How to calculate the necessary strength of a conveyor belt

When choosing the right conveyor belt for a specific transport , certain factors must be observed , such as：

- Total thickness of belt
- The product to be conveyed
- Minimum pulley diameters
- Working temperatures
- Chemical resistance
- Cross stable / trough transport
- The formula below can be used as guide line when choosing the right belt with suitable strength for carrying out the transplantation

Working tension for belt (N / mm) = 10 x Fmax / belt width (mm)

- 1n/mm=1dan/cm=1kn/m
- Fmax is the maximum , total load (kg) on the belt at the same time
- Belt length:10m
- Belt width:500m
- Boxes of each 50kg for every 0.5m
- Fmax = 50x 10 / 0.5 = 1000kg

Working tension=10x1000/500=20N/mm

- 2el016 will be too weak and 2m024 is chosen.
- Drum diameters should always be as large as possible . The minimum admissible diameter is determined by the effective pull to be transmitted and the flexural properties of the belt type used.
- Particularly with conveyors , drums with too small a diameter are subject to inadmissibly large deflection and mistracking.