

Spartan® Belts

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

Markets

- › Aggregate
- › Package Handling
- › Sand and Gravel

Applications

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

Cover Compounds

- › General Trade
- › Grain
- › MOR

See pages 56-61 for more specific details.

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

Get a lower cost-per-ton conveyed.

Tension Range: 220 to 600 PIW

Spartan® Conveyor Belt Data

	Spartan 220/2	Spartan 330/3	Spartan 440/4	Spartan 600/3
# of Plies	2	3	4	3
Fabric Type*	P/P	P/P	P/P	P/P
Average Permanent Elongation (%)**	0.80	0.80	0.80	0.80
Recommended Fastener Plate	140	190	BR-10	BR-10
Hinge	R2	R2	R5	R5-1/2
Hinge	U35A	U35A	U35	U35
Imperial				
Vulcanized & Fastener Rating (PIW)	220	330	440	600
Carcass Gauge (in.)	0.066	0.104	0.143	0.191
Carcass Weight (lb./sq. ft.)	0.53	0.83	1.13	1.36
Approximate 1/32 in. Cover Weight (lb./sq. ft.)	0.19	0.19	0.19	0.19
Elastic Modulus (PIW)	26,000	39,000	52,000	56,000
Step Length (in.)	10	10	10	16
Metric				
Vulcanized & Fastener Rating (kN/m)	39	58	77	600
Carcass Gauge (mm)	1.68	2.64	3.63	6.07
Carcass Weight (kg/sq. m)	2.6	4.1	5.5	6.6
Approximate 1mm Cover Weight (kg/sq. m)	1.17	1.17	1.17	1.17
Elastic Modulus (kN/m)	4550	6830	9110	9810
Step Length (mm)	250	250	250	410

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

*P/P = Poly/Poly.

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

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Spartan® Load Support - Maximum Belt Width

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

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

Spartan® Troughability - Minimum Belt Width

Table based on ISO 703 Testing Procedure

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

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

Spartan® Minimum Pulley Diameters - Minimum Belt Width

Table based on ISO 703 Testing Procedure

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