounted at each detector head.

RFID chips provide logistics information for improved reliability.

Detector heads are mounted at critical points on the conveyor system.

Due to the potentially tremendous destructive forces involved, it becomes impossible to prevent a belt from ripping. Therefore, in the early 1970s, Goodyear EP engineers developed Sensor Guard®, an electronic belt protection system that limits belt rip. Today, Goodyear EP's Sensor Guard system stands alone as the most proven and reliable rip detection system in the world, with installations on every continent except Antarctica. In coal, copper, iron ore and other applications, Sensor Guard has proven itself by reducing downtime costs, replacement costs and lost production.

AN INDUSTRY INNOVATION FROM THE START.

The original Sensor Guard is a perfect example of the breakthrough engineering shared by many Goodyear EP products. Sensor Guard with RFID Technology works on the premise of closed-circuit sensor loops and RFID chips embedded in the belt, monitored by electromagnetic detectors and an RFID Read Head, placed at high potential damage points.

As the conveyor belt moves, these loops and chips pass over the detectors and Read Head which record the loop and RFID chip information. If the belt begins to rip, a sensor loop is also cut. As this cut loop passes over a detector, no pulse is generated. The lack of pulse is recognized by the control unit, and Sensor Guard automatically signals the conveyor control system to stop, to minimize further damage. Similarly, when excessive lateral belt movement occurs, failure of a loop to pass over a detector within a prescribed distance or time will cause an automatic belt stop signal. The system identifies exactly where the event occurs, based on the RFID chip information gathered.

The new system combines the advantages of a processor and RFID chips, with the Sensor Guard system's unparalleled tradition of reliability, value and proven performance in the harshest of mining environments.

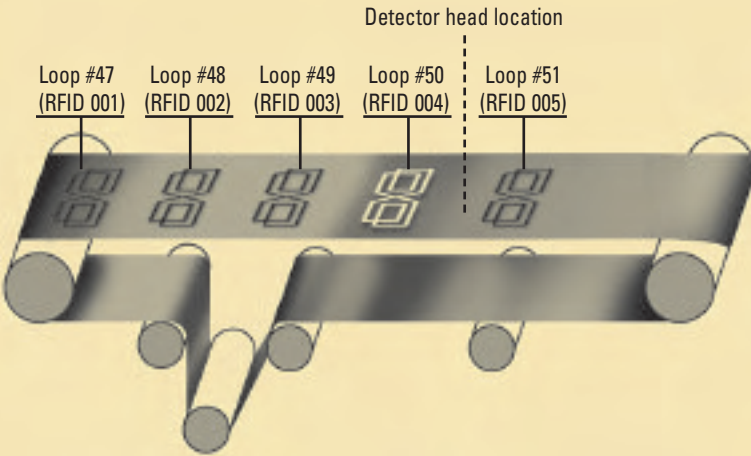
Ethernet capability allows to you to remotely monitor the system, to ensure proper settings and determine that the systems are functioning as intended. All without having to leave your office.

HOW SENSOR GUARD HELPS PREVENT MAJOR BELT DAMAGE.

By enhancing the original product's damage prevention properties with a state-of-the-art microprocessor, RFID technology, Ethernet capabilities, and improved loop wire, Goodyear Engineered Products made Sensor Guard even "smarter", more reliable and easier to use.

It protects your conveyor belt investment with advanced capabilities that keep belt rips to an absolute minimum, saving you more time and money than ever before. RFID Technology reduces nuisance shutdowns, meaning increased up-time for your production operation.

Detector Head pulses monitored by control unit.



Belt protection system monitors integrity of conveyor belt			
L 47	5.2 SEC	500 CTS	101.5 ft
T 001	1.0 SEC	10 CTS	2.1 ft
L 48	5.2 SEC	500 CTS	101.5 ft
T 002	1.0 SEC	10 CTS	2.1 ft
L 49	5.2 SEC	500 CTS	101.5 ft
T 003	1.0 SEC	10 CTS	2.1 ft
L 50	5.2 SEC	500 CTS	101.5 ft
T 004	1.0 SEC	10 CTS	2.1 ft
L 51	5.2 SEC	500 CTS	101.5 ft
T 005	1.0 SEC	10 CTS	2.1 ft

Detector head pinpoints position of impact or rip damage created on the conveyor belt at Loop #50.

SENSOR GUARD

A SHARP MEMORY AND ADDED FLEXIBILITY GIVE SENSOR GUARD WITH RFID TECHNOLOGY MORE BRAIN POWER.

Sensor Guard with RFID Technology has Continuous Automatic Synchronization meaning reduced nuisance shutdowns, increased production time, and fewer conveyor re-starts.

- Protection begins the minute your conveyor system starts moving, regardless of direction or speed of travel.
- The new unit maintains a log of the last 50 events that have occurred with your conveyor belt. Obtaining a hard copy of the log is as easy as a push of a button, because the new system features a printer port to which you can connect any parallel printer.
- The detector heads on Sensor Guard with RFID Technology can protect a wider range of conveyor belt widths.
- New loop design offers improved flexibility, durability, and increased service life.
- Ethernet capability offers remote monitoring, to ensure your system is operating as you intend it to. Faster troubleshooting, quicker resolution to system events, all from the comfort of your office.
- Stop-at-Loop function stops the belt at a given location for maintenance.
- Upgrading to Sensor Guard with RFID Technology is easier than you think. Once RFID chips are in place in the belt, software and hardware enhancements to your existing Sensor Guard 2000 systems are available. The new Sensor Guard system is compatible with your existing belt, simplifying installation and reducing spare parts inventory.
- Sensor Guard with RFID Technology can tell you exactly where each loop is located, which allows you to identify and locate a malfunctioning loop quickly. You can then electronically delete it and the system will maintain a higher level of protection for the remainder of the belt, thus minimizing potential belt damage while production continues to flow.
- Proven reliability and durability of Sensor Guard, combined with RFID Technology make it virtually maintenance free.