



Conveyor and Processing Belts in the Tobacco Industry



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TOBACCO BELTS

The production process in the tobacco industry is divided in three separate sectors: **GREEN LEAF THRESHING (GLT), PRIMARY PROCESSING** and **CIGARETTE MANUFACTURING**.

GREEN LEAF THRESHING and PRIMARY PROCESSING

In the GLT factories the tobacco leaves are received in dried bundles directly from the farmers or the auction floors, and through a process of separating, conditioning and classification, the tobacco is transformed from the leaf into its separate components, and packed for delivery to the cigarette factory. At the cigarette factory, the tobacco is first sent to the Primary Department, where it is reconditioned (moisture is added) and made ready to be made into cigarettes. All the belts used during these processes that come into contact with the tobacco have to meet the industry regulations as well as have the properties needed to overcome the other requirements: **Esbelt** supplies its **VERNA** and **POLER** ranges (polyolefin and polyester, respectively) as the ideal solution for tobacco processing. In these 2 sectors, GLT and Primary, where there is direct contact with the tobacco, non-toxic solutions are required.

Esbelt belts in the **VERNA** and **POLER** series meet FDA and EU standards and satisfactorily pass the pyrolysis test (they do not give off halogens or nitrogen).

Finally it arrives at the secondary manufacturing where it is made into cigarettes, snuff or pipe tobacco.

POLYOLEFIN Belts (VERNA Series)

- Pass the pyrolysis test.
- Good resistance to chemical products in general.
- FDA and EU Regulation 1935/2004 food quality.
- Easy to clean.
- Good grip of the material on the belt and easy release.
- Range of covers patterns (to order).
- Permits profiles of the same material to be attached to the cover.

POLYESTER Belts (POLER Series) ... as well as the advantages of POLYOLEFIN:

- EU Food quality Directive 2002/72/EC
- Excellent resistance to flexion fatigue.
- Flexibility and resistance at high (120 °C) and low (-30 °C) temperatures.
- Excellent resistance to industrial oils and fluids.
- Good resistance to abrasion.
- Quick, easy-to-do splices.



PYROLYSIS TEST

One of the requirements of the tobacco industry is that the belt DOES NOT HAVE the following chemical elements:

- **NITROGEN (N)**
- **SULPHUR (S)**
- **HALOGENS -Chlorine (Cl), Fluoride (F)-**

To detect the presence of these elements, a **pyrolysis test** is carried out, in which a belt sample is subjected to combustion (**810° C**). In the gas produced, the percentage in weight of the above elements is analysed.



A - B Conveyance of tobacco bundles.
VERNA 20PF.

C - Inclined conveyance of the leaves moistened by hot steam. The **POLER 18T1F** is ideal thanks to its resistance to abrasion and high temperatures.

D - Trough conveyors: **VERNA 18PF - POLER 18EF.**

E - Flat conveyors:
VERNA 12PF - Verna 20PF - Verna 30PF.





Belt type	Industry Regulation*	Flat Conveyor	Inclined Conveyor	Troughed Conveyor	Slider Bed	Roller Bed	High Temperat.	High Moisture	High Abrasion	Heavy Duty	Storage Silos	Side Skirting
POLER 08FWP	X	X	-	-	X	X	X	-	X	-	-	-
POLER 18EF	X	X	-	X	X	X	X	-	X	-	-	-
POLER 18T1F	X	X	X	X	X	X	X	-	X	-	-	-
VERNA 12PF	X	X	-	-	X	X	-	-	-	-	-	-
VERNA 18PF	X	X	-	X	X	X	-	-	-	-	-	-
VERNA 18PP	X	X	-	X	-	X	-	X	-	-	-	-
VERNA 18TF	X	X	X	X	X	X	-	-	-	-	-	-
VERNA 18T1F	X	X	X	X	X	X	-	-	-	-	-	-
VERNA 20PF	X	X	-	-	X	X	-	-	-	X	-	-
VERNA 30FF	X	X	-	-	X	X	-	-	-	-	-	-
VERNA 30PF	X	X	-	-	X	X	-	-	-	X	-	-
VERNA 0501	X	-	-	-	-	-	-	-	-	-	X	X
VERNA 1208	X	X	X	-	X	X	-	X	-	-	-	-
VERNA 15PL	X	-	-	-	-	-	-	-	-	-	-	X

*FDA, EU and pyrolysis test.

VERNA 20PF distributing tobacco into the silo.



Inclined Conveyance: T1 Pattern

- Advantages:
- Better conveyance capacity (up to 45°)
 - Low belt noise on the return side (continuous support of the pattern on support idlers).
 - The belt is easy to clean.
 - Better lifespan.
 - Available in widths up to 2,000 mm.



CIGARETTE MANUFACTURING and wrapping

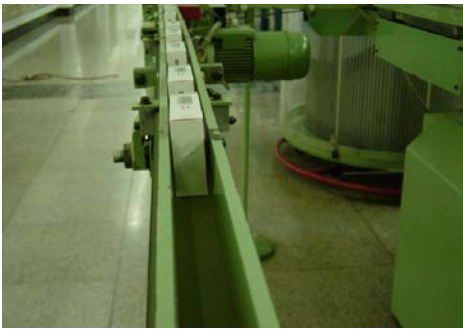
In the secondary process where the cigarettes are manufactured, rolled and packaged, the belts do not come into direct contact with the tobacco. The Esbelt conveyor and thermoweldable extruded belts listed below are non-toxic and are used in part of this process, providing optimum results in their operation.

Conveyor Belts
CLINA 07UF - CLINA 07UFMT
CLINA 08DF - CLINA 10FF

Round Belts
RS88L, RS88R and RS80R series

Our Toptrans flat transmission belts adapt perfectly to the high speeds reached by the machines in this process.

Transmission Belts
EE06 - EE10 - EF06 - FE04 - FF06
LF10 - LF14



Transmission belts at the cigarette manufacturing and wrapping.



Transmission belts running at high speeds.



esbelt Conveyor Belts at the Tobacco Industry.

Belt type		Top cover			Pyrolysis test	Food Quality		Fabrics		Belt thickness mm	Working load at 1% elongation N/mm	at 20°C		Max. roll width mm
		Material	Colour	Finish				Nº of plies	Weft			A	B	
POLER	POLER 08FWP	Polyester	Natural	Mat	Yes	FDA	EU	1	Rigid	1,00	5	10	30	2000
	POLER 18EF	Polyester	Natural	Mat	Yes	FDA	EU	2	Flexible	2,40	12	40	100	2000
	POLER 18T1F	Polyester	Natural	Pattern T1	Yes	FDA	EU	2	Rigid	4,50	12	120	140	2000
VERNA	VERNA 12PF	Polyolefin	Transp.	Mat	Yes	FDA	EU	2	Rigid	1,80	10	50	70	2000
	VERNA 18PF	Polyolefin	Transp.	Mat	Yes	FDA	EU	2	Flexible	2,50	12	60	80	2-3000
	VERNA 18PP	Polyolefin	Transp.	Smooth	Yes	FDA	EU	2	Flexible	2,70	14	80	80	2000
	VERNA 18T1F	Polyolefin	Transp.	Pattern T1	Yes	FDA	EU	2	Flexible	4,50	12	95	140	2000
	VERNA 18TF	Polyolefin	Transp.	Pattern T1	Yes	FDA	EU	2	Flexible	4,60	12	95	140	2000
	VERNA 20PF	Polyolefin	Transp.	Mat	Yes	FDA	EU	2	Rigid	2,50	13	60	80	2-3000
	VERNA 30FF	Polyolefin	Natural	Impreg. antist.	Yes	FDA	EU*	3	Rigid	3,40	16	150	150	2-3000
	VERNA 30PF	Polyolefin	Transp.	Mat	Yes	FDA		3	Rigid	3,60	18	150	200	2-3000
	VERNA 0501	Polyolefin	Transp.	Mat	Yes	FDA	EU*	1	Rigid	1,20	5	10	30	2-3000
	VERNA 1208	Polyolefin	Transp.	Mat	Yes	FDA		2	Rigid	1,80	10	60	80	2000
	VERNA 15PL**	Polyolefin	Transp.	Smooth	Yes	FDA	EU*	1	Flexible	2,10	2	-	-	1850
ASTER	ASTER 12G2F	PVC	Green 00	Pattern G2	No	-		2	Rigid	5,50	8	45	70	2000
	ASTER 15G2F	PVC	Black 02	Pattern G2	No	-		2	Rigid	5,50	15	45	70	2000
CLINA	CLINA 10FF		Natural	Cotton-poly	No	FDA	EU	2	Flexible	1,40	7	10	10	2200-3000
	CLINA 13FF		Natural	Fabric	No	FDA	EU	2	Rigid	2,00	9	40	40	3000
	CLINA 07UFMT	PU	White	Mat	No	FDA	EU	1	Rigid	0,80	6	8	30	2000
	CLINA 08DF	PU	White	Pattern D	No	FDA	EU	1	Rigid	1,20	5	10	30	2000
FEBOR	FEBOR 10NF	PVC	Black 04	Mat	No	-		2	Rigid	1,90	10	35	55	3000
	FEBOR 12CFGR	PVC	Green 00	Smooth	No	-		2	Rigid	2,00	10	35	55	3000
	FEBOR 14CFGR	PVC	Green 00	Smooth	No	-		2	Rigid	2,50	10	40	60	3000
	FEBOR 30CF	PVC	Green 00	Smooth	No	-		3	Flexible	2,90	30	90	140	2000

** Skirt EU: Regulation EU 10/2011 EU*: Regulation 1935/2004

Toptrans. Transmission and process belts at the Tobacco Industry.

Belt type	Top surface material	Bottom surface material	Thickness	Weight	Minimum pulley diameter	Shaft load at 1% elong.	Tensile strength	Elongation at break	Manufact. width	Belt type
			mm	kg/m2	mm	N/mm				
LF 10	Nylon fabric	Leather	2.80	2.60	40	10	225	22	500	LF 10
LF 14	Nylon fabric	Leather	3.00	2.80	60	14	315	22	500	LF 14
EE 06	NBR	NBR	1.55	1.90	25	6	135	22	500	EE 06
EE 10	XNBR	XNBR	1.90	2.25	35	10	225	22	500	EE 10
EF 06	Nylon fabric	NBR	1.25	1.30	25	6	135	22	500	EF 06
FF 06	Nylon fabric	Nylon fabric	0.95	0.80	20	6	135	22	500	FF 06
FE 04	NBR	Nylon fabric	1.00	1.10	15	4	90	22	500	FE 04

