

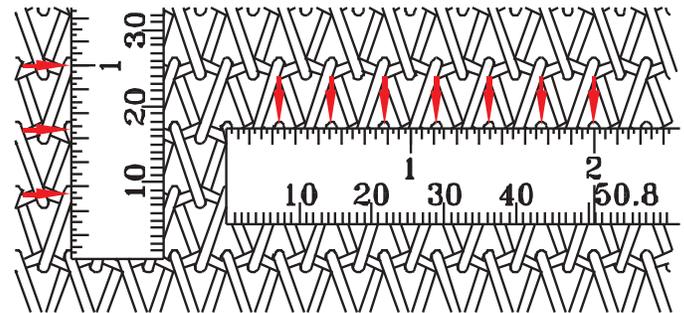
T E C H N I C A L B U L L E T I N

BALANCED WEAVE BELT

Composed of right and left hand helicals joined by a connector rod.

Balanced Weave (B) - woven wire mesh fabric consisting of alternating right and left hand spirals joined by crimped or straight connecting rods. Edge construction is welded or brazed.

- Available in various carbon and galvanized steels, stainless steels, and high temperature alloys. Straight Run Only.
- Lateral pitch = 12/first count.
- Longitudinal Pitch = 12/second count.
- Friction Driven with minimum pulley diameter = 180/second count, or 6 inch minimum.



MESH DESIGNATION

- B indicates Balanced Weave Mesh.
- First Count is # loops per foot of width.
- Second Count is # connectors per foot of length.
- Third count is the wire gauge. If the third count is four numbers (two pairs of numbers), the first is the gauge of the connector wire and the second is the gauge of the spiral wire.
- Maximum Belt Width = 216.0" [5486mm].
- Minimum Belt Width varies by lateral pitch of mesh (see chart below).

2nd Count:	12	18	24	30	36	42	48	60	66	72	84	96	102	144
Min. Belt Width (in [mm]):	3.00 [76.2]	2.00 [50.8]	1.50 [38.1]	1.20 [30.5]	1.00 [25.4]	.88 [22.4]	.75 [19.1]	.60 [15.2]	.55 [14.0]	.50 [12.7]	.43 [10.9]	.38 [9.7]	.35 [8.9]	.25 [6.4]

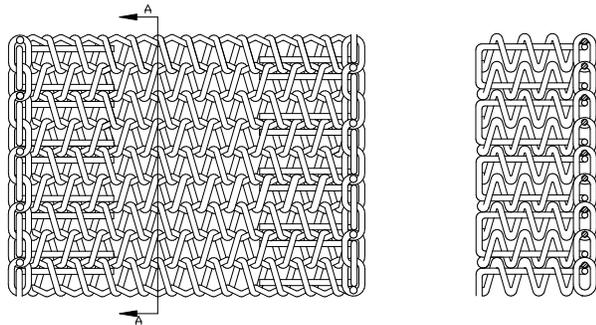


STANDARD OPTIONS

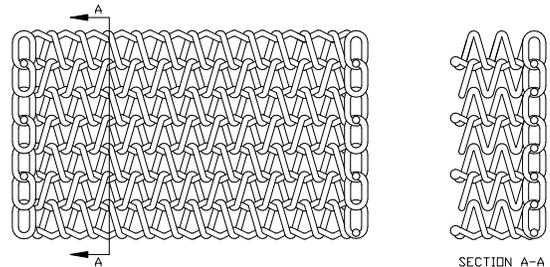
BALANCED WEAVE MESHES			
First Count	Second Count	Connector Wire Ga.	Spiral Wire Ga.
12	7 to 16	4 to 17	4 to 17
18	12 to 24	4 to 16	6 to 16
24	10 to 32	6 to 18	12 to 18
30	11 to 32	8 to 18	10 to 18
36	10 to 60	8 to 18	10 to 18
42	10 to 42	10 to 20	12 to 20
48	10 to 56	10 to 22	12 to 22
60	12 to 62	12 to 20	14 to 20
66	48	17	18
72	12 to 80	13 to 20	16 to 20
80	40	13	16
84	16 to 84	16 to 22	16 to 22
96	18 to 84	17 to 22	17 to 24
144	96 to 105	20 to 22	22

NOTE: Opening size is based upon mesh count. Maximum recommended opening size is .75 x minimum product size.

GUARD EDGES - Prevent product from falling off belt edges.

STYLES & DESCRIPTIONS**RELIEVED & REINFORCED TURNED-UP FABRIC**

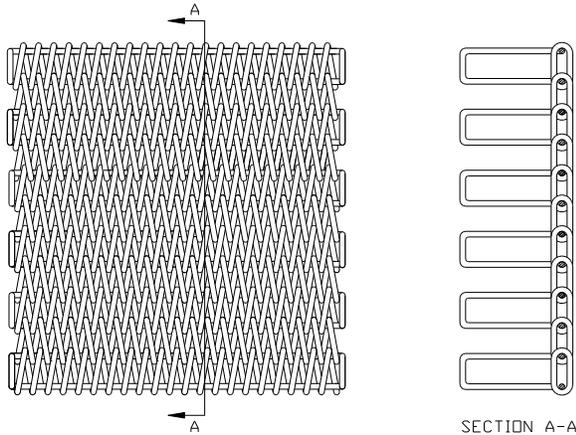
Edge similar to relieved turned-up edge except hairpin reinforcements are inserted in the disconnected spirals.

RELIEVED TURNED-UP FABRIC

Retaining edge is formed by turning up belt edges from carrying surface and omitting connectors at prescribed spacings to provide flexibility.

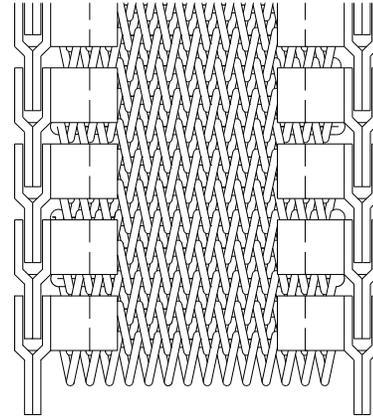
STANDARD OPTIONS

LOOP EDGE (WICKET)



Retaining edge formed by extending pairs of connectors, which are turned-up from carrying surface at prescribed angles and spacings, and formed into a loop.

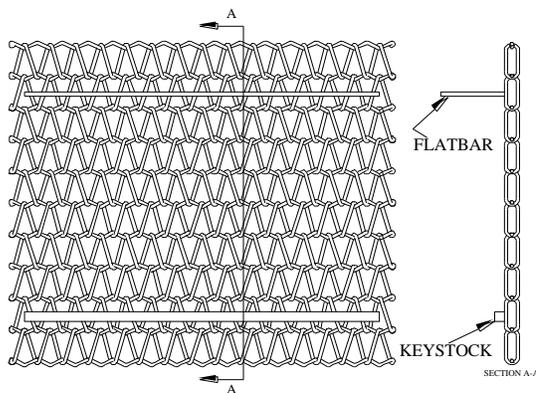
INTERLOCKING PLATE



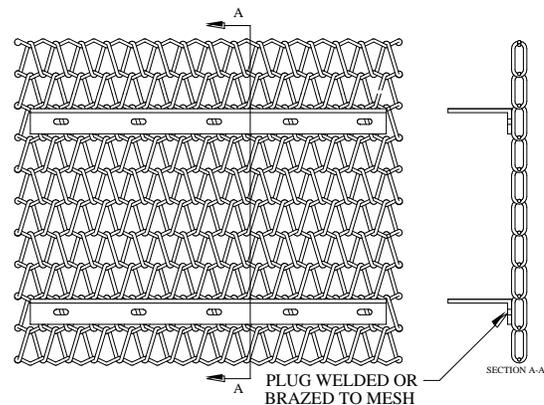
Retaining edge consisting of a series of formed plates with tongue and groove design. Plates are constructed with two tabs. Tabs are either inserted into spiral ends and under mesh or are placed above and under mesh. The two tabs are then secured to mesh with a weld.

FLIGHTS (LIFTS, CLEATS) - Keep product from sliding on inclines and declines.

FLAT BAR/KEYSTOCK



FORMED ANGLE



- ◆ Overall Flight Width = Belt Width - 1/2" [12.7mm] unless otherwise specified by customer
- ◆ Minimum lifts spacing = 2" [50.8mm]
- ◆ Standard lift thickness ranges between 16ga. and 3/16" [4.8mm]
- ◆ Standard maximum lift height = 6" [152mm]
- ◆ **Maximum lift widths** for formed angle lifts are as follows:

Lift Thickness	Max Width
12ga & 13ga	20" [508mm]
14ga & 15ga	36" [914mm]
16ga or lighter	48" [1219mm]

Note: Lifts may be manufactured and assembled in multiple sections, if desired, or if the lift width exceeds the allowable width for the specified lift thickness.

Application Note: Ensure belt is supported such that it allows lift passage through the return path.

ENGINEERING CALCULATIONS & DATA

BELT TENSION

$$T = [WLfr + wLfr] \times C$$

where	T	= Belt Tension	Units:
	W	= Total Weight = Belt Weight + Product Weight	lbs/ft belt width [<i>kg/m belt width</i>]
	L	= Conveyor Length	lbs/sq.ft. [<i>kg/sq.m</i>]
	w	= Belt Weight	feet [<i>meters</i>]
	fr	= Coefficient of Friction Between Belt and Supporting Bed	lbs/sq.ft. [<i>kg/sq.m</i>]
	C	= Force Conversion Factor	<i>dimensionless</i>
		Imperial: 1.0	
		Metric: 9.8	

Typical fr values:

<u>Type of Belt Support</u>	fr
Stainless Steel	0.40
Free Turning Rollers	0.10
Mild Steel:	
with temperatures up to 1000°F [538°C]	0.35
with 1001 to 1200°F [538 to 649°C]	0.37
with 1201 to 1400°F [649 to 760°C]	0.40
with 1401 to 1600°F [761 to 871°C]	0.44

TORQUE REQUIREMENT

$$T = \text{Torque in units of inch-lb.}$$

$$= \text{Belt Tension [lb.]} \times 1/2 (\text{Drum or Pulley Diameter [in.]})$$

DRUM/PULLEY DIAMETERS

Drums or pulleys where the belt is wrapping 180° or more have a minimum diameter. Minimum drum diameter = 180/SC. "SC" is the second count of the mesh. If a drum is used with a diameter less than the minimum, the belt will hinge on the spirals and bend them. Bending the spirals essentially elongates the pitch. This elongation typically is not uniform across the belt's width and may cause tracking problems along with mesh distortion.

BELT TRACKERS

Ashworth designs and manufactures devices used to guide the belt's path at terminal locations. Model 2 controls function statically. Suitable in temperatures up to 1200°F [649°C] with nickel brazed bearings. See Ashworth bulletin "control systems" for detailed information.

Ashworth recommends the use of Ashworth Model #1 or Model #2 'Control Systems' to prevent the belt from contacting framework and keep the belt centered on the terminal drums. Other manufacturers' systems have been used successfully, but they must be monitored to prevent belt damage due to excessive side loading on the belt. Ashworth recommends that belt guides be located a distance 2-3 times the belt width from the terminal rollers. Ashworth will not warrant belts against edge damage caused by systems of other manufacturers; and can not make recommendations on their installation, use and maintenance.

Refer to: Ashworth's Technical Bulletin, *Balanced Weave Belt Assembly Instructions* for proper conveyor alignment and belt installation.

in part without the express written consent of Ashworth Bros., Inc.

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