



Fenner Dunlop Engineered Conveyor Solutions

# Heat Resistant Belt Products

[www.fennerdunlopamericas.com](http://www.fennerdunlopamericas.com)

# Heat Resistant Belt Products

Conveying hot material, whether casting sand, cement or other high temperature material, requires belting specifically designed to resist the negative effects of cover cracking, hardening, abrasion, tearing and flexing associated with high temperature environments.

The premium hot material belting offered by Fenner Dunlop provides superb protection against prolonged exposure to high temperature abrasive material.

Fenner Dunlop has engineered unique conveyor belt cover compounds which protect the load carrying carcass and provide the adhesion and flexibility needed to deal with continual dynamic forces and high temperature environments. When both the cover and carcass are functioning together as a single unit, you have a conveyor belt solution which provides long life and exceptional performance in high temperature environments.

The three step process detailed below will guide you in selecting the correct conveyor belt solution for your hot material conveying application.

## Step 1

Use the conveyor's maximum operating tension to Select the Belt Carcass. A Fenner Dunlop distributor representative can be a valuable resource to help in this selection if the belt being replaced failed prematurely as a result of a recent change to the amount or composition of the material being conveyed.

Belt Carcass Brand	Max. Operating Tension Range Pounds per Inch Width (PIW)		Attributes to Consider When Making a Selection
	Minimum	Maximum	
HotShot®	300	300	Unique fiberglass carcass resists burn-through up to 1,000°F (534°C)
UsFlex®	245	1500	Unique straight-warp patented construction design which resists rips, tears and impacts 3-5 times better than conventional plied belting of similar PIW rating
PSR®	160	2500	Excellent load carrying properties with a wide range of tension ratings

**Note:** All belt carcass fabric is manufactured by FDA in the USA using the highest quality standards!

## Step 2

Select the cover compound based the environment in which the conveyor operates:

Belt Compound Brand	Temperature Resistant to	Abrasion Resistance (DIN)	Applications
DeltaHeat 2.0®	400°F or 205°C (coarse lumps) 350°F or 177°C (fines)	Very Good (170 mm <sup>3</sup> )	Hot cement clinker, iron ore pellets, calcined lime, and casting sand & clay
Sahara SAR (Superior Abrasion Resistant)	300°F or 150°C (coarse lumps) 250°F or 120°C (fines)	Excellent (60 mm <sup>3</sup> )	
Sahara FR (Fire Retardant)		Good (240 mm <sup>3</sup> )	Similar applications as Sahara SAR where fire retardant properties are mandatory or desired.
Sahara OR (Oil Resistant)	250 F or 120 C (coarse lumps) 200 F or 93 C (fines)	Excellent (100 mm <sup>3</sup> )	Hot mixtures containing diesel, kerosene, petroleum coke, asphalt, paving components and carbon pitch. Potash
Sahara Alumina		Excellent (100 mm <sup>3</sup> )	Conveying Bauxite / Alumina Ore

# Heat Resistant Belt Products

# HotShot®

### Step 3

Select the cover thickness based on the material to be conveyed

Type of Material	Non Abrasive	Mildly Abrasive	Abrasive	Heavy Abrasive	Heavy Sharp Abrasive	
<b>Examples</b>	Loose Cement or Potash	Sand, Clinker, and Rock under 3" in size	Coke, Sinter, Gravel or Crushed Stone, Iron & Copper Ore,	Iron, Copper, Rock Ores, Zinc, Lead Ores,	Trap rock, quartz, Hard Ores, Slag, Glass cullet, and heavy sharp ore over 9" size	
<b>Covers (Inches)</b>	<b>Top</b>	1/8	3/16	1/4	3/8	3/4
	<b>Bottom</b>	1/16	1/16	3/32	1/8	3/16

**Example:** An operator needs to replace a 48" belt with a 330 PIW rating to convey coke (310°F course lumps) from a cooling pile outside of the coking oven to the blast furnace 65 meters away. Select a belt based on these criteria.

**Solution:** Given the material loading is low impact; a very good belt carcass option would be 3 plies of PSR 110 with an overall PIW rating of 330. The temperature of the material being conveyed dictates the need for the DeltaHeat® 2.0 compound and the abrasiveness of the material warrants a 1/4" Top cover, 3/32" bottom.

### HotShot Specification Table

Carcass Style		HotShot 300	
Number of Plies		1	
		Imperial	Metric
<b>Carcass Gauge<sup>3</sup> (in / mm)</b>		.140	3.5
<b>Carcass Weight<sup>4</sup> (lb/in/ft / kg/m<sup>2</sup>)</b>		.053	3.1
<b>Elastic Modulus (lbs/in / N/mm)</b>		95000	16625
<b>Max Tension Rating<sup>2</sup> (PIW / N/mm)</b>		<b>300</b>	<b>53</b>
<b>Troughing/Empty<sup>1</sup> - Min Belt Width (in / mm)</b>			
20° idlers		18	450
35° idlers		24	600
<b>Load Support<sup>1</sup> - Max Belt Width (in / mm)</b>			
20° idlers (0 – 40 lbs/ft <sup>3</sup> / 0 – 640 kg/m <sup>3</sup> )		72	1800
20° idlers (41 – 80 lbs/ft <sup>3</sup> / 641 -1280 kg/m <sup>3</sup> )		66	1700
20° idlers (81 – 120 lbs/ft <sup>3</sup> / 1281 -1920 kg/m <sup>3</sup> )		60	1500
35° idlers (0 – 40 lbs/ft <sup>3</sup> / 0 – 640 kg/m <sup>3</sup> )		66	1700
35° idlers (41 – 80 lbs/ft <sup>3</sup> / 641 -1280 kg/m <sup>3</sup> )		54	1400
35° idlers (81 – 120 lbs/ft <sup>3</sup> / 1281 -1920 kg/m <sup>3</sup> )		48	1200
<b>Minimum Pulley Diameters (in / mm)</b>			
81 – 100% belt rated tension		24	600
61 – 80% belt rated tension		22	550
Up to 60% belt rated tension		20	500

- 1 Troughability and Load Support values can be influenced by certain cover gauge and compound combinations used. When in doubt, please contact FDA for selection guidance.**
- 2 HotShot tension ratings reflect a minimum 10:1 safety factor. With the appropriate fastener selection and installation, a minimum 4:1 mechanical fastener safety factor can be achieved. (With extreme product temperatures, mechanical fasteners are the preferred splice method.)**
- 3 Add the appropriate cover gauge to this carcass gauge to obtain the approximate overall belt gauge.**
- 4 Add the appropriate cover weight to this carcass weight to obtain the approximate overall carcass weight.**



**PSR Specification Table - "Imperial"**

GENERAL DATA		PSR 80					PSR 110					PSR 125					PSR 150					PSR 200					PSR 250					PSR 300					PSR 500	
Fabric Ply		2-160	2-220	3-330	4-440	5-550	2-250	3-375	4-500	2-300	3-450	4-600	5-750	2-400	3-600	4-800	5-1000	6-1200	2-500	3-750	4-1000	5-1250	2-600	3-900	4-1200	5-1500	3-1500	4-2000										
Carcass Style		2	2	3	4	5	2	3	4	2	3	4	5	2	3	4	5	6	2	3	4	5	2	3	4	5	3	4										
Number of Plies		2	2	3	4	5	2	3	4	2	3	4	5	2	3	4	5	6	2	3	4	5	2	3	4	5	3	4										
Carcass Gauge <sup>3</sup> (in)		.110	.122	.176	.216	.276	.132	.188	.234	.150	.183	.252	.321	.186	.237	.324	.411	.498	.198	.255	.348	.441	.182	.285	.388	.491	.432	.584										
Carcass Weight <sup>4</sup> (lb/in/ft)		.052	.054	.081	.101	.131	.059	.087	.110	.066	.081	.114	.147	.083	.108	.153	.197	.242	.087	.116	.162	.209	.077	.130	.182	.235	.186	.258										
Elastic Modulus (lbs/in)		26000	35000	45000	55000	65000	30000	35000	55000	37000	47000	57000	67000	44000	72000	82000	105000	132000	62000	72000	90000	98000	63000	84000	100000	108000	108000	134000										
<b>CONVEYOR BELT SPECIFICS</b>																																						
Max Tension Rating <sup>2</sup> (PIW)		160	220	330	440	550	250	375	500	300	450	600	750	400	600	800	1000	1200	500	750	1000	1250	600	900	1200	1500	1500	2000										
<b>Troughing/Empty<sup>1</sup> - Min Belt Width (in)</b>																																						
20 degree idlers		14	16	20	24	30	16	20	30	18	24	30	36	20	28	30	36	42	24	30	36	42	28	30	36	48	42	48										
35 degree idlers		18	20	24	30	30	20	24	30	20	30	36	36	24	30	36	42	48	30	36	42	48	30	36	42	54	48	54										
45 degree idlers		NR	24	30	36	36	24	30	36	28	36	42	42	30	36	42	48	54	36	42	48	54	36	42	48	60	54	60										
<b>Load Support<sup>1</sup> - Max Belt Width (in)</b>																																						
20 deg idlers 0 - 40 lbs/ft <sup>3</sup>		36	48	60	72	72	54	72	84	60	72	84	84	66	84	96	96	96	72	84	96	96	72	96	96	96	96	96										
20 deg idlers 41 - 80 lbs/ft <sup>3</sup>		30	42	54	66	72	48	60	72	54	60	84	84	60	72	96	96	96	66	72	96	96	72	84	96	96	96	96										
20 deg idlers 81 - 120 lbs/ft <sup>3</sup>		30	36	48	60	66	42	54	66	48	54	72	84	54	66	84	84	84	60	72	84	84	60	72	84	84	84	84										
20 deg idlers over 120 lbs/ft <sup>3</sup>		NR	30	42	54	60	36	48	60	42	48	66	72	48	60	72	84	84	54	60	72	84	54	66	72	84	84	84										
35 deg idlers 0 - 40 lbs/ft <sup>3</sup>		36	42	54	72	72	48	60	72	54	60	84	84	60	72	96	96	96	66	72	96	96	72	84	96	96	96	96										
35 deg idlers 41 - 80 lbs/ft <sup>3</sup>		24	36	48	60	72	42	60	66	48	60	72	72	54	60	84	84	96	60	66	84	96	60	72	84	96	96	96										
35 deg idlers 81 - 120 lbs/ft <sup>3</sup>		24	30	42	54	60	36	54	60	42	54	66	66	48	54	72	72	84	54	60	72	84	54	60	72	84	84	84										
35 deg idlers over 120 lbs/ft <sup>3</sup>		NR	24	36	48	54	30	42	54	36	42	54	60	42	48	60	66	84	48	54	66	72	48	54	66	84	72	84										
45 deg idlers 0 - 40 lbs/ft <sup>3</sup>		30	42	48	60	72	48	60	72	48	60	72	84	54	66	72	96	96	60	72	84	96	66	72	84	96	96	96										
45 deg idlers 41 - 80 lbs/ft <sup>3</sup>		24	36	42	54	66	36	54	60	42	48	66	72	48	60	72	96	96	54	66	72	96	54	66	72	96	84	96										
45 deg idlers 81 - 120 lbs/ft <sup>3</sup>		NR	30	36	48	54	30	48	54	36	48	60	60	42	54	60	72	84	48	54	60	84	48	60	66	84	72	84										
45 deg idlers over 120 lbs/ft <sup>3</sup>		NR	24	30	42	48	NR	36	48	30	36	54	54	36	42	54	66	72	42	48	54	72	42	54	60	72	72	72										
<b>Minimum Pulley Diameters (in)</b>																																						
81 - 100% belt rated tension		14	16	20	26	30	16	20	28	18	22	28	30	20	24	28	36	48	20	24	28	40	20	28	36	48	42	48										
61 - 80% belt rated tension		12	14	18	20	24	14	18	24	16	18	24	24	18	20	24	32	40	18	20	24	32	18	22	30	36	36	42										
Up to 60% belt rated tension		10	12	16	16	20	12	16	20	14	16	20	20	16	18	20	26	32	16	18	20	28	16	18	24	30	30	36										
<b>ELEVATOR BELT SPECIFICS</b>																																						
<b>Maximum Tension Rating (PIW)</b>																																						
"Grain, Wood Chip" Service (50 lb/ft <sup>3</sup> )		120	190	280	370	475	210	320	425	260	390	520	645	345	520	690	870	1030	425	645	870	1060	520	765	1030	1275	1275	1700										
"Industrial" Service (100 lbs/ft <sup>3</sup> )		100	170	250	330	425	195	290	390	230	350	465	580	310	465	620	775	930	385	580	775	960	465	695	930	1155	1155	1540										
<b>Minimum Pulley Diameters (in)</b>																																						
81 - 100% belt rated tension		16	16	20	26	30	16	20	26	18	22	28	30	20	24	28	36	48	20	24	28	40	20	28	36	48	42	48										
61 - 80% belt rated tension		14	14	18	20	24	14	18	20	16	18	24	24	18	20	24	32	40	18	20	24	32	18	22	30	36	36	42										
Up to 60% belt rated tension		12	12	16	16	20	12	16	16	14	16	20	20	16	18	20	26	32	16	18	20	28	16	18	24	30	30	36										
<b>Maximum Bucket Projection (in)</b>																																						
"Centrifugal" Elevators		6	6	8	10	10	7	9	11	7	10	11	11	10	10	11	12	12	10	11	12	12	10	11	12	12	12	14										
"Continuous" Elevators		NR	5	7	10	12	6	8	11	6	9	12	14	9	12	14	16	20	8	14	14	18	8	14	14	18	14	16										

1 Troughability and Load Support values can be influenced by certain cover gauge and compound combinations used. When in doubt, please contact your FDA representative for selection guidance.  
 2 PSR tension ratings reflect a minimum 10:1 safety factor through the 750 PIW offerings, and an 8:1 minimum safety factor for the remaining higher tension offerings. With the appropriate fastener selection and installation, 4:1 minimum mechanical fastener safety factors can be achieved.  
 3 Add the appropriate cover gauge to this carcass gauge to obtain the approximate overall belt thickness.  
 4 Add the appropriate cover weight to this carcass weight to obtain the appropriate overall belt weight.



**PSR Specification Table - "Metric"**

GENERAL DATA		PSR 80					PSR 110					PSR 125					PSR 150					PSR 200					PSR 250					PSR 300					PSR 500	
Fabric Ply		2-160	2-220	3-330	4-440	5-550	2-250	3-375	4-500	2-300	3-450	4-600	5-750	2-400	3-600	4-800	5-1000	6-1200	2-500	3-750	4-1000	5-1250	2-600	3-900	4-1200	5-1500	3-1500	4-2000										
Carcass Style		2	2	3	4	5	2	3	4	2	3	4	5	2	3	4	5	6	2	3	4	5	2	3	4	5	3	4										
Number of Plies		2	2	3	4	5	2	3	4	2	3	4	5	2	3	4	5	6	2	3	4	5	2	3	4	5	3	4										
Carcass Gauge <sup>3</sup> (mm)		2.8	3.1	4.5	5.5	7.0	3.4	4.8	5.9	3.8	4.6	6.4	8.2	4.7	6.0	8.2	10.4	12.7	5.0	6.5	8.8	11.2	4.6	7.2	9.9	12.5	11.0	14.8										
Carcass Weight <sup>4</sup> (kg/m <sup>2</sup> )		3.0	3.2	4.7	5.9	7.7	3.5	5.1	6.5	3.8	4.8	6.7	8.6	4.9	6.3	9.0	11.6	14.1	5.1	6.8	9.5	12.3	4.5	7.6	10.7	13.8	10.9	15.1										
Elastic Modulus (N/mm)		4550	6125	7875	9625	11375	5250	6125	9625	6475	8225	9975	11725	7700	12600	14350	18375	23100	10850	12600	15750	17150	11025	14700	17500	18900	18900	23450										
CONVEYOR BELT SPECIFICS																																						
Max Tension Rating <sup>2</sup> (N/mm)		28	39	58	77	96	44	66	88	53	79	105	131	70	105	140	175	210	88	131	175	219	105	158	210	263	263	350										
Troughing/Empty <sup>1</sup> - Min Belt Width (mm)																																						
20 degree idlers		350	400	500	600	750	400	500	750	450	600	750	900	500	700	750	900	1050	600	750	900	1050	700	750	900	1200	1050	1200										
35 degree idlers		450	500	600	750	750	500	600	750	500	750	900	900	600	750	900	1050	1200	750	900	1050	1200	750	900	1050	1400	1200	1400										
45 degree idlers		NR	600	750	900	900	600	750	900	700	900	1050	1050	750	900	1050	1200	1400	900	1050	1200	1400	900	1050	1200	1500	1400	1500										
Load Support <sup>1</sup> - Max Belt Width (mm)																																						
20 deg idlers 0 - 640 kg/m <sup>3</sup>		900	1200	1500	1800	1800	1400	1800	1900	1500	1800	2150	2150	1700	2150	2450	2450	2450	1800	2150	2450	2450	1800	2450	2450	2450	2450	2450										
20 deg idlers 641 -1280 kg/m <sup>3</sup>		750	1050	1400	1700	1800	1200	1500	1800	1400	1500	2150	2150	1500	1800	2450	2450	2450	1700	1800	2450	2450	1800	2150	2450	2450	2450	2450										
20 deg idlers 1281 -1920 kg/m <sup>3</sup>		750	900	1200	1500	1700	1050	1400	1700	1200	1400	1800	2150	1400	1700	2150	2150	2150	1500	1800	2150	2150	1500	1800	2150	2150	2150	2150										
20 deg idlers over 1920 kg/m <sup>3</sup>		NR	750	1050	1400	1500	900	1200	1500	1050	1200	1700	1800	1200	1500	1800	2150	2150	1400	1500	1800	2150	1400	1700	1800	2150	2150	2150										
35 deg idlers 0 - 640 kg/m <sup>3</sup>		900	1050	1400	1800	1800	1200	1500	1800	1400	1500	2150	2150	1500	1800	2450	2450	2450	1700	1800	2450	2450	1800	2150	2450	2450	2450	2450										
35 deg idlers 641 -1280 kg/m <sup>3</sup>		600	900	1200	1500	1800	1050	1500	1700	1200	1500	1800	1800	1400	1500	2150	2150	2450	1500	1700	2150	2450	1500	1800	2150	2450	2450	2450										
35 deg idlers 1281 -1920 kg/m <sup>3</sup>		600	750	1050	1400	1500	900	1400	1500	1050	1400	1700	1700	1200	1400	1800	1800	2150	1400	1500	1800	2150	1400	1500	1800	2150	2150	2150										
35 deg idlers over 1920 kg/m <sup>3</sup>		NR	600	900	1200	1400	750	1050	1400	900	1050	1400	1500	1050	1200	1500	1700	2150	1200	1400	1700	1800	1200	1400	1700	2150	1800	2150										
45 deg idlers 0 - 640 kg/m <sup>3</sup>		750	1050	1200	1500	1800	1200	1500	1800	1200	1500	1800	2150	1400	1700	1800	2450	2450	1500	1800	2150	2450	1700	1800	2150	2150	2450	2450										
45 deg idlers 641 -1280 kg/m <sup>3</sup>		600	900	1050	1400	1700	900	1400	1500	1050	1200	1700	1800	1200	1500	1800	2450	2450	1400	1700	1800	2450	1400	1700	1800	2150	2150	2450										
45 deg idlers 1281 -1920 kg/m <sup>3</sup>		NR	750	900	1200	1400	750	1200	1400	900	1200	1500	1500	1050	1400	1500	1800	2150	1200	1400	1500	2150	1200	1500	1700	2150	1800	2150										
45 deg idlers over 1920 kg/m <sup>3</sup>		NR	600	750	1050	1200	NA	900	1200	750	900	1400	1400	900	1050	1400	1700	1800	1050	1200	1400	1800	1050	1400	1800	1800	1800	1800										
Minimum Pulley Diameters (mm)																																						
81 - 100% belt rated tension		350	400	500	650	750	400	500	700	450	550	700	750	500	600	700	900	1200	500	600	700	1000	500	750	900	1200	1050	1200										
61 - 80% belt rated tension		300	350	450	500	600	350	450	600	400	450	600	600	450	500	600	800	1000	450	500	600	800	450	550	750	900	900	1050										
Up to 60% belt rated tension		250	300	400	400	500	300	400	500	350	400	500	500	400	450	500	650	800	400	450	500	700	400	450	600	750	750	900										
ELEVATOR BELT SPECIFICS																																						
Maximum Tension Rating (N/mm)																																						
"Grain, Wood Chip" Service (800 kg/m <sup>3</sup> )		21	33	49	65	83	37	56	74	46	68	91	113	61	91	121	152	180	74	113	152	186	91	134	180	223	223	298										
"Industrial" Service (1600 kg/m <sup>3</sup> )		18	30	44	58	74	34	51	67	40	61	81	102	54	81	109	136	163	67	102	136	168	81	122	163	202	202	270										
Minimum Pulley Diameters (mm)																																						
81 - 100% belt rated tension		400	400	500	650	750	400	500	650	450	550	700	750	500	600	700	900	1200	500	600	700	1000	500	700	900	1200	1050	1200										
61 - 80% belt rated tension		350	350	450	500	600	350	450	500	400	450	600	600	450	500	600	800	1000	450	500	600	800	450	550	750	900	900	1050										
Up to 60% belt rated tension		300	300	400	400	500	300	400	400	350	400	500	500	400	450	500	650	800	400	400	500	700	400	450	600	750	750	900										
Maximum Bucket Projection (mm)																																						
"Centrifugal" Elevators		150	150	200	250	250	175	220	280	175	250	280	280	250	250	280	300	300	250	280	300	300	250	280	300	300	300	350										
"Continuous" Elevators		NR	120	175	250	300	150	200	280	150	220	300	350	220	300	350	400	500	200	350	350	450	200	350	350	450	350	400										

1 Troughability and Load Support values can be influenced by certain cover gauge and compound combinations used. When in doubt, please contact your FDA representative for selection guidance.

2 PSR tensions reflect a minimum 10:1 safety factor through the 131 N/mm rated offerings, and an 8:1 minimum safety factor for the remaining higher tension offerings. With the appropriate fastener selection and installation, 4:1 minimum mechanical fastener safety factors can be achieved.

3 Add the appropriate cover gauge to this carcass gauge to obtain the approximate overall belt thickness.

4 Add the appropriate cover weight to this carcass weight to obtain the appropriate overall belt weight.

**UsFlex Specification Table - "Imperial"**

**UsFlex Specification Table - "Metric"**

GENERAL DATA										
Carcass Style	UsFlex S2	UsFlex S3	UsFlex S4	UsFlex S5	UsFlex D5	UsFlex D6	UsFlex D8	UsFlex D10	UsFlex D12	UsFlex D15
Number of Plies	1	1	1	1	2	2	2	2	2	2
Carcass Gauge <sup>3</sup> (in)	.095	.139	.142	.169	.234	.270	.300	.320	.388	.439
Carcass Weight <sup>4</sup> (lb/in/ft)	.031	.043	.044	.058	.096	.112	.124	.137	.162	.187
Elastic Modulus (lbs/in)	25000	35000	45000	50000	58000	50000	60000	70000	85000	92000
CONVEYOR BELT SPECIFICS										
Max Tension Rating <sup>2</sup> (PIW)	245	330	440	550	550	660	800	1000	1250	1500
Troughing/Empty <sup>1</sup> - Min Belt Width (in)										
20 degree idlers	16	20	24	24	24	24	30	30	30	30
35 degree idlers	20	24	30	30	30	30	36	36	36	36
45 degree idlers	24	30	36	36	36	36	42	42	42	42
Load Support <sup>1</sup> - Max Belt Width (in)										
20 deg idlers 0 - 40 lbs/ft <sup>3</sup>	60	72	84	84	84	96	96	96	96	96
20 deg idlers 41 - 80 lbs/ft <sup>3</sup>	48	66	72	72	84	84	96	96	96	96
20 deg idlers 81 - 120 lbs/ft <sup>3</sup>	42	60	66	72	84	84	84	84	84	84
20 deg idlers over 120 lbs/ft <sup>3</sup>	36	48	60	66	72	72	84	84	84	84
35 deg idlers 0 - 40 lbs/ft <sup>3</sup>	48	66	72	72	84	96	96	96	96	96
35 deg idlers 41 - 80 lbs/ft <sup>3</sup>	36	54	60	66	72	84	96	96	96	96
35 deg idlers 81 - 120 lbs/ft <sup>3</sup>	36	48	54	60	66	72	84	84	84	84
35 deg idlers over 120 lbs/ft <sup>3</sup>	30	42	48	54	60	72	84	84	84	84
45 deg idlers 0 - 40 lbs/ft <sup>3</sup>	42	54	60	66	72	96	96	96	96	96
45 deg idlers 41 - 80 lbs/ft <sup>3</sup>	36	48	54	60	72	84	96	96	96	96
45 deg idlers 81 - 120 lbs/ft <sup>3</sup>	30	42	48	54	60	72	84	84	84	84
45 deg idlers over 120 lbs/ft <sup>3</sup>	24	36	42	48	54	66	72	72	84	84
Minimum Pulley Diameters (in)										
81 - 100% belt rated tension	16	18	20	20	24	30	36	36	36	36
61 - 80% belt rated tension	14	16	18	18	20	24	24	30	30	30
Up to 60% belt rated tension	12	14	16	16	18	20	20	24	24	24
ELEVATOR BELT SPECIFICS										
Maximum Tension Rating (PIW)										
"Grain, Wood Chip" Service (50 lb/ft <sup>3</sup> )	195	280	370	440	440	550	690	870	1060	1150
"Industrial" Service (100 lbs/ft <sup>3</sup> )	175	250	330	400	400	480	620	775	940	1050
Minimum Pulley Diameters (in)										
81 - 100% belt rated tension	16	18	20	20	24	30	36	36	36	36
61 - 80% belt rated tension	14	16	18	18	20	24	24	30	30	30
Up to 60% belt rated tension	12	14	16	16	18	20	20	24	24	24
Maximum Bucket Projection (in)										
"Centrifugal" Elevators	8	10	10	10	12	14	15	16	17	18
"Continuous" Elevators	7	9	10	12	13	15	16	18	20	22

GENERAL DATA										
Carcass Style	UsFlex S2	UsFlex S3	UsFlex S4	UsFlex S5	UsFlex D5	UsFlex D6	UsFlex D8	UsFlex D10	UsFlex D12	UsFlex D15
Number of Plies	1	1	1	1	2	2	2	2	2	2
Carcass Gauge <sup>3</sup> (mm)	2.4	3.5	3.6	4.3	6.0	6.9	7.6	8.1	9.9	11.2
Carcass Weight <sup>4</sup> (kg/m <sup>2</sup> )	1.8	2.5	2.6	3.4	5.6	6.6	7.3	8.0	9.5	10.9
Elastic Modulus (N/mm)	4375	6125	7875	8750	10125	8750	10500	12250	14875	16125
CONVEYOR BELT SPECIFICS										
Max Tension Rating <sup>2</sup> (N/mm)	43	58	77	97	97	116	140	175	219	263
Troughing/Empty <sup>1</sup> - Min Belt Width (mm)										
20 degree idlers	400	500	600	600	600	600	750	750	750	750
35 degree idlers	500	600	750	750	750	750	900	900	900	900
45 degree idlers	600	750	900	900	900	900	1050	1050	1050	1050
Load Support <sup>1</sup> - Max Belt Width (mm)										
20 deg idlers 0 - 640 kg/m <sup>3</sup>	1500	1800	2150	2150	2150	2450	2450	2450	2450	2450
20 deg idlers 641 - 1280 kg/m <sup>3</sup>	1200	1700	1800	1800	2150	2150	2450	2450	2450	2450
20 deg idlers 1281 - 1920 kg/m <sup>3</sup>	1050	1500	1700	1800	2150	2150	2150	2150	2150	2150
20 deg idlers over 1920 kg/m <sup>3</sup>	900	1200	1500	1700	1800	1800	2150	2150	2150	2150
35 deg idlers 0 - 640 kg/m <sup>3</sup>	1200	1700	1800	1800	2150	2450	2450	2450	2450	2450
35 deg idlers 641 - 1280 kg/m <sup>3</sup>	900	1400	1500	1700	1800	2150	2450	2450	2450	2450
35 deg idlers 1281 - 1920 kg/m <sup>3</sup>	900	1200	1400	1500	1700	1800	2150	2150	2150	2150
35 deg idlers over 1920 kg/m <sup>3</sup>	750	1050	1200	1400	1500	1800	2150	2150	2150	2150
45 deg idlers 0 - 640 kg/m <sup>3</sup>	1050	1400	1500	1700	1800	2450	2450	2450	2450	2450
45 deg idlers 641 - 1280 kg/m <sup>3</sup>	900	1200	1400	1500	1800	2150	2450	2450	2450	2450
45 deg idlers 1281 - 1920 kg/m <sup>3</sup>	750	1050	1200	1400	1500	1800	2150	2150	2150	2150
45 deg idlers over 1920 kg/m <sup>3</sup>	600	900	1050	1200	1400	1700	1800	1800	2150	2150
Minimum Pulley Diameters (mm)										
81 - 100% belt rated tension	400	450	500	500	600	750	900	900	900	900
61 - 80% belt rated tension	350	400	450	450	500	600	600	750	750	750
Up to 60% belt rated tension	300	350	400	400	450	500	500	600	600	600
ELEVATOR BELT SPECIFICS										
Maximum Tension Rating (N/mm)										
"Grain, Wood Chip" Service (800 kg/m <sup>3</sup> )	34	49	65	77	77	96	121	152	186	201
"Industrial" Service (1600 kg/m <sup>3</sup> )	175	250	330	400	400	480	620	775	940	1050
Minimum Pulley Diameters (mm)										
81 - 100% belt rated tension	400	450	500	500	600	750	900	900	900	900
61 - 80% belt rated tension	350	400	450	450	500	600	600	750	750	750
Up to 60% belt rated tension	300	350	400	400	450	500	500	600	600	600
Maximum Bucket Projection (mm)										
"Centrifugal" Elevators	200	250	250	250	300	350	375	400	425	450
"Continuous" Elevators	175	230	250	300	325	375	400	450	500	550

1 Troughability and Load Support values can be influenced by certain cover gauge and compound combinations used. When in doubt, please contact your FDA representative for selection guidance.  
 2 UsFlex tension ratings reflect a minimum 10:1 safety factor through the 660 PIW offering, and an 8:1 minimum safety factor for the remaining higher tension offerings. With the appropriate fastener selection and installation, 4:1 minimum mechanical fastener safety factors can be achieved.  
 3 Add the appropriate cover gauge to this carcass gauge to obtain the approximate overall belt thickness.  
 4 Add the appropriate cover weight to this carcass weight to obtain the appropriate overall belt weight.

1 Troughability and Load Support values can be influenced by certain cover gauge and compound combinations used. When in doubt, please contact your FD representative for selection guidance.  
 2 UsFlex tensions reflect a minimum 10:1 safety factor through the 116 N/mm rated offerings, and an 8:1 minimum safety factor for the remaining higher tension offerings. With the appropriate fastener selection and installation, 4:1 minimum mechanical fastener safety factors can be achieved.  
 3 Add the appropriate cover gauge to this carcass gauge to obtain the approximate overall belt thickness.  
 4 Add the appropriate cover weight to this carcass weight to obtain the appropriate overall belt weight.

