



Belt Design Notes for Xtremachen 7





Belt Design Selection

- Company to supply belts and pulleys
 - Brecoflex CO,.L.L.C.
- Determine size of belts and pulleys
 - Belt calculations and models are from the company MULCO in Germany
 - Free model downloads and free calculations
- Determine belt backing
 - Several different materials offered.





Brecoflex

BRECOflex CO., L.L.C.
High Precision Drive Components

ed Company...What's New ...

DOWNLOAD/ORDER CATALOGS NOW

Timing Belts 	Profiled Belts
Flat Belts 	Beff Backings
Pulleys 	Accessories
Tension Meter 	Company Profile

Polyurethane Timing Belts
Truly Endless Belts
Profiled & Covered Belts
Open-Ended & Joined Belts
V-Belts
Flat-Belts

Pulleys
Idlers
Clamps
Tensioners
Slider Beds

Tooth Profiles
Precise
Accurate
Strong
Reliable
Uniform

ISO 9001 CERTIFIED COMPANY

Free Application Engineering

P.O. Box 829
Eatontown, NJ 07724
Toll Free: 888-463-1400
Tel: 732-460-9500
Fax: 732-542-6725
e-mail: Info@brecoflex.com

www.brecoflex.com





Brecoflex

- Large selection of belt profiles, lengths, widths, and backings.
- Using Free Calculation tools makes finding standard belt lengths easy.
- Offer a discount to FIRST teams.





Mulco



www.mulco.net





Calculations

Zahnriemenberechnung - Microsoft Internet Explorer

Open Save Geometry Power Journal Settings Help

MULCO
EINE STARKE GRUPPE SINNVOLL VERZAHNT

Version 2.29

Geometry Zoom area Zoom Pan 2D 3D

BREC
CONTITECH

Belt type
T10

Pulley 4

Sense of rotation
 Clockwise
 Counter-clockwise

x-position [mm]	750.97
Y-position [mm]	119.1
Teeth count	32
dk/da [mm]	100.0
Belt length [mm]	1880.65
Preferential length [mm]	1960.0

Preferential length design

Internet





Calculations

- Tools are free for anyone to use.
- Pulley models and belt profile models are free to download in various CAD formats
- Calculations can be saved.
- Easy to put data into spreadsheet format.





Calculations

- We chose 100 mm (4 in) dia pulley's
- Modeling our layout in the tool, we adjusted the pulley distances to obtain a standard belt length of 1880 mm (74 in)
- With guidance from an engineer at Brecoflex we chose the TK10 belt profile, with a serrated k-13 tracking guide. The tracking guide keeps the belt on the pulley without flanges.





Backings

SUPERIOR TIMING BELT BACKINGS

BRECOflex BACKING CHARACTERISTICS

-For technical details, see backing specifications on page 6

1. Linatex



This natural rubber backing has good tear resilience and excellent cut resistance. The high coefficient of friction makes this backing extremely versatile in general conveying applications. It can be offered in endless form when there are concerns about splice delamination.

2. Supergrip



Supergrip offers a high coefficient of friction, good resilience and high wear resistance. This backing is good for diagonal and inclined conveying applications and is available in blue or green.

3. T-cover/
PU-385 series



Solid polyurethane composition makes our T-cover and PU-385 series backings superlative to wear and abrasion resistance. The PU-385 series backings are also available in waffle - WM, nub - NP and herringbone - FG profiles. These are excellent products for machining.

4. PU Yellow



High density closed polyurethane foam offers good abrasion and wear resistance. This highly machinable backing material can be customized for unlimited applications. It is ideal for heavy-duty, vacuum and paper product transfer applications.

5. PVC Blue



PVC offers increased friction and good wear resistance for





Backings

- Past experiences lead us to use the linatex backing. It is a natural rubber compound. We have a 6mm (.25 in) thickness to the backing.
- The PU Yellow is another popular backing used by FIRST teams. It is a foam rubber backing.





Important Design Factors

- Belt width?
- Center Pulley offset distance?
- Friction in the drive system?
- Frictional contact forces?
- Lead-in angle?
- Additional support for the belt?

