THE FURNACE BELT COMPANY LIMITED

Manufacturers of Conveyor and Furnace Belting

THE FURNACE BELT COMPANY LIMITED

Established in 1972, The Furnace Belt Company Limited has been manufacturing metal conveyor belts since 1972. It was founded on the philosophy of hard work, with a ***"Roll up your sleeves and get the job done right"*** approach to satisfying our customers' needs.

Although we are faced with the task of adapting to the ever-changing world of new technology, we are dedicated to preserving our aim of customer satisfaction. By maintaining this trust and working together to capture the visions of the future, we wish to strike a fine balance between old traditions and new beginnings.

Following this philosophy created our past success, and was the foundation on which we built our company. Our promise of continued dedication in the production of high quality products, dependable service and progressive adaptation will remain our goal for the future.

The FURNACE BELT COMPANY LIMITED maintains a quality system in accordance with ISO 9001: 2000

This is our commitment to you, because you, our customers, are our most valuable asset.

Sincerely,

Joseph L. Tatone
President

Tony Di Censo
Vice-President

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THE FURNACE BELT COMPANY LIMITED

F.B.C. BELTS AT WORK

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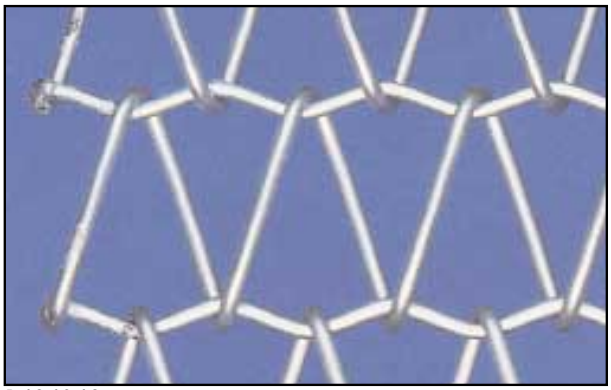
BALANCED WEAVE

The F.B.C. Balanced Weave belt consists of a series of alternating single left-hand and right-hand spirals joined together by a cross-rod connector. With its virtually unlimited choice of mesh selection, it has many advantageous characteristics that make it the most preferred construction for almost any application. It offers a high tensile strength, excellent tracking and maximum flexibility that allows for true belt travel. It is adaptable with several different edge treatments and special attachments (See page 17).



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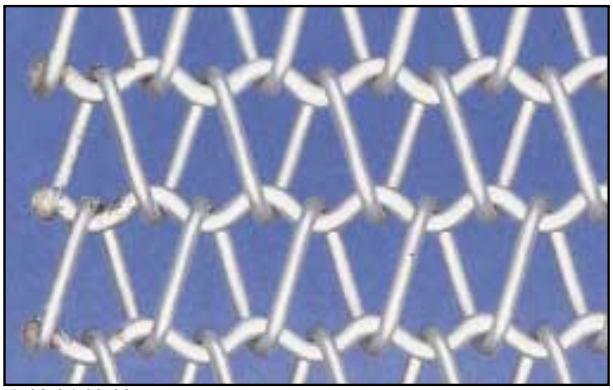

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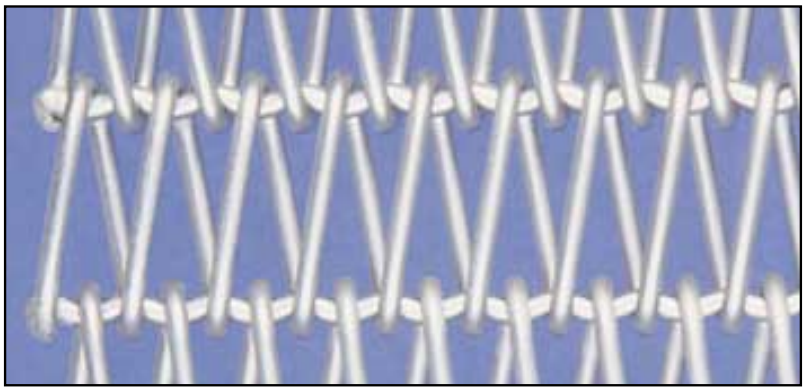

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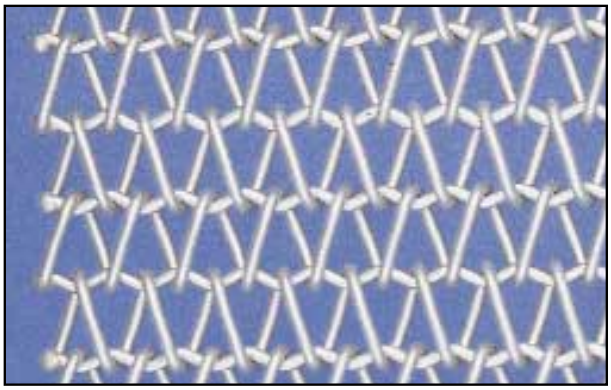

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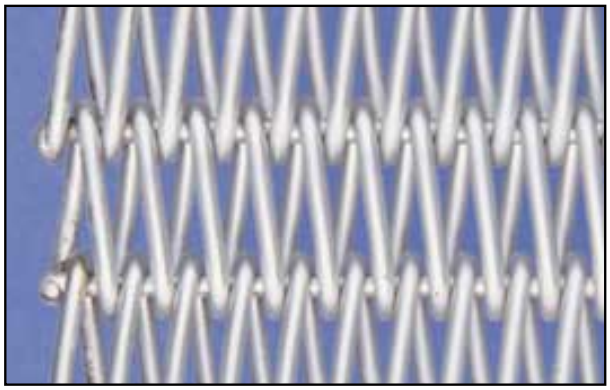


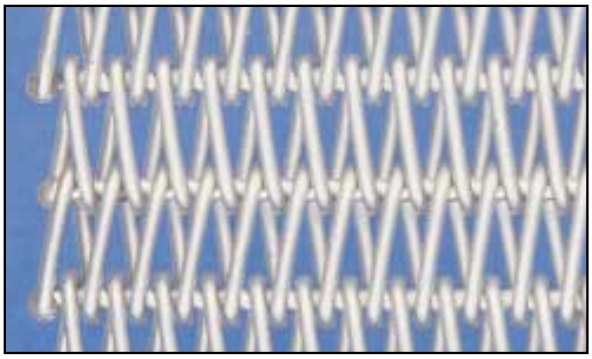
B-36-15-8-10

THE FURNACE BELT COMPANY LIMITED

BALANCED WEAVE MESH SPECIFICATIONS

MESH DESIGNATION	WEIGHT LBS. PER SQ.FT.	DIAMETER OF WIRE	CROSS SECT. AREA
B-12-8-4	6.25	.225	0.995
B-12-8-6	4.34	.192	0.696
B-12-10-8	3.29	.162	0.495
B-12-10-12	1.24	.105	0.210
B-18-15-14	1.10	.080	0.181
B-18-17-10	3.39	.135	0.515
B-24-10-10	3.57	.135	0.687
B-24--22-12	2.98	.105	0.420
B-24-27-14	1.73	.080	0.241
B-30-10-8-10	4.55	.162 - .135	0.858
B-30-18-12	3.00	.105	0.525
B-30-20-10	5.74	.135	0.850
B-30-28-14	2.36	.080	0.302
B-36-10-10	5.75	.135	1.030
B-36-28-12	5.17	.105	0.629

MESH DESIGNATION	WEIGHT LBS. PER SQ. FT.	DIAMETER OF WIRE	CROSS SECT. AREA
B-42-18-10-12	4.63	.135 - .105	0.734
B-42-18-12	4.35	.105	0.734
B-42-30-12	4.97	.105	0.734
B-42-27-14	2.63	.080	0.422
B-48-32-10-12	6.81	.135 - .105	0.839
B-48-51-16	2.5	.062	0.295
B-60-22-14	3.25	.080	0.604
B-60-38-14	4.40	.080	0.604
B-72-24-16	2.35	.062	0.442
B-72-48-16	2.83	.062	0.442
B-72-60-16	3.52	.062	0.442
B-84-84-18	2.47	.048	0.298
B-84-84-20	1.20	.035	0.160



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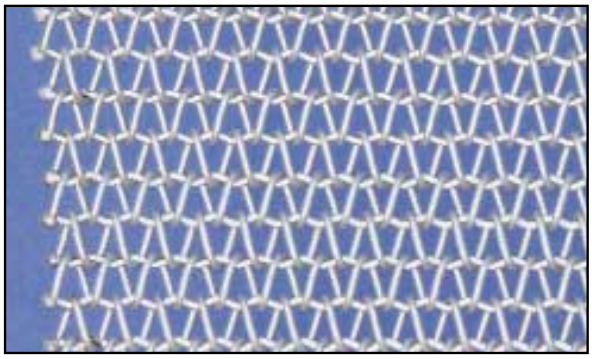

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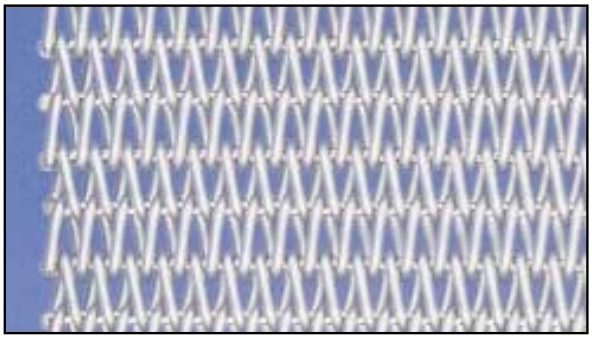

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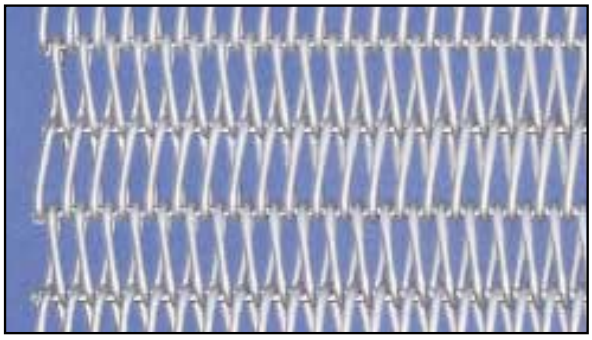

B-72-24-16

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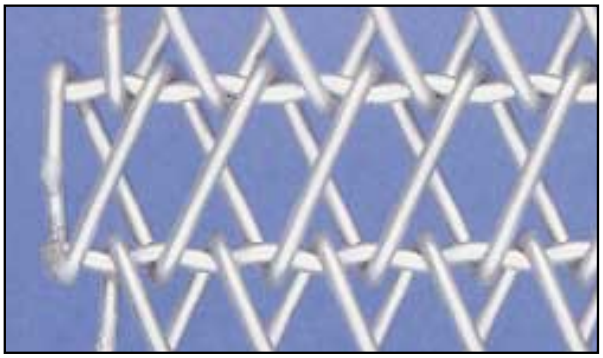
THE FURNACE BELT COMPANY LIMITED

DOUBLE BALANCED WEAVE

The ***F.B.C. Double Balanced Weave*** belt consists of a series of alternating double left-hand and right-hand spirals joined together by a straight or crimped cross-rod connector. In this weave the spirals are lapped to form a closed loop. The rods are welded to the left-hand spirals, creating a ***"strut"***, thus making this weave more resistant to camber. This type of weave is most favoured for carrying heavy loads at elevated temperatures.



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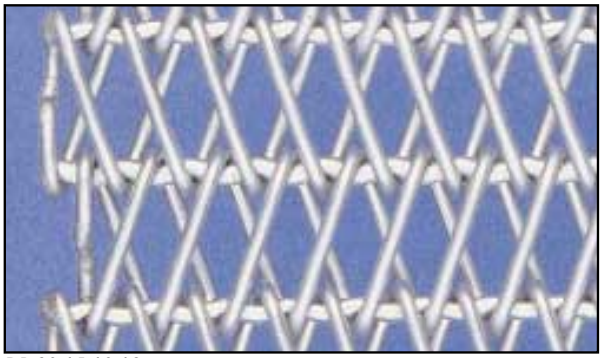
DB-24-10-6-8



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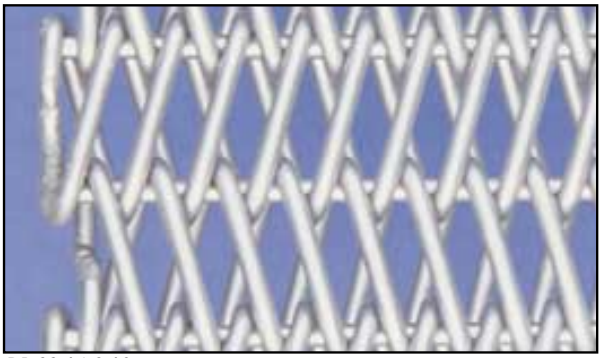

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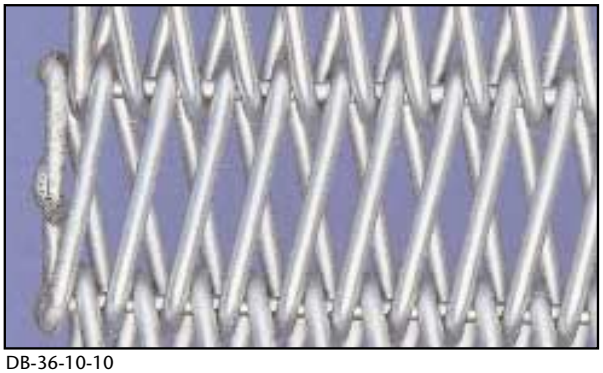

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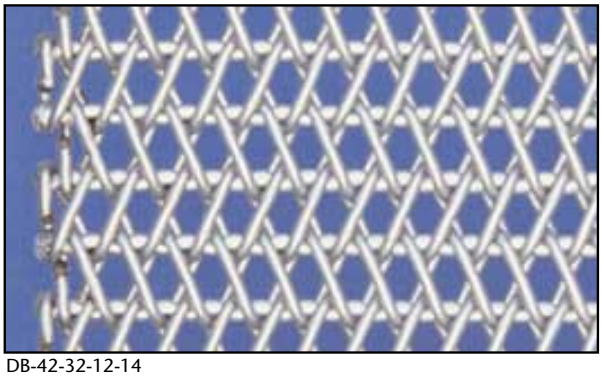

DB-42-32-12-14

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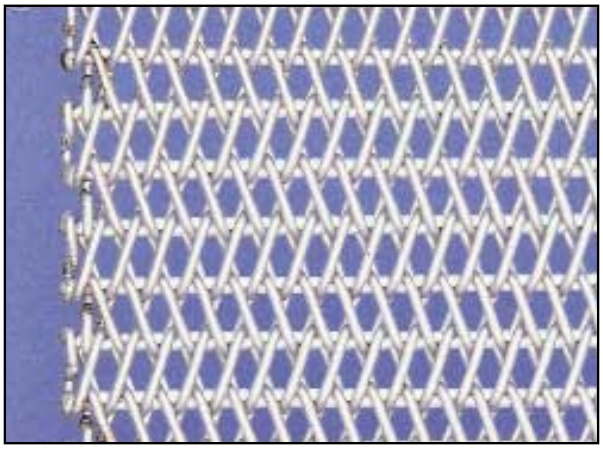
THE FURNACE BELT COMPANY LIMITED

DOUBLE BALANCED WEAVE MESH SPECIFICATIONS

MESH DESIGNATION	WEIGHT LBS. PER SQ.FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)
DB-18-9-10	2.78	.135	0.515
DB-18-10-11	2.30	.120	0.411
DB-18-10-9-10	3.20	.148 - .135	0.411
DB-22-9-6	7.25	.192	1.276
DB-22-9-8	6.83	.162	0.906
DB-22-14-10-12	2.30	.135 - .105	0.385
DB-24-8-9-10	5.00	.148 - .135	0.686
DB-24-10-6-8	6.00	.192 - .162	0.989
DB-24-12-10	5.00	.135	0.686
DB-30-12-10	4.60	.135	0.860
DB-30-14-10	5.10	.135	0.860
DB-30-15-10-12	3.22	.135 - .105	0.525
DB-33-14-9-10	6.00	.148 - .135	0.944
DB-33-18-10	6.10	.135	0.944
DB-36-8-6-10	6.00	.192 - .135	1.030
DB-36-10-10	5.62	.135	1.030
DB-36-15-10-12	3.75	.135 - .105	0.628
DB-36-16-11	4.90	.120	0.820
DB-36-18-10-11	5.40	.135 - .120	0.820
DB-36-18-11	5.10	.120	0.820
DB-36-24-14-16	1.63	.080 - .062	0.222
DB-36-25-12-14	2.70	0.105 - .080	0.363
DB-36-25-13-16	1.83	0.92 - 0.62	0.222

MESH DESIGNATION	WEIGHT LBS. PER SQ. FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)
DB-42-10-14	2.70	0.80	0.422
DB-42-15-10-12	4.00	.135 - .105	0.734
DB-42-18-9-12	5.00	.148 - .105	0.734
DB-42-18-10-12	4.45	.135 - .105	0.734
DB-42-32-12-14	3.80	.105 - .080	0.422
DB-46-25-12-14	3.60	.105 - .080	0.463
DB-48-22-12-14	3.35	.105 - .080	0.839
DB-48-26-12-14	3.50	.105 - .080	0.839
DB-48-26-14-16	2.18	.080 - .062	0.295
DB-54-25-16	2.23	.062	0.332
DB-60-20-14-16	2.23	.080 - .062	0.368
DB-60-46-16	3.00	.062	0.368
DB-72-44-16	2.80	.062	0.442



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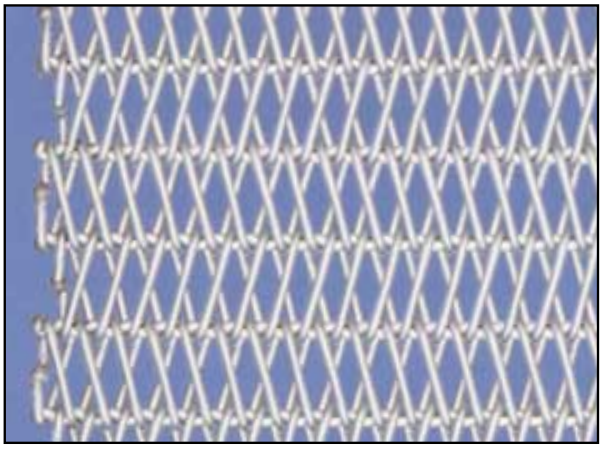

DB-60-24-14-16

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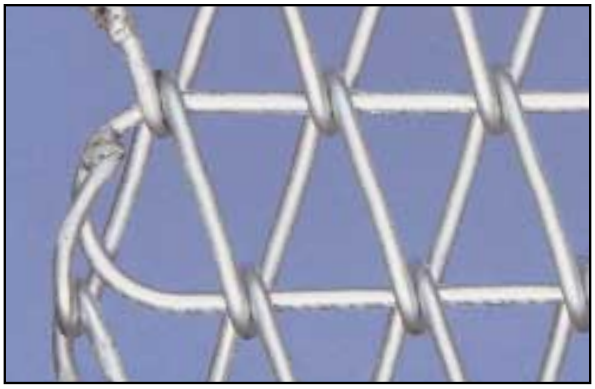
THE FURNACE BELT COMPANY LIMITED

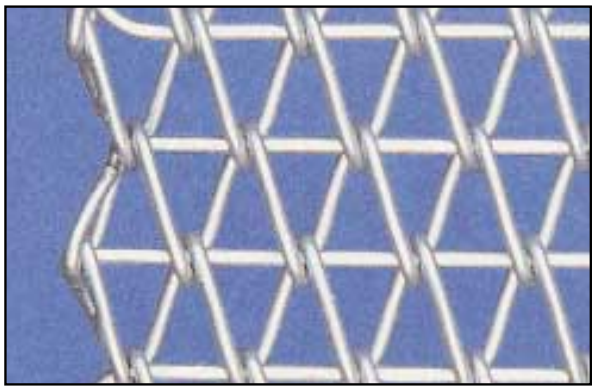
ROD REINFORCED WEAVE

The F.B.C. Rod Reinforced Weave belt consists of single directional spirals inter-woven into the preceding spirals. The spirals are "reinforced" by the insertion of a straight or "U" cross-rod connector inserted through its vertices. This construction produces a very high tensile strength with very low thermal retention, full loading capacities and minimal stretch at extremely high operating temperatures.



R-12-11-10

R-15-13-14



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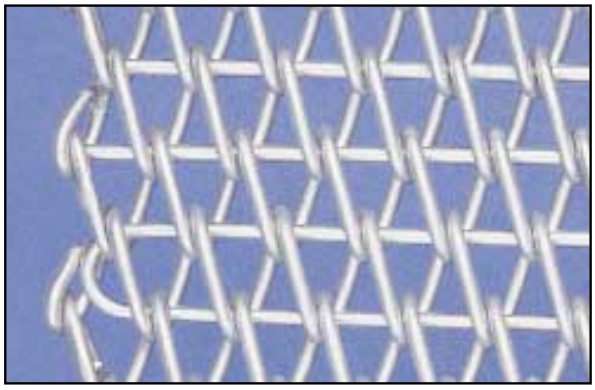

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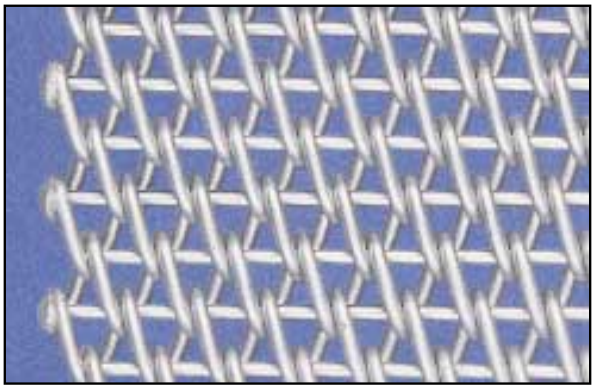

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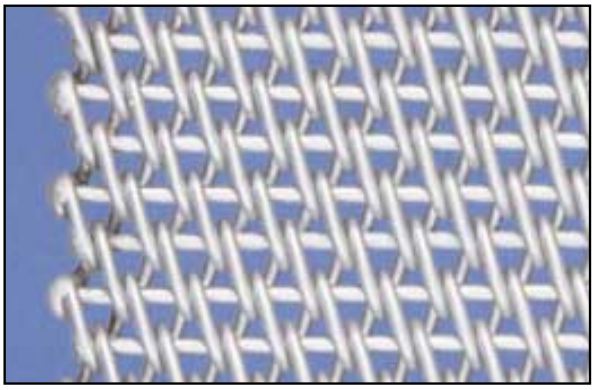

R-31-36-10-12

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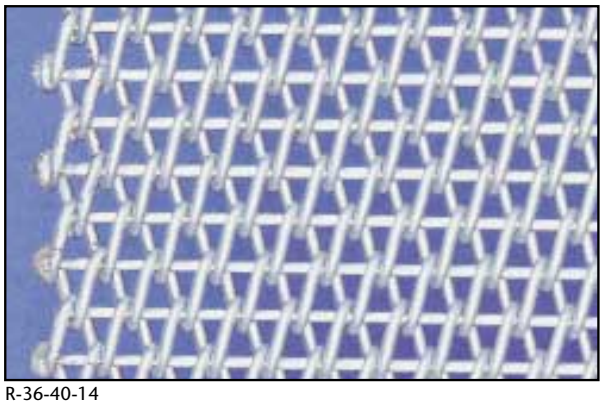
THE FURNACE BELT COMPANY LIMITED

ROD REINFORCED WEAVE MESH SPECIFICATIONS

MESH DESIGNATION	WEIGHT LBS. PER SQ.FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)	MESH DESIGNATION	WEIGHT LBS. PER SQ. FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)
R-12-11-10	2.35	.135	0.344	R-22-21-12-14	1.75	.105 - .080	0.221
R-12-12-7-9	3.26	.177 - .148	0.414	R-22-21-14	1.70	.080	0.221
R-12-12-8	3.77	.162	0.495	R-22-23-9-11	4.69	.148 - .120	0.502
R-12-12-9	3.09	.148	0.415	R-22-23-11	4.05	.120	0.502
R-15-13-10	2.95	.135	0.429	R-23-22-10-12	3.32	.135 - .105	0.402
R-15-13-11	2.30	.120	0.342	R-23-22-12	3.10	.105	0.402
R-15-13-12	1.74	.105	0.262				
R-15-13-14	1.05	.080	0.151	R-24-24-10-12	4.26	.135 - .105	0.420
R-15-15-4-6	8.08	.225 - .192	0.869	R-24-24-12	3.73	.105	0.420
R-15-15-6	7.55	.192	0.869				
R-15-15-6-8	4.65	.192 - .162	0.618	R-26-28-10-12	4.26	.135 - .105	0.455
R-15-15-8	4.65	.162	0.618	R-26-28-12	3.73	.105	0.455
R-15-15-8-10	3.30	.162 - .135	0.429				
R-15-15-9-11	2.55	.148 - .120	0.342	R-28-30-14	2.65	.080	0.282
				R-28-32-10-12	4.82	.135 - .105	0.490
R-18-15-6-8	6.15	.192 - .162	0.742	R-28-32-12	3,73	.105	0.490
R-18-17-8-10	4.21	.162 - .135	0.515				
R-18-17-9-11	3.72	.148 - .120	0.410	R-31-35-12-14	3.31	.105 - .080	0.312
R-18-17-10	3.87	.135	0.515	R-31-36-10-12	5.61	.135 - .105	0.542
R-18-17-11	2.92	.120	0.410				
R-18-18-10-12	2.60	.135 - .105	0.315				
R-18-18-12	2.30	.105	0.315	R-35-44-14	3.50	.080	0.352
R-19-18-14	1.35	.080	0.191	R-36-49-14	3.67	.080	0.362
R-19.5-22-9	6.00	.148	0.675	R-42-48-15	3.15	.072	0.342
R-21-24-8-10	5.70	.162 - .135	0.601	R-48-68-16	2.88	.062	0.295
R-21-24-10	4.92	.135	0.601				



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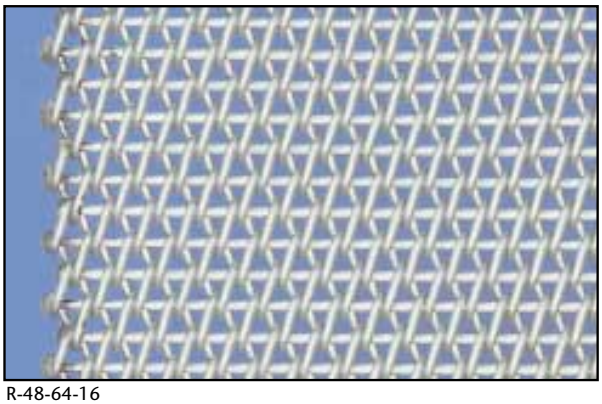

R-48-64-16

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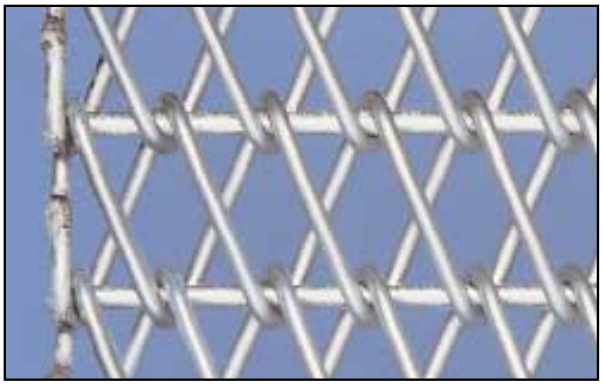
THE FURNACE BELT COMPANY LIMITED

DOUBLE ROD REINFORCED WEAVE

The F.B.C. Double Rod Reinforced Weave belt is an assembly of double spirals, usually right-hand, inter-woven into a preceding pair. The spirals are reinforced by a straight cross-rod connector passing through its vertices. Although similar to a ***Rod Reinforced Belt***, this type of weave has greater strength and a flatter surface for carrying small parts. Its greater tensile strength makes this belt ideal for carrying heavier loads.



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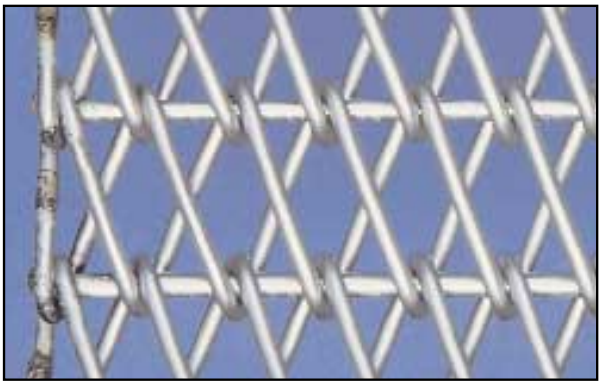

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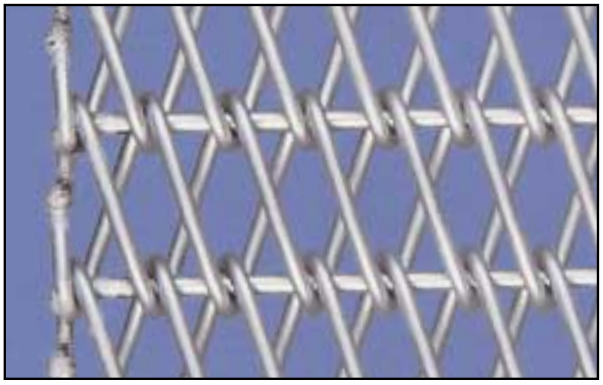

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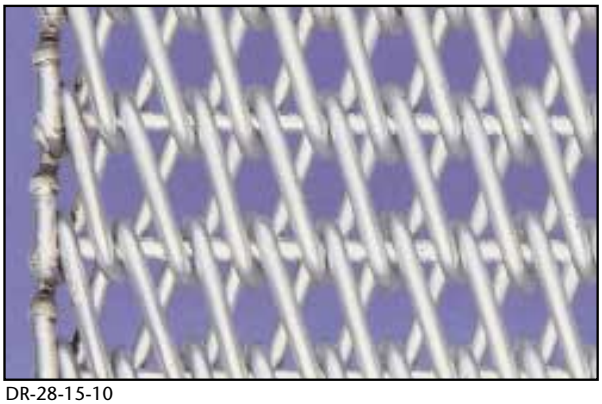

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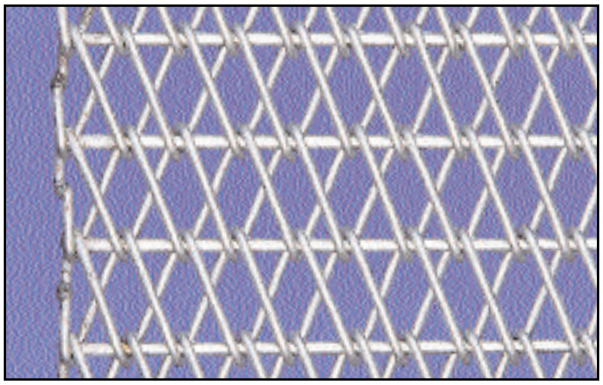

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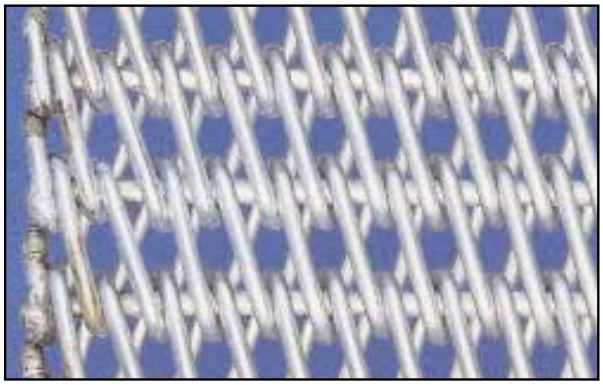

DR-36-18-9-11

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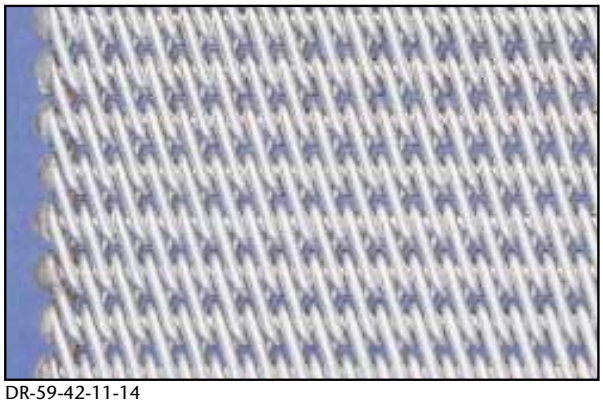
THE FURNACE BELT COMPANY LIMITED

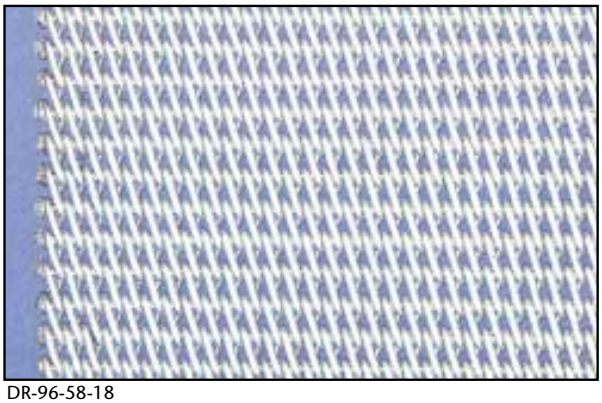
DOUBLE ROD REINFORCED WEAVE MESH SPECIFICATIONS

MESH DESIGNATION	WEIGHT LBS. PER SQ.FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)
DR-18-9-6-8	5.12	.192 - .162	0.742
DR-18-9-7-9	4.13	.177 - .148	0.622
DR-20-10-6-8	5.83	.192 - .162	0.825
DR-20-10-7-9	4.71	.177 - .148	0.691
DR-20-10-8-10	3.75	.162 - .135	0.573
DR-20-10-9-11	2.88	.148 - .120	0.456
DR-22-11-6-8	6.58	.192 - .162	0.907
DR-22-11-7-9	5.28	.177 - .148	0.761
DR-22-11-9-11	3.24	.148 - .120	0.502
DR-24-12-6-8	7.27	.192 - .162	0 989
DR-24-12-8	6.10	.162	0.989
DR-24-12-8-10	4.70	.162 - .135	0.686
DR-24-12-10-12	2.59	.135 - .105	0.420
DR-28-14-7-9	7.18	.177 - .148	0.969
DR-28-14-8-10	5.71	.162 - .135	0.802
DR-28-14 9-10	4.34	.148 - .135	0.802
DR-28-15-10	5.20	.135	0.802

MESH DESIGNATION	WEIGHT LBS. PER SQ. FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)
DR-30-14-8-10	5.75	.162 - .135	0.859
DR-30-14-9	7.68	.148	1.040
DR-30-15-7-9	7.87	.177 - .148	1.040
DR-30-15-8-10	6.27	.162 - .135	0.859
DR-30-15-9-11	4.75	.148 - .120	0.684
DR-30-15-10-12	3.51	.135 - .105	0.524
DR-30-15-12-14	1.88	.105 - .080	0.302
DR-32-16-8-10	6.81	.162 - .135	0.915
DR-32-16-9-11	5.17	.148 - .120	0.730
DR-34-18-10	6.92	.135	0.972
DR-36-18-9-11	6.03	.148 - .120	0.821
DR-36-18-10-12	4.42	.135 - .105	0.629
DR-36-18-12-14	2.36	.105 - .080	0.362
DR-46-23-12	5.90	.105	0.804
DR-48-32-10-12	7.38	.135 - .105	0.839
DR-62-35-14	4.60	.080	0.624
DR-74-47-15	4.59	.072	0.602
DR-82-54-16	4.40	.062	0.504



DR-59-42-11-14



DR-96-58-18

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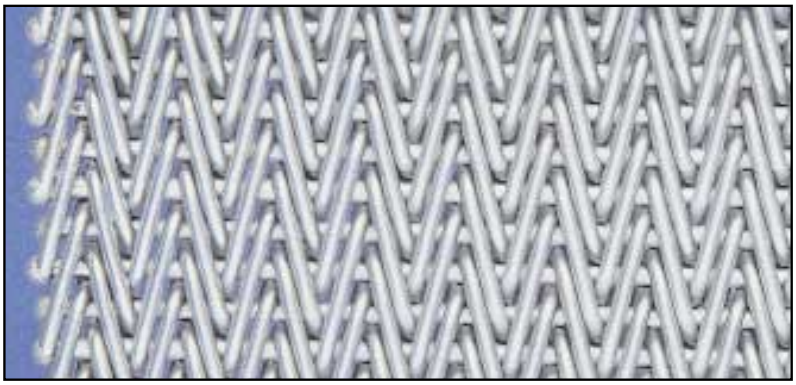
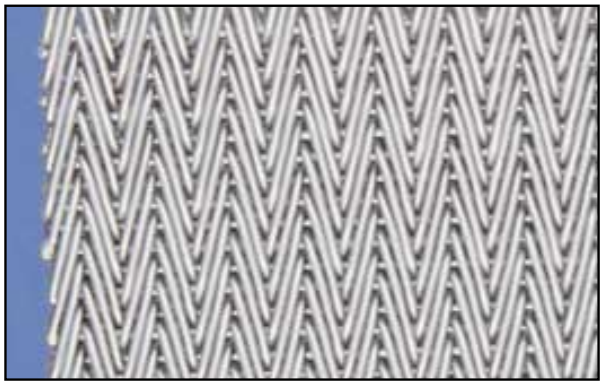
THE FURNACE BELT COMPANY LIMITED

COMPOUND BALANCED WEAVE

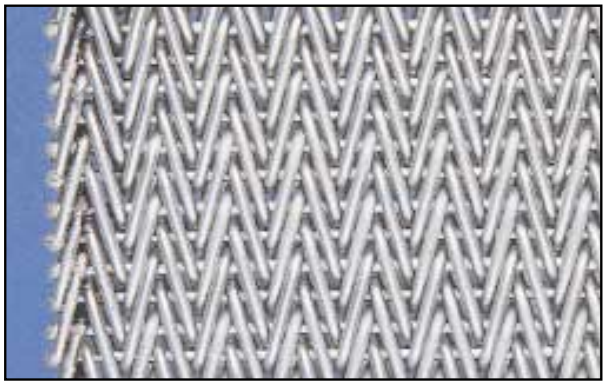
The F.B.C. Compound Balanced Weave belt consists of a series of alternating left-hand and right-hand spirals fastened by a straight cross-rod connector. The close nesting of the spirals makes this belt ideal for carrying very small parts, such as nuts, bolts, screws, nails, etc.



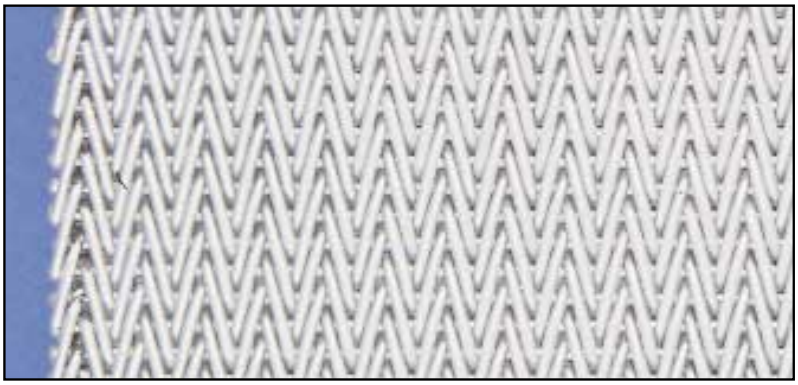
CB-22-48-10-12



CB-28-90.5-16



CB-28-72-14



CB-32-72-14

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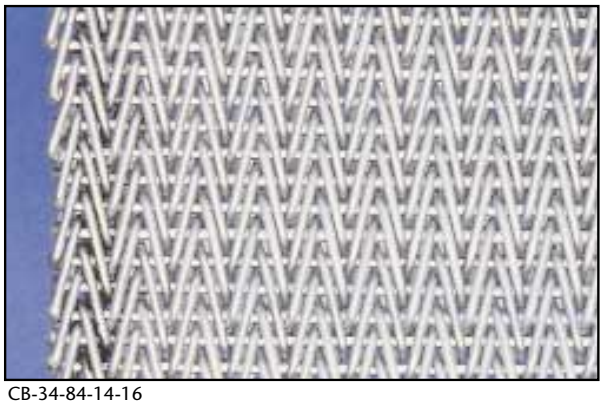
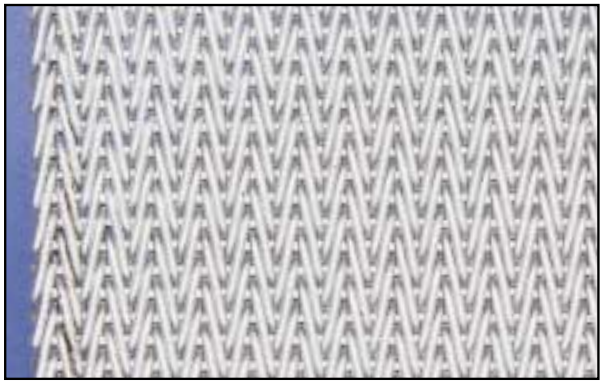
THE FURNACE BELT COMPANY LIMITED

COMPOUND BALANCED WEAVE MESH SPECIFICATIONS

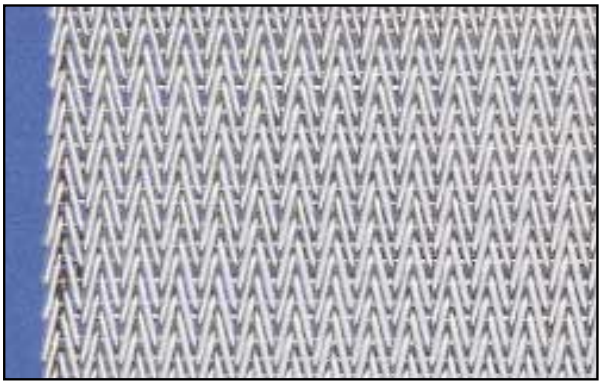
MESH DESIGNATION	WEIGHT LBS. PER SQ.FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)	MESH DESIGNATION	WEIGHT LBS. PER SQ. FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)
CB3-22-48-10-12	8.14	.135 - .105	0.905				
CB3-28-72-14	5.50	.080	0.848	CB4-27-24-14-16	4.45	.080 - .062	0.663
CB3-30-56-14	5.70	.080	0.905	CB4-34-54-14-16F	4.32	.080 - .063 x .047	0.697
CB3-32-72-14	6.36	.080	0.966	CB4-30-84-14-16	5.26	.080 - .062	0.737
CB3-42-72-14-16	4.90	.080 - .062	0.775				
CB3-42-84-17	3.75	.054	0.577	CB5-28-90.5-16	5.11	.062	0.860
CB3-56-120-18	3.90	.048	.0595				
CB3-60-96-18	3.75	.048	0.637				



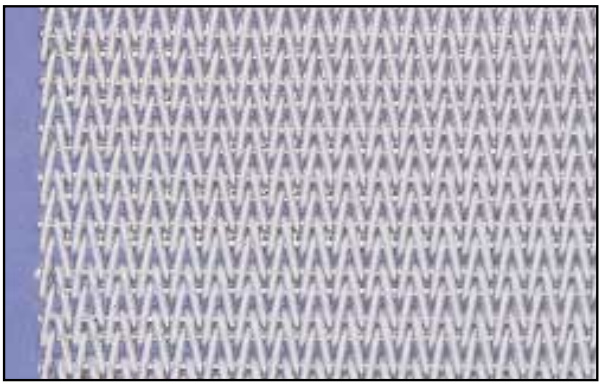
CB-34-84-14-16



CB-40-84-14-16



CB-52-105-18



CB-60-84-18

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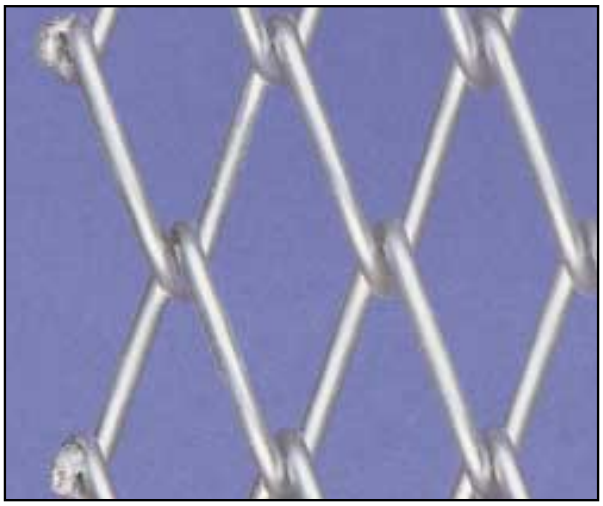
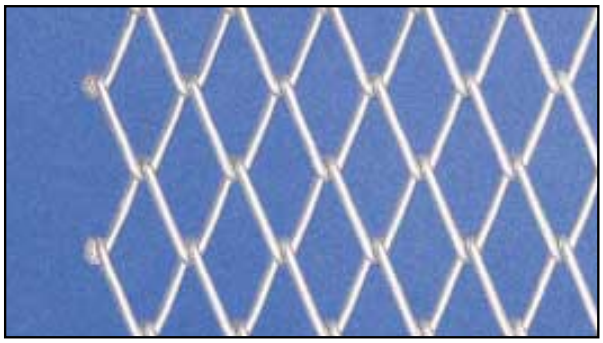
CONVENTIONAL WEAVE

The F.B.C. Conventional Weave consists of single directional spirals inter-woven into the preceding spirals. This weave is the most economical of all weaves and it can be made with either very large or small openings. This weave is frequently used for chain drive belting, and is commonly used for guards on machinery, or as a protective barrier.

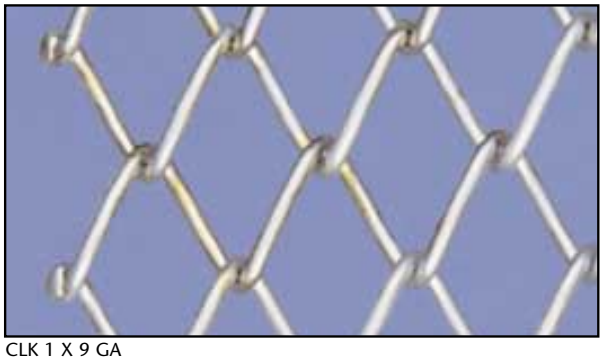


CLK 1 1/4 X 6 GA



CLK 1/2 X 14 GA

CLK 1/4 X 18 GA



CLK 1 X 9 GA

CONVENTIONAL WEAVE MESH SPECIFICATIONS

MESH DESIGNATION	WEIGHT LBS. PER SQ.FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)	MESH DESIGNATION	WEIGHT LBS. PER SQ. FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)
CLK 1/4 x 14 GA	1.75	.080	0.483				
CLK 1/4 x 16 GA	1.07	.062	0.295	CLK 3/4 x 10 GA	2.00	.135	0.458
CLK 1/4 x 18 GA	0.73	.048	0.170	CLK 3/4 x 11 GA	1.62	.120	0.365
				CLK 3/4 x 14 GA	.0.87	.080	0.161
CLK 3/8 x 11 GA	2.75	.120	0.730				
CLK 3/8 x 12 GA	1.87	.105	0.559				
CLK 3/8 x 14 GA	1.06	.080	0.322	CLK 1 x 6 GA	3.13	.192	0.696
				CLK 1 x 9 GA	1.66	.148	0.415
CLK 1/2 x 9 GA	3.78	.148	0.830				
CLK 1/2 x 14 GA	1.10	.080	0.241	CLK 1-1/4 x 6 GA	2.00	.192	0.557
CLK 1/2 x 16 GA	0.75	.062	0.147				

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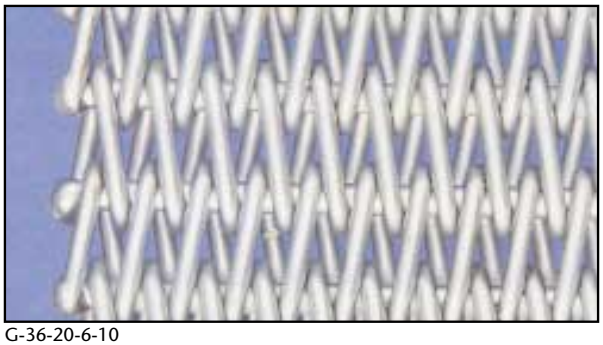
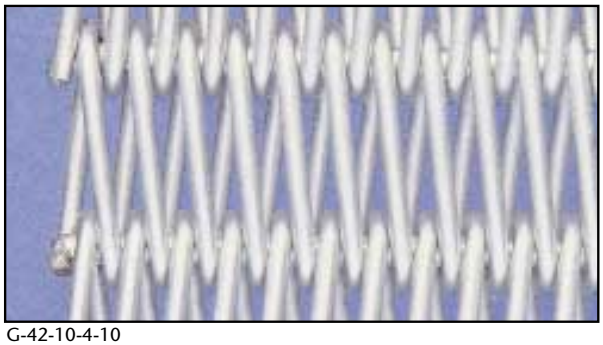
THE FURNACE BELT COMPANY LIMITED

GRATEX WEAVE

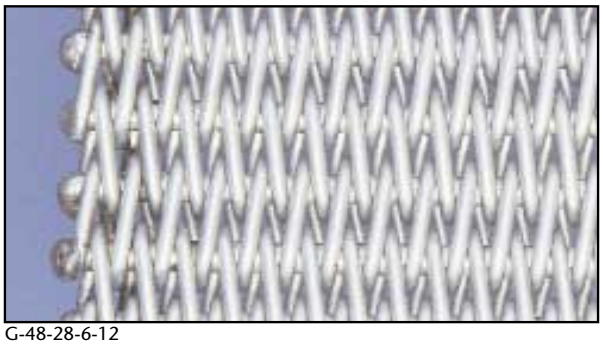
The F.B.C. Gratex Weave belt consists of a series of alternating single left-hand and right-hand spirals joined together by straight cross-rod connectors. Although it seems similar to the Balanced Weave, the Gratex Weave is a closely woven mesh, thus making it ideal for heavy load conveying applications.



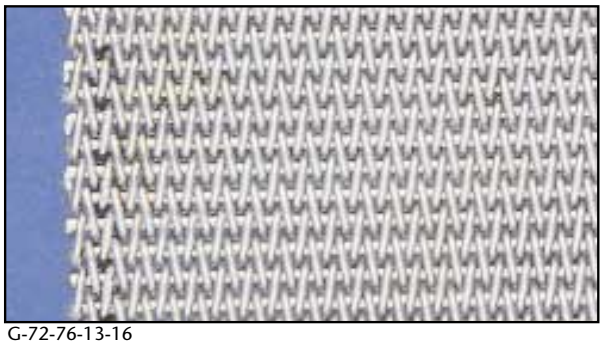
G-36-20-6-10



G-42-10-4-10



G-48-28-6-12



G-72-76-13-16

GRATEX WEAVE MESH SPECIFICATIONS

MESH DESIGNATION	WEIGHT LBS. PER SQ.FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)	MESH DESIGNATION	WEIGHT LBS. PER SQ. FT.	DIAMETER OF WIRE (IN.)	CROSS SECTIONAL AREA (SQ. IN./FT)
G-21-8-4	10.00	.225	1.670				
				G-48-26-6-12	8.79	.192 - .105	0.839
G-35-19-1/4-10	10.50	.250 - .135	1.000	G-48-47-14	4.25	.080	0.483
G-35-21-6-10	8.50	.192 - .135	1.000				
				G-51-20-6-12	8.15	.192 - .105	0.891
G-36-8-10-12	3.00	.135 - .105	0.629				
G-36-8-8-10	5.52	.162 - .135	0.629	G-69-60-14-16	4.38	.080 - .062	0.423
G-42-10-4-10	7.46	.225 - .135	1.202	G-72-76-13-16	5.75	.092 - .062	0.442
G-42-10-6-10	6.50	.192 - .135	1.202				
G-43-20-10-12	5.25	.135 - .105	0.752				
G-43-30-10-12	6.75	.135 - .105	0.752				

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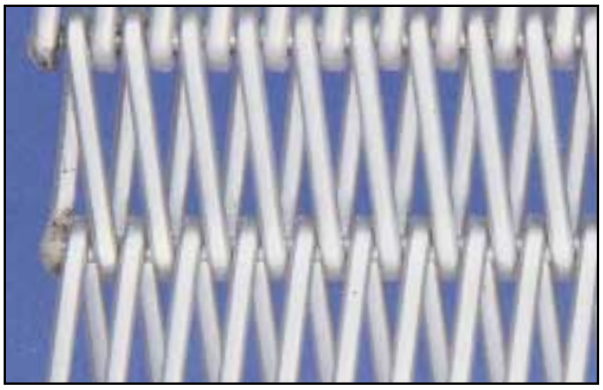
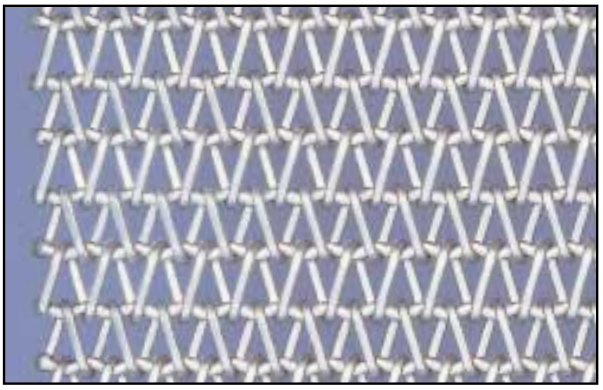
FLATTENED WIRE BELTING

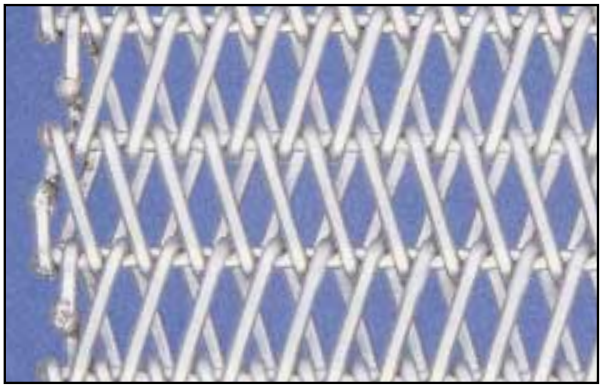
F.B.C. Flattened Wire Belting is an assembly of spirals which are made of round wire that has been flattened to provide a flatter belt surface. This wire can be made into any weave to create a very flat belt, thus reducing belt stretch which occurs with regular round wire. It creates a smooth carrying surface for small unstable parts.



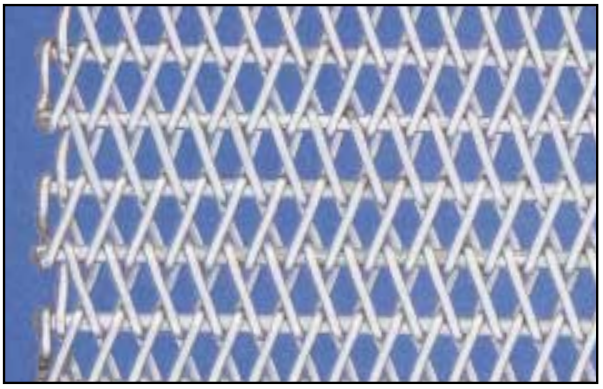
BFS-36-10-8-10



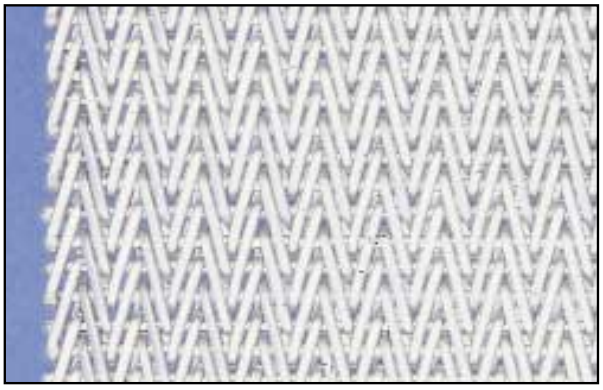
BFS-42-36-14-16



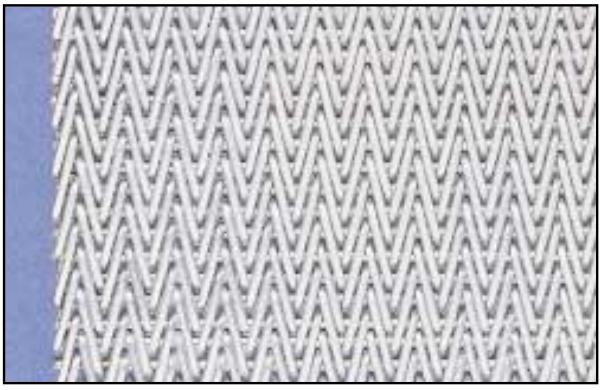
DBFS-36-16-11-13



DBFS-42-32-12-18



CB-34-82-16F



CB-42-78-14-16F

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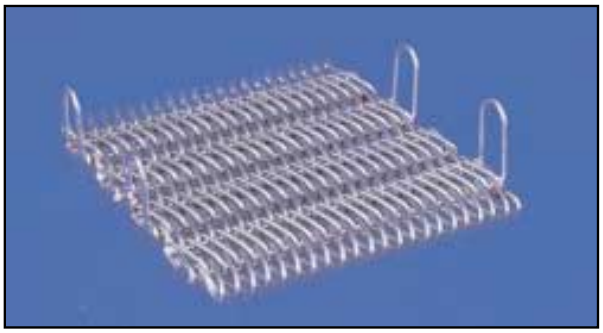
THE FURNACE BELT COMPANY LIMITED

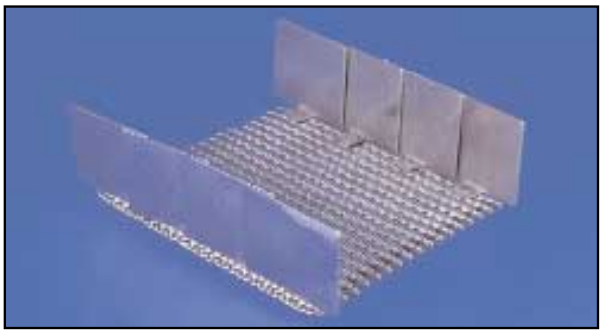
CHAIN BELTING, SPECIAL ATTACHMENTS AND EDGE FINISHES

C-2062 chain with shingle side plates



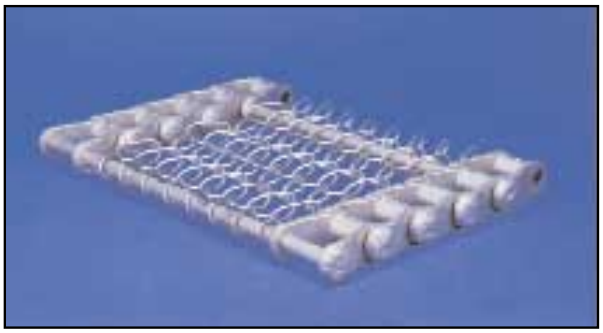
Wicket Edge

#4124 pintle chain



Shingle side plates

#462 pintle chain



#462 pintle chain

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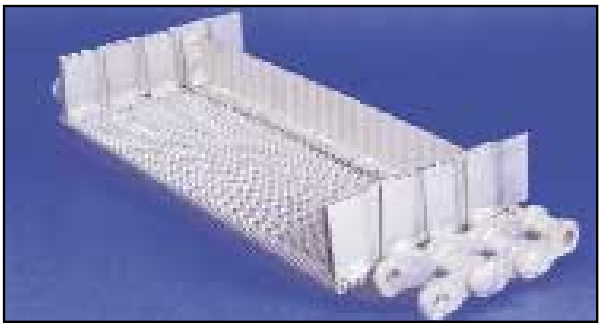
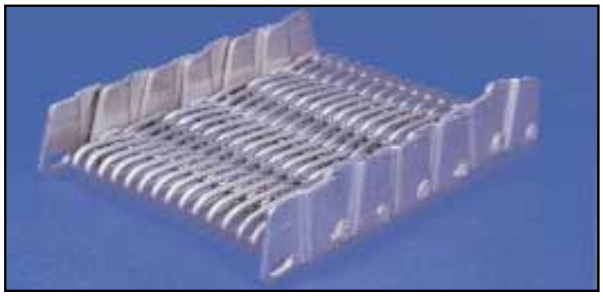
Relieved upturned edge



#462 pintle chain having A12 attachments with interlocking side plates and corrugated flights.

RC80 Chain with off-set side plates

Upturned retaining edge



Off-set side plate guard edge

#483 pintle chain with off-set side plates

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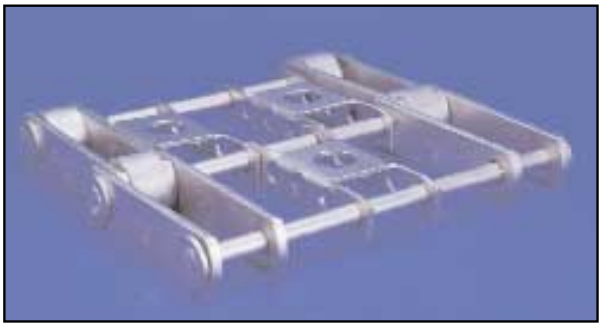
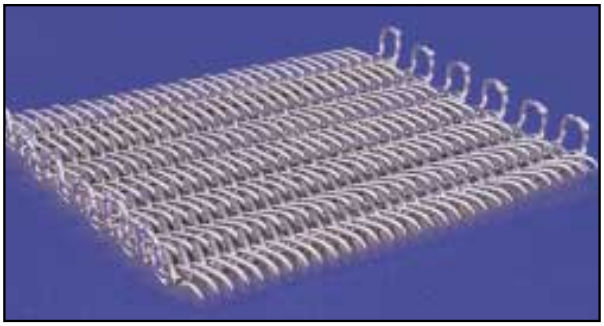
THE FURNACE BELT COMPANY LIMITED

LXS-3013 chain with shingle side plates and inverted "V" flights



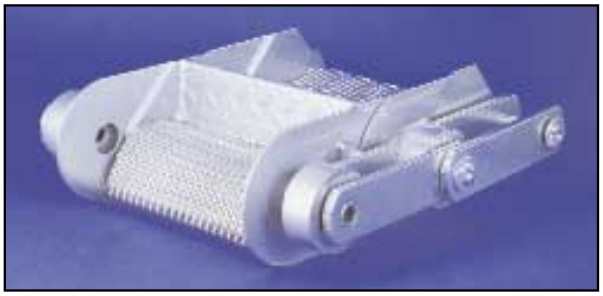
LXS-4013 chain with special support brackets

#4124 pintle chain having A22 attachments and shingle side plates



Wicket retaining edge

C-2052 chain with conventional weave mesh



FBC 6" pitch chain with special side supports and inverted "V" flights (Austemper Belt)

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BELT INSTALLATION INSTRUCTIONS

1) Remove old belt.
2) Check for excessive wear on all of the supports.
3) Check for any misalignment.
4) Remove any residue or product build-up.
5) Check the end drums and pressure rolls for alignment and wear.
6) Check along the entire length of the conveying surface making sure it is level and square.
7) Install the new belt. Use a cable attached to a leader to pull the new belt through or attach the new belt to the old belt to pull it through.
8) Make sure that all the belt spirals are seated properly, if not make the necessary adjustments.
9) When the new belt is pulled through the furnace / conveyor, join the two ends together.
10) Tension the belt and start the drive system. Run the belt under cold condition to make sure that the belt tracks properly.
11) Once the belt is tracking properly, bring the furnace / oven up to 300ºF over one complete cycle. Stress relief the belt by running it at this temperature for approximately two more complete cycles.
12) Repeat this process, increasing the furnace / oven temperature in increments of 300ºF and stress relieving it until the furnace / oven has been reached its operating temperature.
13) Once the furnace / oven has reached its operating temperature, let the belt cycle two to three times before applying load. This process will pre-oxidize the belt.
14) Now the belt is ready to accept load. Make sure, especially in its early stages, that the belt is monitored for proper tracking.

HELPFUL TIPS TO MAXIMIZE BELT LIFE

- Follow proper belt installation procedures (see above).
- Make sure that all drum and pulley diameters are maximized to meet original equipment manufacturing specifications.
- Periodically check all drums and pulleys for proper alignment.
- Keep all belt travel surfaces clean.
- Periodically reverse the direction of belt travel [not recommended for Balanced Weave and Compound Balanced Weave belts.
- Periodically run the belt upside down for a more evenly distributed wear (where applicable).
- Load product being conveyed evenly across the width of the belt.

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SELECTION OF WIRE FOR THE MANUFACTURE OF METAL BELTS

Plain Steel C-1008	Used for dry applications and low temperature ovens.
High Carbon C-1040-1055	For dry atmospheres and heavier loads where severe wear is expected in temperatures ranging up to 1050 °F. This provides greater strength and resistance to abrasion.
1% Chrome	The addition of chrome provides greater strength and oxidation resistance which allows this alloy to be used in temperatures up to 1200 °F
3% Chrome	The addition of chrome and silicon content increases oxidation resistance and permits this alloy to be used at temperatures up to 1300 °F.
Type 304 S.S.	This alloy has a greater oxidation resistance than type 430 s.s. but is subject to carbide precipitation and embrittlement in the range of 500 °F - 1500 °F. Most commonly used in chemical, food processing, and marine equipment. This alloy is not suitable for high temperature applications.
Type 316 S.S.	The addition of molybdenum provides a higher corrosion resistance than type 304 s.s. This alloy is resistant to sulfuric and ditric acids, pitting from bromides, acetic and phosphoric acids.
Type 347 S.S.	Type 347 s.s is almost identical to type 304 s.s. except for the addition of columbium, thus eliminating danger of carbide precipitation that occurs from 800 °F - 1500 °F. This alloy is much stronger than type 304 s.s and type 316 s.s in the temperature range.
Type 321 S.S.	Similar to type 304 s.s. but with a titanium stabilizer. It loses certain elements when welded.
Type 309 S.S.	Provides good oxidation resistance up to 1700 °F, but is subject to carbide precipitation and scaling in the temperature range of 800 °F - 1500 °F.
Type 310 S.S.	At elevated temperatures this alloy has greater strength and scale resistance than type 309 s.s. Commonly used for heat exchangers, furnace parts, combustion chambers, gas turbine parts, etc.
Type 314 S.S.	This alloy is commonly used for high temperature belt applications such as copper brazing and powdered metal sintering. The high silicon content increases its resistance to oxidation and carburization. This alloy is also subject to carbide precipitation and embrittlement in the temperature range of 800 °F - 1500 °F.
Type 35/19	Recommended for oxidizing atmospheres below 1900 °F under cycle heating conditions, has good resistance to thermal shock, greater strength, and less elongation. However can suffer from excessive grain growth and internal fracture.
Type 35/19 CB	Like type 35/19 but with columbium added as a stabilizing agent which prevents carbide precipitation, resists carburizing and carbo-nitriding up to 1750 °F, like type 35/19 can suffer from excessive grain growth.
Inconel 600	This alloy has an excellent resistance to carburization, nitriding, and oxidation at higher temperatures than type 314 s.s and type 35/19 above 1800 °F. An excellent alloy for nitriding because of its excellent resistance to ammonia, nitrogen, and resistance to molten aluminum flux.
Inconel 601	With a higher chrome content and addition of aluminum alloy. This gives additional resistance to oxidation, carburization, and sulfuric elements.
80/20 CB	Recommended for temperatures ranging from 1800 °F - 2100 °F. This alloy has an excellent oxidation resistance and high strength at elevated temperatures. The addition of columbium as a stabilizing agent makes this alloy resistant to “green rot” at temperatures between 1800 °F - 1900 °F.
Tophet F	This alloy is similar to 80/20 CB with the addition of aluminum. This improves resistance to extremely high temperatures in oxidizing and reducing atmospheres. Subject to embrittlement between 1000 °F - 1200 °F.
Tophet 30	With 30 % chromium and 70 % nickel, it provides superior oxidation resistance at temperatures as high as 2200 °F.

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WIRE ANALYSIS % FOR THE MANUFACTURE OF METAL BELTS

WIRE DESCRIPTION	CHROMIUM	NICKEL	CARBON	SILICON	MANGANESE	COLUMBIUM	OTHER	MAXIMUM OPERATING TEMP.
Plain Steel C-1008			.10 max	.1- .3	.3 - .5			600 F
High Carbon C-1040-1055			.37 - 44	.1- .3	.6- .9			1050 F
1% Chrome	1.1 - 1.5		.07 - .15	.50 - 1.00	.30 - .60			1200 F
3% Chrome	2.75 - 3.25		.1 - .15	1 - 1.5	.4 - .6		.4 - .6 Mo.	1300 F
Type 304 s.s.	18 - 20	8 - 12	.08 max	0.75	2.00			1500 F
Type 316 s.s.	16 - 18	10 - 14	.08 max	.75	2.00		2 - 3 Mo.	1500 F
Type 347 s.s.	17 - 19	9 - 13	.08	.75	2.00	10 x Carb		1500 F
Type 321 s.s.	17 - 19	9 - 12	.08 max	1 max	2.00		Ti 5 x C Min.	1600 F
Type 309 s.s.	22 - 24	12 - 15	.20 max	1 max				1700 F
Type 310 s.s.	22 - 26	19 - 22	.25	1.5	2.00		.045 P	1950 F
Type 314 s.s.	23 - 26	19 - 22	.25	2.0 - 3.0	2.00		.045 P	2050 F
Type 35/19	19 - 20	34 - 36	.1	1.25 - 1.75	1.00			1900 F
Type 35/19 CB	17 - 20	34 - 36	.1	1.5 - 2.5	2.00	.75 - 1.25		1950 F
Inconel 600	14 - 17	72 - 76	.04	.2	.20		7.2 Fe	1000 F
Inconel 601	23	60	.15	.5	.5			2100 F
80/20 CB	19 - 21	77 - 79	.15	1.00	2.5	.75 - 1.25		2100 F
Tophet F	18 - 20	70 - 72	.038 max	1.3 max	1.19 max		Cu 2.5 max Al 2.5 - 3	2200 F
Tophet 30	29 - 31	68 - 70	.10 max	1.5 max	.10 max		Al .20 max	2200 F

MAXIMUM OPERATING TEMPERATURES IN SELECTED ATMOSPHERES

WIRE DESCRIPTION	REDUCING DISSOCIATED AMMONIA HYDROGEN (CLASS 501)	OXIDIZING (AIR)	CARBURIZING	REDUCING OXIDIZING WITH SULPHUR	REDUCING WITH LEAD OR ZINC	REDUCING EXOTHERMIC UNPURIFIED EXOTHERMIC PURIFIED (CLASS 101-102)	REDUCING ENDOTHERMIC (CLASS 301-402)
304 S.S	1500˚F	1500˚F	1500˚F	NR	1500˚F	1500˚F	1500˚F
316 S.S	1500˚F	1500˚F	1500˚F	NR	1500˚F	1500˚F	1500˚F
347 S.S	1500˚F	1500˚F	1500˚F	NR	1500˚F	1500˚F	1500˚F
309 S.S	1700˚F	1700˚F	1700˚F	NR	1600˚F	1700˚F	1600˚F
314 S.S	2050˚F	2050˚F	2050˚F	2050˚F	NR	2050˚F	2050˚F
35/19 CB	2000˚F	1800˚F	1800˚F	1700˚F	1700˚F	2000˚F	2000˚F
INC 600	1800˚F	2150˚F	1750˚F	1500˚F	NR	1750˚F	2150˚F
80/20	2150˚F	2150˚F	NR	NR	NR	2150˚F	2150˚F

NR – NOT RECOMMENDED

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MAXIMUM ALLOWABLE WORKING TENSION - LBS/IN² OF BELT CROSS SECTION

TEMP. °F	800	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2050	2100
304 S.S	1320	1090	1010	855	695	535	475							
316 S.S	1865	1730	1625	1410	1195	960	805							
347 S.S	2525	2350	2130	1810	1390	1135	895							
309 S.S	2205	1875	1770	1565	1320	1070	905	740	555					
314 S.S	2525	2130	1895	1650	1390	1135	905	680	505	390	290	220	190	
35/9 CB				2150	1945	1700	1225	1020	660	430	290	200	185	
INC. 600						1020	800	595	555	430	380	260	215	195
80/20						1585	975	595	505	435	370	265	225	195

Above table has been calculated on 10 ga. wire.
Maximum allowable pull is increased by 3% for each wire gauge above 10 ga. and decreased by 3% for each wire gage under 10 ga.

HOW TO DETERMINE BELT MESH DESIGNATION

BELT DESIGNATION EXAMPLE B - 36 - 10 - 12
B = Type as described (page 15)
36 = Number of wire loops per foot of width
10 = Number of cross rods per foot of length
12 = wire gauge of spirals and rods

When the specification appears with 4 sets of numbers, the third set is the wire gauge of cross rods.

CROSS SECT. AREA OF WIRE

WIRE GA.	DEC. (IN.)	CSA (SQ. IN.)
1	.283	.0629
2	.262	.0541
3	.243	.0466
4	.225	.0399
5	.207	.0337
6	.192	.0290
7	.177	.0246
8	.162	.0206
9	.148	.0173
10	.135	.0143
11	.120	.0114
12	.105	.00874
13	.092	.00658
14	.080	.00503
15	.072	.00407
16	.062	.00307
17	.054	.00229
18	.048	.00177
19	.041	.00132
20	.035	.000951

TO DETERMINE BELT CROSS SECTION AREA

Multiply first set of numbers times the spiral gauge cross sectional area times two. This will give the cross sectional area per foot of width.

TO DETERMINE DRUM SIZES

Drum size is determined by the specification second count.

- To determine the maximum drum size divide 360 by the second count.
- To determine the minimum drum size divide 180 by the second count.
- To determine the maximum take-up pulley divide 120 by second count.
- To determine the minimum take-up pulley divide 60 by second count.

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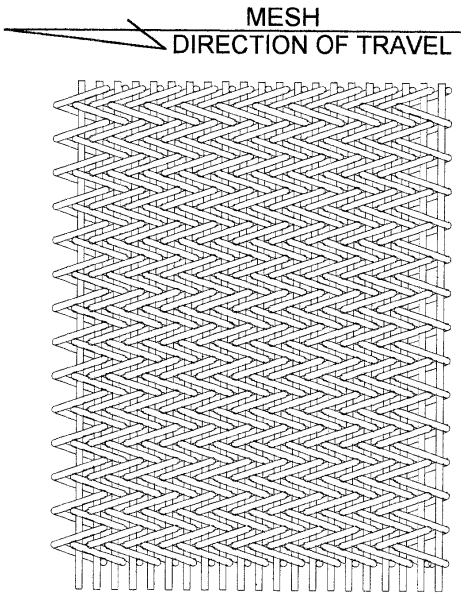
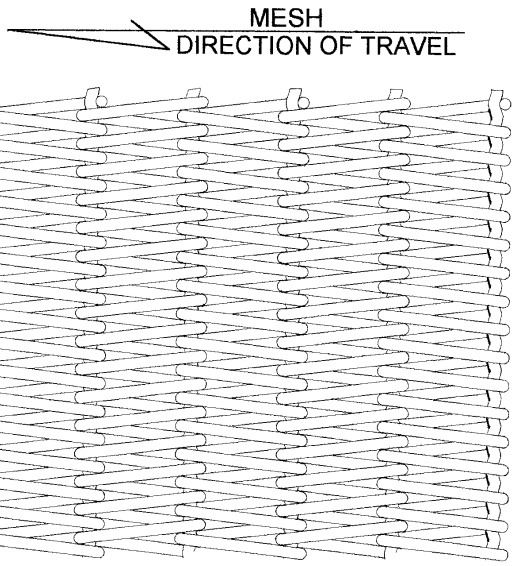
MESH DIRECTION OF TRAVEL



"C" – COMPOUND WEAVE



"B" – BALANCED WEAVE

NOTE:
THE FOLLOWING ITEMS DO NOT HAVE A "DIRECTION OF TRAVEL" RESTRICTION:

MESH
DB – DOUBLE BALANCED
DBFS – DOUBLE BALANCED, FLATTENED (SPIRAL SECTION)
CLK – CONVENTIONAL WEAVE
R or RR – ROD REINFORCED
DR – DOUBLE ROD REINFORCED

CHAIN
RC SERIES – STANDARD ROLLER CHAIN
C2000 SERIES – CONVEYOR CHAINS
SS & LXS CLASS – (FLAT SIDEBAR) ROLLER CHAIN
(ALL PINTLE CHAIN AND OFFSET SIDEBAR CHAIN MUST BE ALIGNED TO DIRECTION OF TRAVEL)

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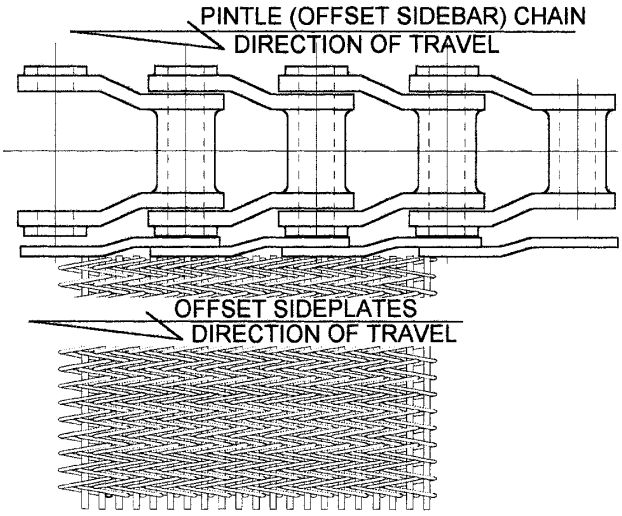
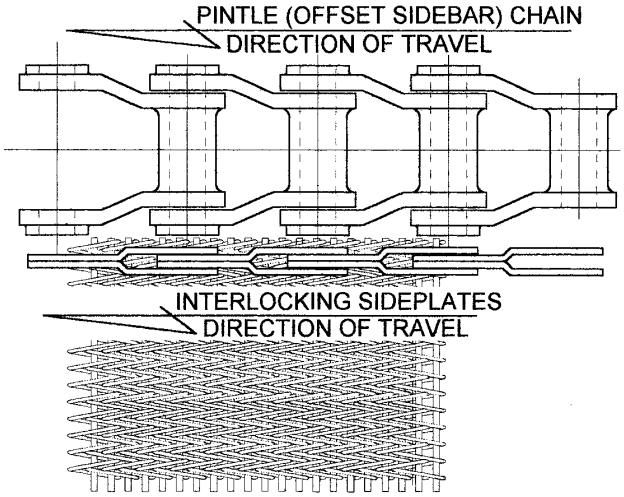
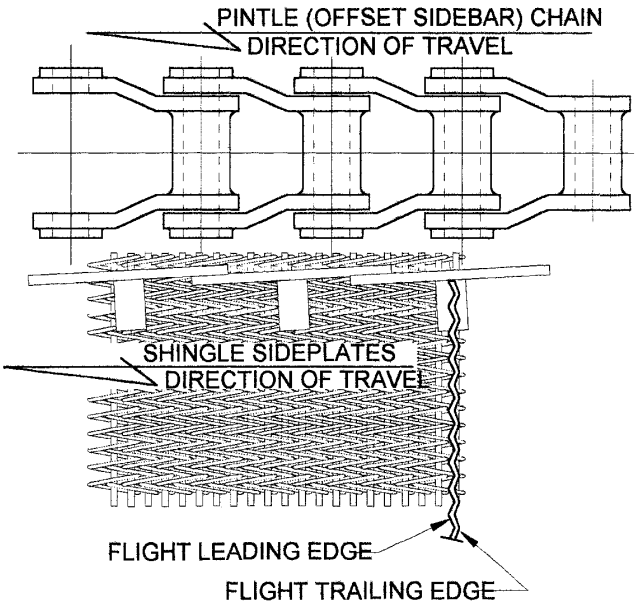
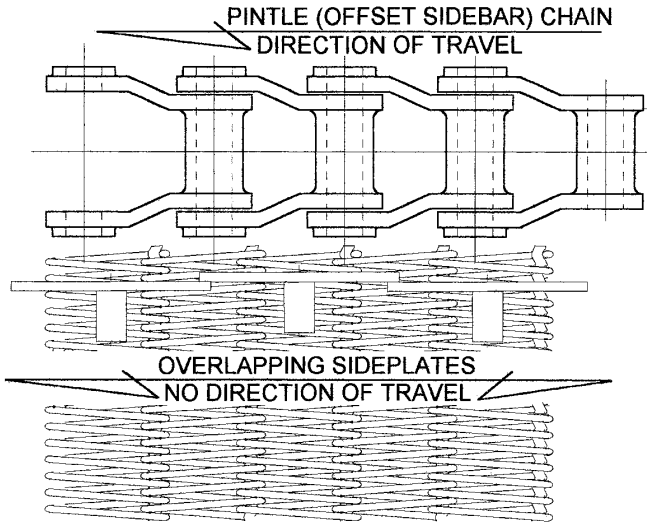
DIRECTION OF TRAVEL









NOTE: FOR "MESH DIRECTION OF TRAVEL" INFORMATION (SEE PREVIOUS PAGE)

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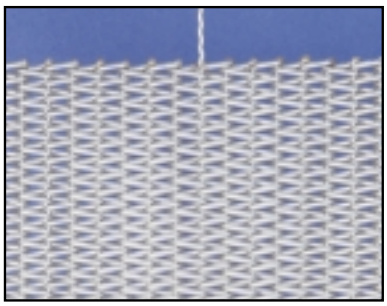
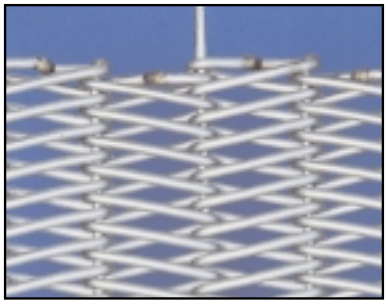
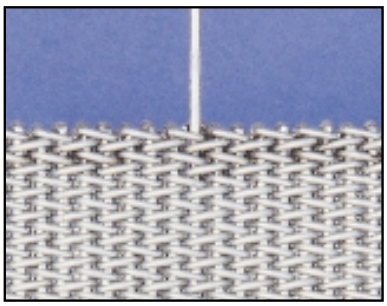
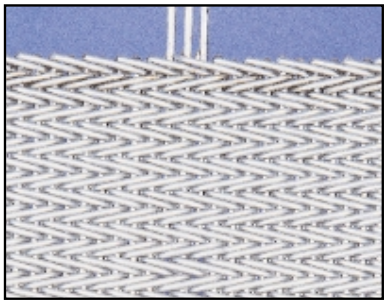
SPLICING F.B.C. WOVEN WIRE BELTS

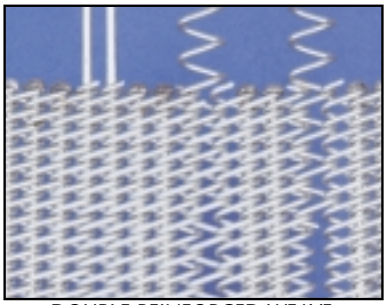

BALANCED WEAVE


DOUBLE BALANCED WEAVE

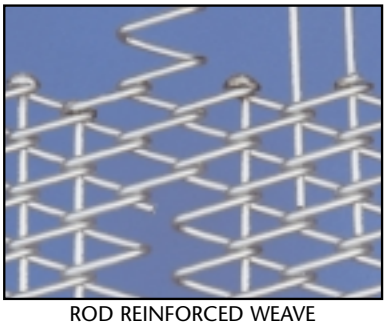

GRATEX WEAVE

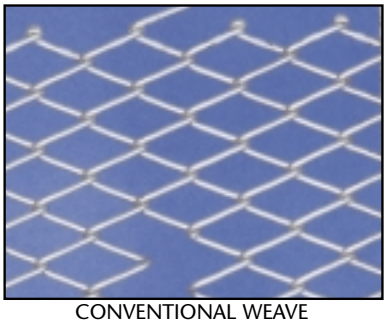
F.B.C. Balanced Weave, Double Balanced Weave and Gratex Weave belts are all spliced by inserting a straight or crimped connector through the vertices of a right-hand and a left-hand spiral.


COMPOUND WEAVE


DOUBLE REINFORCED WEAVE

F.B.C. Compound Balanced Weave belts are spliced by inserting straight rods (two to five rods depending on the specification) through the vertices of a right-hand and left-hand spirals.
F.B.C. Double Rod Reinforced Weave belts are spliced by inter-weaving the two belt ends with a pair of loose spirals and then inserting rods through its vertices.
Note: the interweaving of a double reinforced weave belt can be difficult in tightly woven specifications if the pair of loose spirals are inter-woven simultaneously. Separate them into two loose spirals and inter-weave them one spiral at a time.


ROD REINFORCED WEAVE


CONVENTIONAL WEAVE

F.B.C. Rod Reinforced Weave and Conventional Weave belts are both spliced by inter-weaving the two belt ends with a loose spiral. However, a Rod Reinforced Weave belt must have rods inserted into its vertices.

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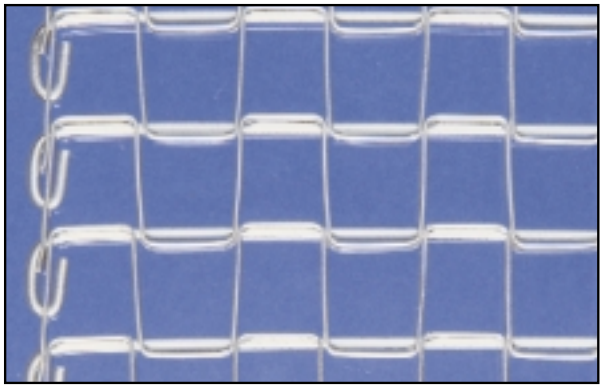
THE FURNACE BELT COMPANY LIMITED

STANDARD DUTY FLAT WIRE BELTING

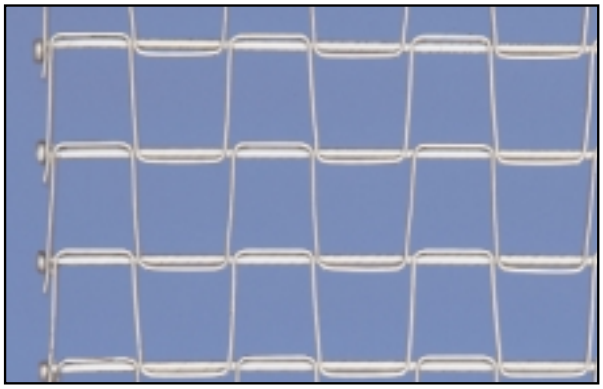
The ***F.B.C. Standard Duty flat wire belting*** is suitable for most general conveying applications. They are available in several mesh specifications, with 1″ x 1″ and 1/2″ x 1″ being the most commonly used (others sizes are available upon request). These belts can be manufactured in widths ranging from 7″ to 192″, and to any desired length.

F.B.C. Standard Duty mesh specifications are made from three common materials: C-1008 low carbon galvanized steel, C-1040/C-1055 high carbon steel and type 304 stainless steel (other materials are available upon request). ***Standard Duty*** belts are normally equipped with clinched edge (except for 1/2″ x 1/2″ true) to prevent mesh shrinkage on the rods, but can also be furnished with button-head welded edges.

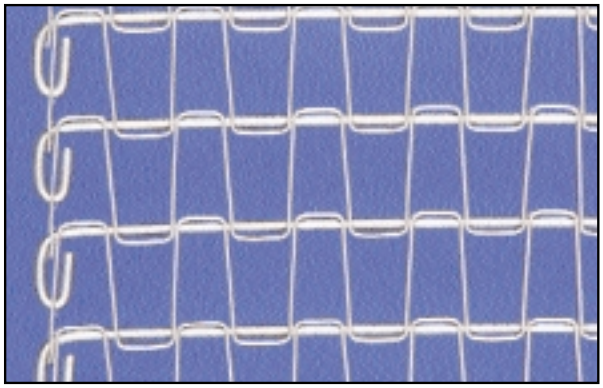
SPECIFICATION	STRIP THICKNESS	ROD DIAMETER	BELT HEIGHT	MAX. TENSION (LBS/FT OF WIDTH)	WEIGHT PER SQ.FT
1 x 1	.046″	.120″	3/8″	480	1.855
1/2 x 1	.046″	.120″	3/8″	660	2.205



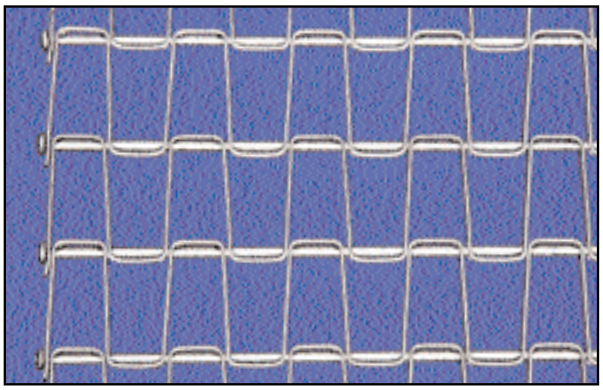
1 X 1 Std. Clinched



1 X 1 Std. Button-Head Welded



1/2 X 1 Std. Clinched



1/2 X 1 Std. Button-Head Welded

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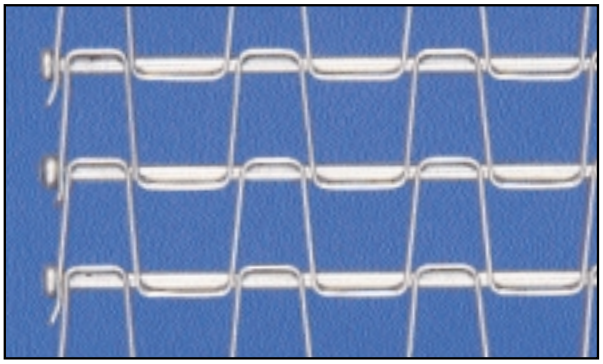
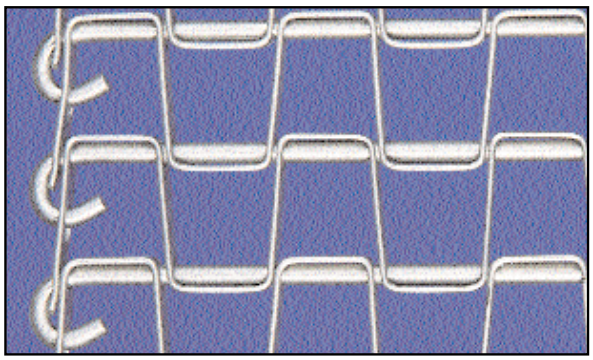
HEAVY DUTY FLAT WIRE BELTING

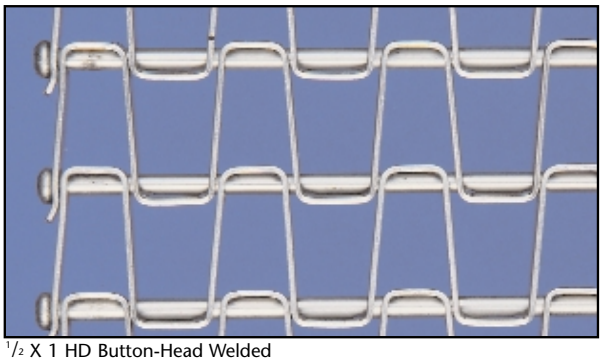
The F.B.C. Heavy Duty flat wire belting is suitable for heavier conveying applications when Standard Duty will not be adequate . They are available in several mesh specifications, with 1" x 1" and 1/2" x 1" being the most commonly requested (others sizes are available upon request). These belts can be manufactured in widths ranging from 6-1/2" to 156", and to any desired length.

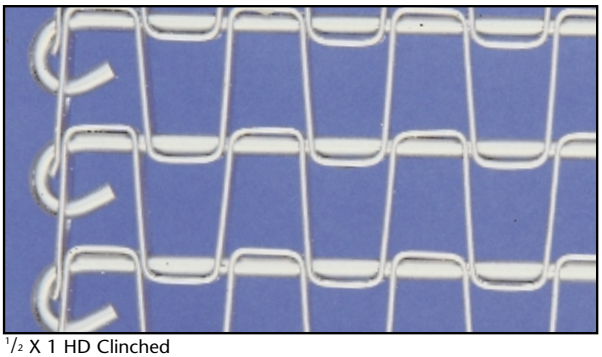
F.B.C. Heavy Duty mesh specifications are made from three common materials: C-1008 low carbon galvanized steel, C-1040/C-1055 high carbon steel and type 304 stainless steel (other materials available upon request). ***Heavy Duty*** belts are normally equipped with button-head welded edges, but can also be furnished with clinched edges.

SPECIFICATION	STRIP THICKNESS	ROD DIAMETER	BELT HEIGHT	MAX. TENSION (LBS/FT OF WIDTH)	WEIGHT PER SQ.FT
1 x 1	.062"	.192"	1/2"	1350	3.500
1/2 x 1	.062"	.192"	1/2"	1750	3.900


1 X 1 HD Button-Head Welded


1 X 1 HD Clinched


1/2 X 1 HD Button-Head Welded


1/2 X 1 HD Clinched

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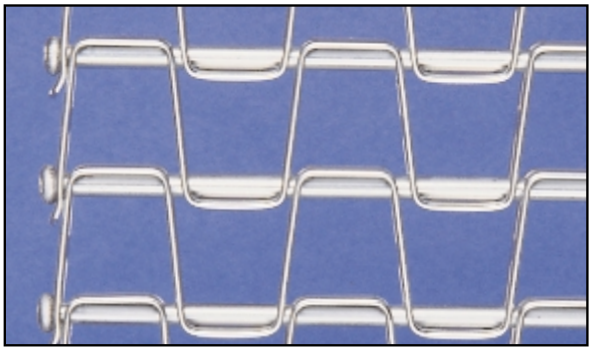
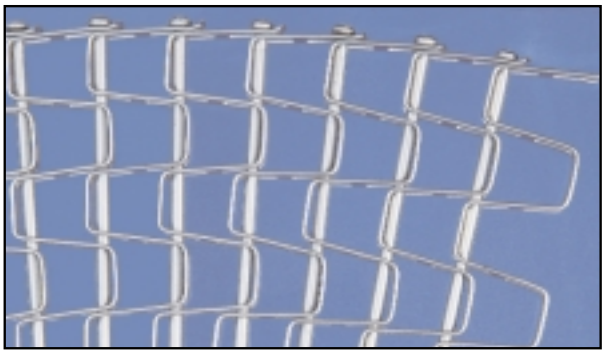
THE FURNACE BELT COMPANY LIMITED

HEAVY DUTY FLAT WIRE CURVE BELTING

The ***F.B.C. Heavy Duty Curve*** belt has all the characteristics of a regular belt with the exception that this belt can negotiate right or left hand turns up to 180 degrees. This feature eliminates extra transfer conveyors thus reducing the use of valuable floor space.
The minimum belt turning radius is equal to 2.2 times the belt width, this is measured on the inside radius of the belt. For tight turns narrow width belts can be used separated by a rail.
In a turn the outside edge receives all the stresses but with the addition of reinforcing links the load carrying capacity is greatly increased. These reinforcing links can be supplied on either side or both.



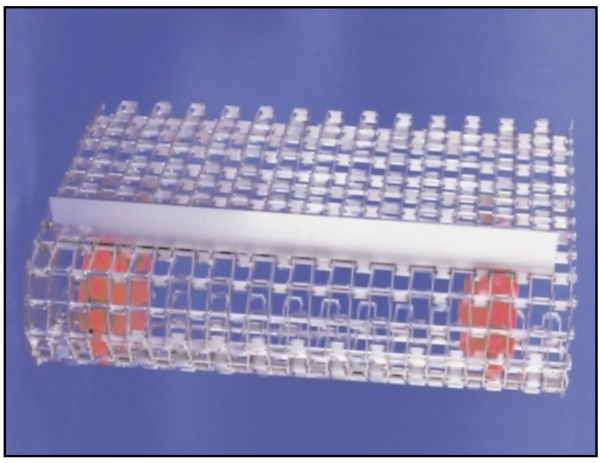
1 X 1 HD (curve)



1 X 1 HD (curve)

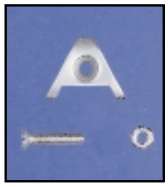
FLIGHTS, FLIGHT CLIPS AND CONNECTOR RODS

F.B.C. can supply flights, flight clip and connector rods.



Standard Duty Clinched Connector Rod

Heavy Duty Button-Head Welded Connector Rod



Std. Flight Clips with Hardware

HD Flight Clips with Hardware

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FLAT WIRE SPROCKETS

F.B.C. provides Sprockets for all 1 x 1 and 1/2 x 1 flat wire belting. We stock all common sprocket sizes for both *Standard Duty (STD)* and *Heavy Duty (HD)* specifications and are readily available in three different materials:

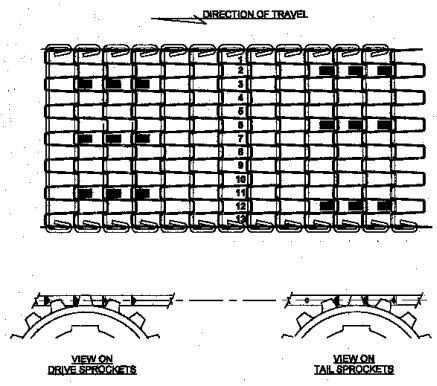
Cast Iron - These sprockets should be considered first when choosing sprocket material because they offer high strength at an affordable price.
Note: Can be furnished with flame hardened teeth to increase sprocket life.

Ultra High Molecular Weight UHMW - These sprockets are used where protection from corrosion is required. They are ideal for food handling applications where cast iron cannot be used. They offer complete corrosion resistance at a more economical price than stainless steel sprockets.

304 Stainless Steel - These sprockets are ideal for conveying loads in heat applications and/or sanitary environments. These sprockets should be chosen only when Cast Iron or Poly cannot be used. They offer high strength, corrosion and heat resistance.

Note: Other flat wire sprocket styles and materials are available upon special request.

FLAT WIRE SPROCKET LOCATION



LOCATION OF SPROCKETS

Proper sprocket location as shown in the drawing on the left is essential for smooth belt operation. Sprocket teeth must always drive against the connector rods. This is accomplished by locating the **Drive** sprockets so that the teeth are in the odd numbered mesh openings.

It is very important when mounting sprockets to have the long side of the hubs all facing the same direction. Avoid placing drive sprockets so that they drive on the outside mesh openings.

FLAT WIRE KEYWAY SIZES

BORE DIAMETER	KEYWAY SIZES
3/4″ to 7/8″	3/16″ x 3/32″
15/16″ to 1-1/4″	1/4″ x 1/8″
1-5/16″ to 1-3/4″	3/8″ x 3/16″
1-13/16″ to 2-1/4″	1/2″ x 1/4″
2-5/16″ to 2-3/4″	5/8″ x 5/16″
2-13/16″ to 3-1/4″	3/4″ x 3/8″
3-3/8″ to 3-3/4″	7/8″ x 7/16″

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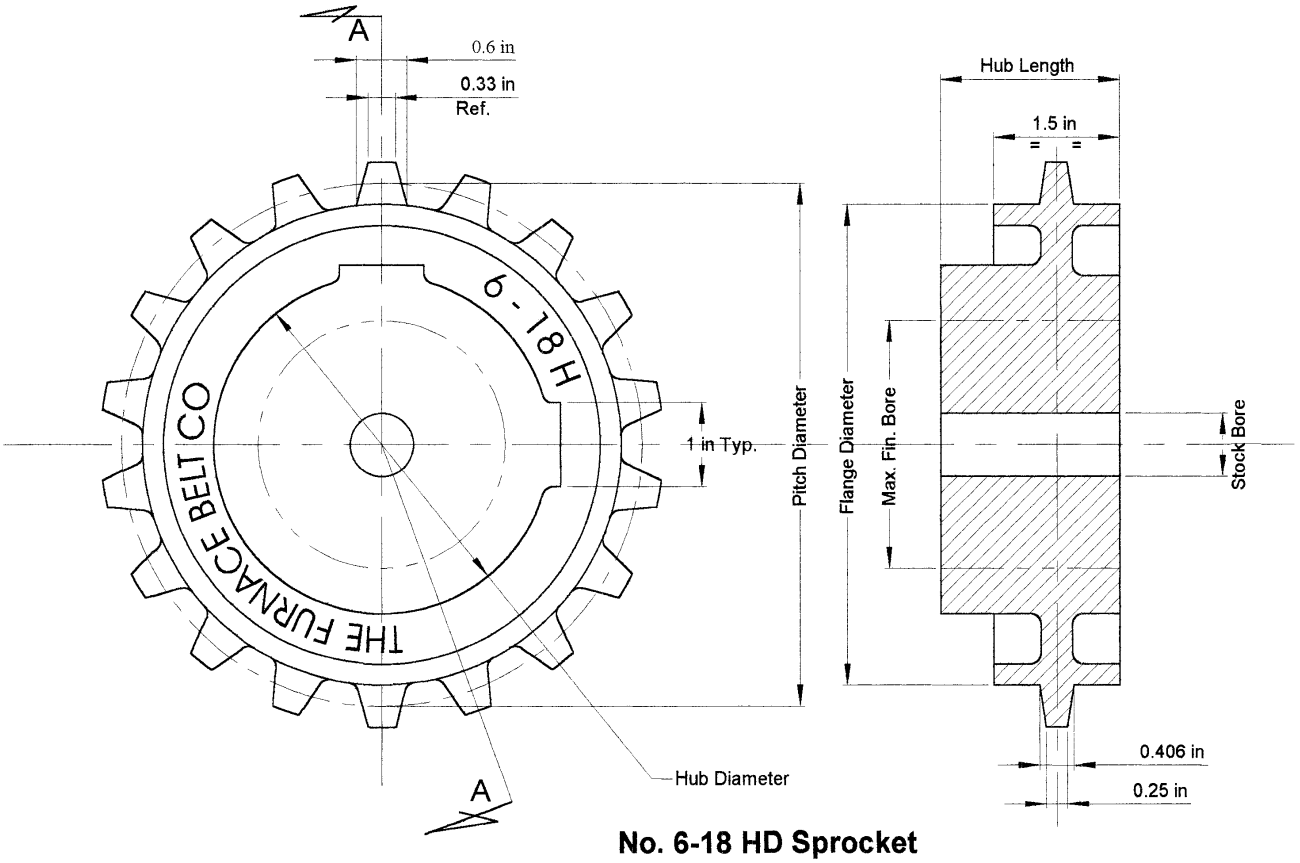
THE FURNACE BELT COMPANY LIMITED

FLAT WIRE SPROCKET SIZES AND DIMENSIONS



No. 6-18 HD Sprocket

CAST IRON SPROCKETS FOR 1 X 1 & 1/2 X 1 FLAT WIRE CONVEYOR BELTS

SPROCKET DESIGNATION	NOMINAL DIAMETER	NUMBER OF TEETH	PITCH DIAMETER	HUB DIAMETER	HUB LENGTH	FLANGE DIAMETER	FLANGE WIDTH	MAXIMUM BORE	APPROXIMATE WEIGHT
4-13 STD	4″	13	4.350″	2.500″	2.125″	3.975″	1.500″	1.937″	4.50 LBS.
4-13 HD	4″	13	4.390″	2.750″	2.125″	3.890″	1.500″	2.000″	4.75 LBS.
6-18 STD	6″	18	6.160″	4.000″	2.125″	5.790″	1.500″	2.937″	10.00 LBS.
6-18 HD	6″	18	6.190″	4.000″	2.125″	5.690″	1.500″	2.937″	10.50 LBS.
8-23 STD	8″	23	7.870″	4.500″	2.125″	7.495″	1.500″	2.937″	13.50 LBS.
8-23 HD	8″	23	7.910″	4.500″	2.125″	7.410″	1.500″	2.937″	14.00 LBS.
10-31 STD	10″	31	10.650″	4.500″	2.125″	10.275″	1.500″	3.000″	18.00 LBS.
10-31 HD	10”	31	10.650”	5.500”	2.125”	10.275”	1.500”	4.500”	20.50 LBS.
12-37 STD	12”	37	12.680″	5.000″	2.125″	12.275″	1.500″	3.500″	23.00 LBS.
12-37 HD	12”	37	12.720”	5.500”	2.125”	12.220”	1.500”	3.750”	27.00 LBS

FAX TOLL FREE 1-800-354-7215
FAX: (905) 677-4550 • INTERNET; http://www.furnacebeltco.com • E-MAIL; fbc@furnacebeltco.com

HEAD OFFICE AND PLANT

Head Office
1874 Drew Road,
Mississauga, Ontario L5S 1J6
Tel: (905) 677-5068
Fax: (905) 677-4550
e-mail: fbc@furnacebeltco.com
http://www.furnacebeltco.com

U.S. Office:
2316 Delaware Avenue, Suite #417
Buffalo, N.Y. 14216
Toll Free Tel: 1-800-354-7213
Toll Free Fax: 1-800-354-7215

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