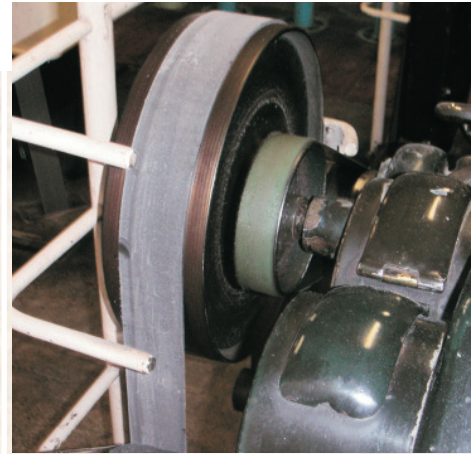


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Conveyor and
Transmission Belts
in a Flour Mill.

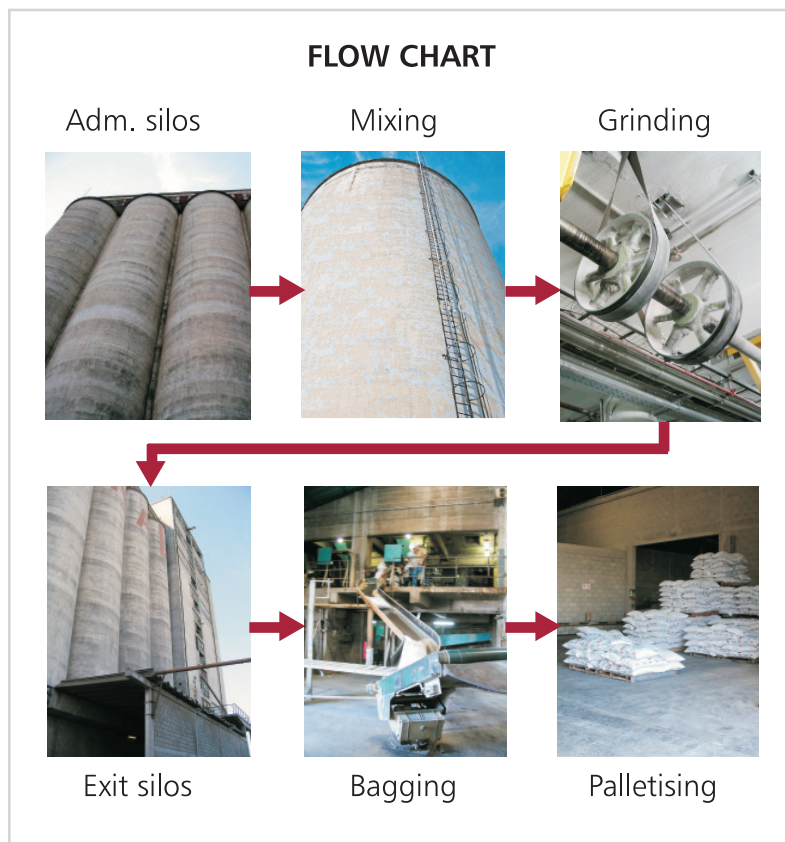


Conveyor and Transmission belts in a Flour Mill.

In flour mills belts for elevators and buckets (reception and storage), nylon-leather transmission belts (milling), and belts for bagging are normally used.

Brief description of the process:

- The truck unloads into a reception hopper where a bucket elevator belt with buckets transfers the product to the reception storage silos.
- Cleaning and conditioning of the grain to leave it in optimum conditions for milling.
- Milling, from where three products are obtained: flour, meal and byproduct, which is submitted to second grinding. The process is repeated until a yield of approximately 70% is obtained.



Transfer to silos:

The transfer of the raw material to the silos is made by bucket elevator belts. The transport of flour needs of bands with specific characteristics:

- **ESPOT series:** food grade (FDA) PVC belts, antistatic (ISO-284), comply with the regulation relative to explosion prevention in closed environments (ATEX Ex II 2GDc) and resistant to vegetal oils and greases.
- **FEBOR series:** a simpler alternative to the ESPOT range, in food grade (FDA) PVC and antistatic.

Another advantage of the Esbelt belts for bucket elevators is its core made of pretensed and thermofixed polyester fabrics, encased between layers of PVC. This structure ensures the minimum elongations possible.



esbelt belts for elevators

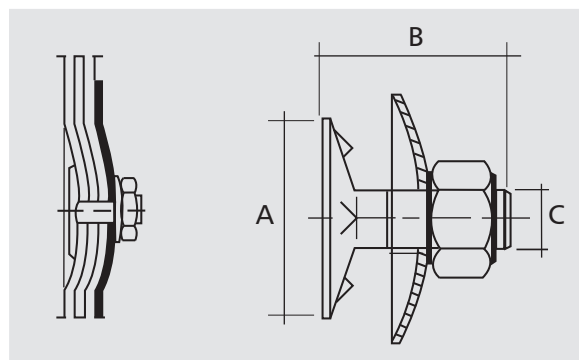
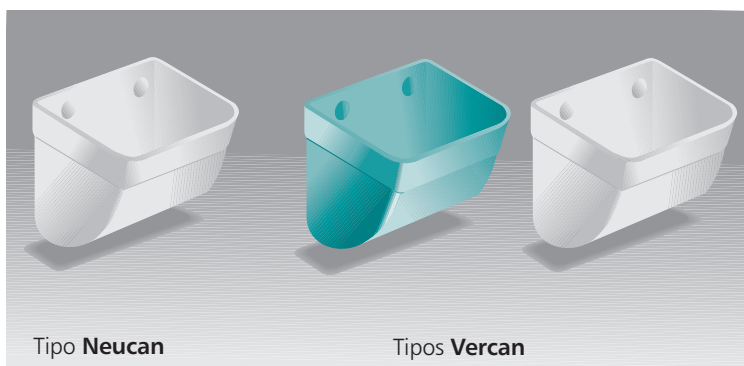
Type	Top cover				Bottom cover				Special characteristics	Temperature °C	Fabrics		Total thickness mm	Belt weight Kg/m ²	at 20°C		Working load at 1% elong. N/mm	Max. roll width mm
	Material	Colour	Thickness mm	Surface	Material	Colour	Thickness mm	Surface			N° of plies	Weft			A Ø mm	B Ø mm		
ESPOT 30CC	PVC	White	2,00	Smooth	PVC	White	1,00	Smooth	FDA ☉ ☑ ☒	-15 +80	3	Flexible	6,20	7,70	200	250	30	2000
ESPOT 40CC	PVC	White	2,00	Smooth	PVC	White	1,00	Smooth	FDA ☉ ☑ ☒	-15 +80	4	Flexible	7,40	9,20	300	350	35	2000
ESPOT 81CC	PVC	White	1,00	Smooth	PVC	White	1,00	Smooth	FDA ☉ ☑	-15 +80	3	Flexible	7,80	9,60	400	400	65	2000
ESPOT 90CC	PVC	White	2,00	Smooth	PVC	White	1,00	Smooth	FDA ☉ ☑	-15 +80	3	Flexible	9,00	11,20	400	500	75	2000
FEBOR 35CC	PVC	White	1,00	Smooth	PVC	White	0.70	Smooth	FDA ☉	-15 +80	4	Flexible	6,30	7,90	250	250	35	2000
FEBOR 75CC	PVC	White	1,00	Smooth	PVC	White	0.70	Smooth	FDA ☉	-15 +80	3	Flexible	6,00	7,40	350	350	65	2000

Esbelt plastic buckets



The most important components of an elevator are the buckets, which must have properties matching the material carried and a suitable shape to ease the unloading:

- Minimum weight (70% lighter than iron buckets), as they are made of plastic materials.
- Elastic, they recover from impact.
- Resistant to oils, greases and abrasion.
- Functional design with rounded, smooth non-stick inside walls that ease a quick product discharge..
- Recessed holes for use with special galvanized bolts with a wide flat head, concave washer and nut.



In elevators it is very important to have the buckets loaded from a hopper which is located above the lower pulley or take-up.

"Dredging" of the buckets at the bottom of the elevator must be avoided. Such interference significantly increases the load on the belt and can reduce belt life.



Milling:

Milling is the most important part of the process of obtaining the flour, a balance in all its stages is crucial for obtaining a flour with uniform quality. We must ensure the efficient transmission of the engine power to the grinding banks. This is taken care of by our Toptrans nylon-leather flat transmission belts, with chrome leather covers that keep the adherence between belt and pulley even in the most extreme working conditions (oils, dust, etc).

The milling banks tend to lack tensioning apparatus, which means that:

1. from the belt endless length a percentage must be deducted to cover for the elongation at fitting.
2. belt fitting has to be carried out with extreme care to avoid damage when mounting it over the pulleys. Special tools that facilitate that operation can be found in the market.



Toptrans Type	Friction cover	Top cover	Fw 1% N/mm	Total thickness mm
LF 20	Leather	Fabric	20	3,35
LF 30	Leather	Fabric	30	3,80
LF 40	Leather	Fabric	40	4,30
LL 20	Leather	Leather	20	4,60
LL 30	Leather	Leather	30	5,50

Bag filling and Palletising:

In this final stage of the process also conveyor belts intervene. In Esbelt we have a wide range of PVC belts abrasion resistant, either smooth or with pattern that best adapts to your requirement according to the existing working conditions (accumulation, incline/decline, manual loading, etc.).



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