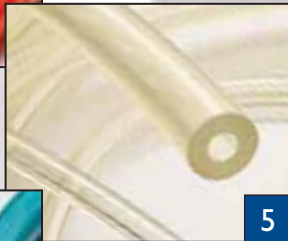


# Eagle® Polyurethane Belting and O-Rings



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# 4 NON-REINFORCED URETHANE BELTING

**Eagle Opaque 80**  
**Eagle Orange 85**  
**Eagle Clear 85**  
**Eagle Green 89 T**  
**Eagle Red 90**  
**Eagle Clear 95**



**Eagle® Non-Reinforced Urethane Belting — the proven workhorses for material transfer and light-duty power transmission applications.**

- Solid urethane construction
- Round, V- and flat profiles
- Excellent abrasion resistance
- Self tensioning — no take-ups required
- Easily welded on site with a Fenner Drives butt welding kit

**Eagle Clear 85 QC**  
**Eagle Yellow 85 QC**  
**Eagle Clear 85 TOR**



**Eagle® Non-Reinforced Quick-Connect Urethane Belting — the quick and easy way to avoid conveyor and system downtime; no welding required.**

- Ideal quick fixes — zero downtime products
- Round hollow or twisted loop construction
- Quickly connect with easy to use metal or plastic connectors
- No need to dismantle drive components
- Custom colors and durometers available to order

# 6 FACTORY WELDED ENDLESS BELTING

## Eagle Endless O-Rings and Fabricated Belts



**Eagle® Endless O-Rings and Fabricated Belts — let us do the work for you and take the hassle out of fabricating your own endless belts.**

- Available in all Eagle belting colors and durometers
- For line shaft, live roller, transfer conveyors and light duty power transmission drives
- High coefficient of friction
- Elastic with excellent memory
- Popular  $\frac{1}{8}$ ",  $\frac{3}{16}$ " and  $\frac{1}{4}$ " sizes always in stock
- Custom sizes, colors and durometers are made to order
- Rapid order turnaround for all specials

**Eagle Orange 85 R**  
**Eagle Hyfen® 85 R**  
**Eagle Green 89 RT**  
**Eagle Beige 95 R**  
**Eagle Hyfen 95 R**



**Eagle® Reinforced Urethane Belting — the ideal high-strength, low-stretch choices for longer conveyor lengths, heavier conveyed loads, or medium-duty power transmission applications.**

- For more highly loaded applications
- Either polyester cord or tape reinforcement
- High strength — low stretch
- Round, V- and Twin-V profiles
- Can be cogged for increased flexibility
- Patented overlap weld for superior performance
- Take up the slack with a Fenner Drives T-Max™ Tensioner

# 8 REINFORCED POLYESTER CAN CABLE

**Eagle Red 50 CC LCF**  
**Eagle Blue 55 CC**  
**Eagle Natural 55 CC**  
**Eagle Green 63 CC**  
**Eagle Natural 63 CC**



**Eagle® Reinforced Polyester Can Cable — when can lines go down, don't call in the wire splicing team and wait; weld our Can Cables endless in minutes yourself!**

- 100% polyester reinforced with high tensile cord
- High performance, low cost alternative to steel cables
- Fast installation — a zero downtime product
- Easily welded endless on site with overlap weld kit
- Popular  $\frac{3}{8}$ " diameter cable always in stock
- Other sizes and colors made to order
- Eagle Red 50 has a low coefficient of friction (LCF)

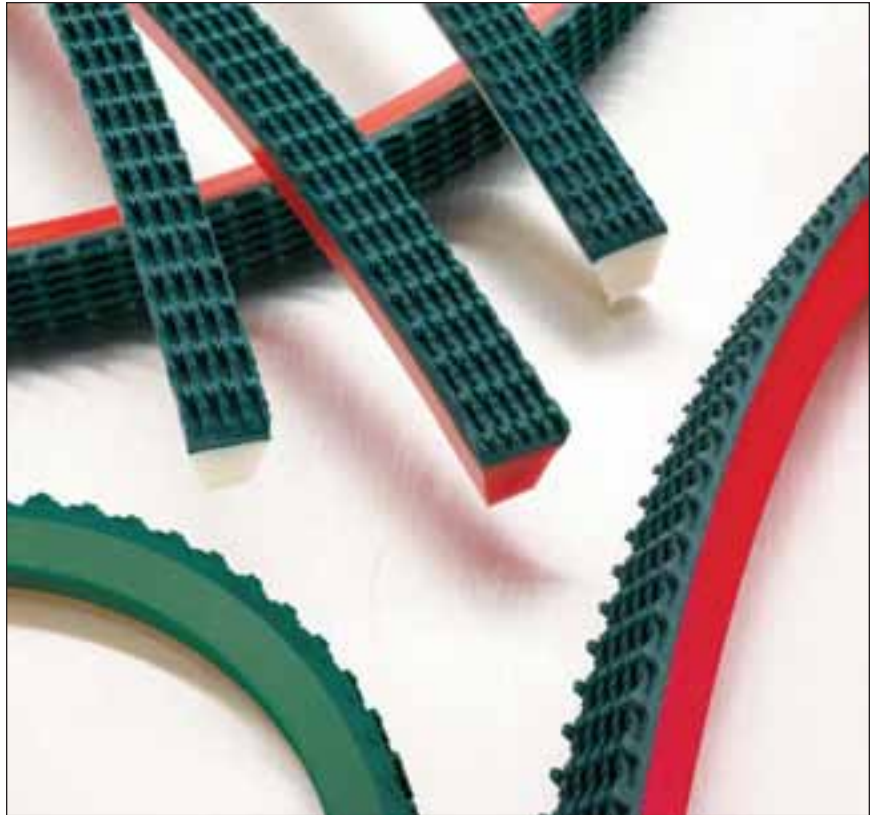
**Eagle Red 85 CXF**  
**Eagle Hyfen 85 CXF®**  
**Eagle Hyfen 85 CXR®**



**Eagle® Red 85 & Reinforced Hyfen 85 Co-Extruded Urethane Belting — whether on flat or inclined conveyors, get extra grip and cushioning on conveyed products.**

- Non-reinforced and reinforced versions
- Ultra-grip co-extruded 60A top surfaces
- Tough 85A bases
- Smooth (CXF) and rough top (CXR) surfaces available
- V- and Twin-V profiles
- Integrally bonded tops cannot delaminate
- Outperforms all adhesively bonded special surface belts
- Reinforced belting is not self-tensioning — use a T-Max™ Tensioner from Fenner Drives

**Eagle Green 89 TGT**  
**Eagle Green 89 RTGT**  
**Eagle Opaque 80 GT**  
**Eagle Orange 85 GT**  
**Eagle Red 90 GT**  
**Eagle White 40 GT**



**Eagle® GT Urethane and Polyester Belting – incorporating high grip, low wear PVC top surfaces & ideally suited for ceramic and woodworking conveying applications.**

- 80A, 85A, 89A, 90A and 40D base durometers
- Non-reinforced and reinforced versions
- Integrally bonded tops cannot delaminate
- V- and Twin-V profiles
- Custom top surfaces available on request



**Work one on one  
with our design  
engineers for your  
perfect solution**



**Eagle® Custom Belting — our product design and engineering teams work with you to develop the correct belt profile and optimum material selection for your specific application.**

- Dual durometers — a variety of options are available to utilize the best properties of two different urethane materials
- Static dissipative and UV stabilized material options
- Tracking features to fit unique pulleys and drive configurations
- Ridged profiles for reduced product contact surface
- Larger surface areas to lower unit pressure on heavy or sensitive product surfaces

## OVERLAP WELDING

**Kit Includes:**

**Welder**  
**Control Box**  
**Carrying Case**  
**Set of Dies**  
**Flash Cutters**  
**Cutting Shears**



If you've chosen our reinforced Eagle® urethane or Can Cable belting for your application, then you'll want to make your belts endless with our patented overlap weld. This is the strongest weld you can make in the field and is far superior to conventional butt welding techniques. This patented, flexible weld delivers 100% of rated tensile belt strength by overlapping the reinforcing tensile member inside the finished belt. It provides a smooth surface that won't damage transferred product. Overlap welds can be completed on site in minutes.

## BUTT WELDING

**Kit Includes:**

**Clamping Tool**  
**Hot Knife**  
**Flash Cutters**  
**Cutting Shears**  
**Carrying Case**



Take the hassle out of fabricating endless non-reinforced urethane belts with the Fenner Drives Butt Welding System. The kit provides a fast, economical way to join all non-reinforced Eagle belting and even hollow Quick-Connect. Our unique clamping tool is the easiest and most reliable to use and ensures proper alignment of belt ends.

# PRODUCT APPLICATION GUIDELINES

With such a range of products, how do you choose what's right for your application? While the possibilities seem endless, there are some general guidelines we can make based on our extensive experience with urethane and polyester belting products. The uses are not limited to those listed here; if you have a question about a product or application that isn't addressed below, please contact our Applications Engineering department. We'll be happy to help.

|                        | Working Load<br>less than<br>20lbs/belt | Working Load<br>21-40lbs/belt | Working Load<br>greater than<br>40lbs/belt | Accumulating<br>Applications | Washdown<br>Applications | Can<br>Conveyors | Highly<br>Abrasive<br>Applications | Over<br>15'<br>c.d. | Quick<br>Connect | Inclines<br>or<br>Declines | High<br>Coefficient<br>of Friction | FDA<br>Compliant | Static<br>Dissipating |
|------------------------|-----------------------------------------|-------------------------------|--------------------------------------------|------------------------------|--------------------------|------------------|------------------------------------|---------------------|------------------|----------------------------|------------------------------------|------------------|-----------------------|
| Eagle Opaque 80        | ● ▽                                     | ▽                             |                                            |                              |                          |                  |                                    | No                  |                  |                            |                                    | Yes              | No                    |
| Eagle Orange 85        | ● ▽ —                                   | ● ▽                           |                                            |                              |                          |                  |                                    | No                  |                  |                            |                                    | Yes              | No*                   |
| Eagle Clear 85         | ● ▽                                     | ● ▽                           |                                            |                              |                          |                  |                                    | No                  |                  |                            |                                    | Yes              | No*                   |
| Eagle Green 89 T       | ●                                       | ●                             |                                            | ●                            | ●                        |                  |                                    | No                  |                  |                            |                                    | No               | No*                   |
| Eagle Red 90           |                                         | ●                             | ● ▽                                        |                              |                          |                  | ●                                  | No                  |                  |                            |                                    | No               | No*                   |
| Eagle Clear 95         | ● ▽                                     | ● ▽                           | ● ▽                                        |                              |                          |                  |                                    | No                  |                  |                            |                                    | No               | No                    |
| Eagle Red 85 CXF       | ▽                                       | ▽                             |                                            |                              |                          |                  |                                    | No                  |                  | ▽                          | ▽                                  | No               | No                    |
| Eagle Clear 85 QC      | ○                                       |                               |                                            |                              |                          |                  |                                    | No                  | ○                |                            |                                    | Yes              | No*                   |
| Eagle Yellow 85 QC     | ⊙                                       |                               |                                            |                              |                          |                  |                                    | No                  | ⊙                |                            |                                    | Yes              | No*                   |
| Eagle Clear 85 TOR     | ●                                       |                               |                                            |                              |                          |                  |                                    | No                  | ●                |                            |                                    | Yes              | No*                   |
| Eagle Orange 85 R      | ● ▽                                     | ● ▽                           |                                            |                              |                          |                  |                                    | Yes                 |                  |                            |                                    | Yes              | No                    |
| Eagle Hyfen 85 R       |                                         | ●                             | ▽                                          |                              |                          |                  |                                    | Yes                 |                  |                            |                                    | Yes              | No*                   |
| Eagle Green 89 RT      | ●                                       | ●                             | ●                                          | ●                            | ●                        |                  |                                    | Yes                 |                  |                            |                                    | No               | No                    |
| Eagle Hyfen 95 R       |                                         |                               | ▽                                          |                              |                          |                  |                                    | Yes                 |                  |                            |                                    | Yes              | No                    |
| Eagle Beige 95 R       |                                         | ▽                             | ▽                                          |                              |                          |                  |                                    | Yes                 |                  |                            |                                    | Yes              | No                    |
| Eagle Hyfen 85 CXF/CXR |                                         |                               | ▽                                          |                              |                          |                  |                                    | Yes                 |                  | ▽                          | ▽                                  | No               | No                    |
| Eagle Red 50 CC        |                                         |                               | ●                                          | ●                            | ●                        | ●                |                                    | Yes                 |                  |                            |                                    | No               | No                    |
| Eagle Blue 55 CC       |                                         |                               | ●                                          |                              |                          | ●                |                                    | Yes                 |                  |                            |                                    | No               | No                    |
| Eagle Natural 55 CC    |                                         |                               | ●                                          |                              |                          | ●                |                                    | Yes                 |                  |                            |                                    | Yes              | No                    |
| Eagle Green 63 CC      |                                         |                               | ●                                          |                              |                          | ●                |                                    | Yes                 |                  |                            |                                    | Yes              | No                    |
| Eagle Natural 63 CC    |                                         |                               | ●                                          |                              |                          | ●                |                                    | Yes                 |                  |                            |                                    | Yes              | No                    |

\* Standard product is not static dissipating. A static dissipative version is available. May be subject to minimum order. Consult factory for availability.

*Eagle® Urethane Belting provides solutions for all sorts of applications in virtually every industry. For inspiration on how we might solve your application problem, here's just a small sampling of our belting products at work. Not sure what you need? Contact our applications engineering department for advice on your specific application.*



1. Eagle® Hyfen® Ridge-Top on a pop-up diverter conveying wood products.
2. Eagle Orange 85 belts driving the roller conveyor.
3. Wood panels being moved by Eagle Opaque 85 chosen for its non-marking characteristics.
4. Eagle Hyfen R on a tray conveyor system, such as found in cafeterias, hospitals, etc.; chosen for its high strength, low stretch characteristics on long center distances.
5. FDA compliant custom Eagle Blue used on tomato packaging line.



- 6. *Eagle® Red 90 moving roofing tile; chosen for its excellent abrasion resistance.*
- 7. *Eagle Twisted O-Rings easily installed without dismantling line shaft.*
- 8. *Custom Eagle Orange profile designed for onion grading equipment.*
- 9. *Custom Eagle White profile for pear sorting machine.*
- 10. *Co-extruded reinforced Eagle Hyfen 85 CXF® on conveying system. Lower durometer top surface increases coefficient of friction for excellent grip to convey or move products.*
- 11. *Eagle Orange 85 on egg conveyor.*



# PART NUMBER LISTING

| NON-REINFORCED BELTING |                                         |         |                                     |                   |                    |          |
|------------------------|-----------------------------------------|---------|-------------------------------------|-------------------|--------------------|----------|
|                        | Eagle Orange 80                         |         |                                     | Eagle Clear 85 QC |                    |          |
|                        |                                         |         |                                     |                   | Eagle Yellow 85 QC |          |
| <b>Flat Profiles</b>   | 0.055" x .375"                          | 1032121 | <b>Quick-Connect Round Profiles</b> | 3/16"             | 4934009            | 4934021  |
|                        | 0.062" x .5"                            | 1032126 |                                     | 1/4"              | 4934012            | 4934022  |
|                        | 0.062" x .75" w/<br>0.156" radius guide | 1032210 |                                     | 5/16"             | 4934015            | 4934023  |
|                        | 0.062" x 1.5"                           | 1032148 |                                     | 3/8"              | 4934018            | 4934025  |
|                        | 0.062" x 1.75"                          | 1032155 |                                     | 1/2"              | 4934024            | 4934026  |
|                        | 0.062" x 2"                             | 1032160 |                                     | 5/8"              | 4934030            | 4934020* |
|                        | 0.062" x 3"                             | 1032170 |                                     |                   |                    |          |
|                        | 0.125" x .625"                          | 1032133 |                                     |                   |                    |          |
|                        | 0.125" x 1"                             | 1032143 |                                     |                   |                    |          |
|                        | 0.250" x .625"                          | 1032134 |                                     |                   |                    |          |
|                        | 0.078" x .75"                           | 1032136 |                                     |                   |                    |          |
|                        | 0.090" x 1"                             | 1032142 |                                     |                   |                    |          |
|                        | 0.090" x 1.25"                          | 1032146 |                                     |                   |                    |          |
|                        | 0.090" x 1.5"                           | 1032151 |                                     |                   |                    |          |
|                        | 0.090" x 2"                             | 1032163 |                                     |                   |                    |          |

| REINFORCED BELTING            |                    |                    |                  |         |
|-------------------------------|--------------------|--------------------|------------------|---------|
|                               | Eagle Hyfen 85 CXF |                    | Eagle Red 85 CXF |         |
|                               |                    | Eagle Hyfen 85 CXR |                  |         |
| <b>Co-Extruded V Profiles</b> | A                  | 5260520            | 5260525          | 4924320 |
|                               | A Twin             | 5260572            | 5260577          |         |
|                               | B                  | 5260530            | 5260535          | 4924330 |
|                               | C                  | 5260540            | 5260545*         | 4924345 |
|                               | D                  | 5260550            | 5260555*         |         |

For technical assistance and drive design help, contact Applications Engineering at 800-243-3374.

\* May be subject to minimum order.  
Consult factory for availability.



Round Belting

**EAGLE**  
POLYURETHANE BELTING & O-RINGS®

|                        |                        | 3/32" | 1/8" | 3/16" | 1/4" | 5/16" | 3/8" | 1/2" | 9/16" | 5/8" | 3/4" | 2 mm | 3 mm | 4 mm | 5 mm | 6 mm | 7 mm | 8 mm | 10 mm | 12 mm | 15 mm | 18 mm |
|------------------------|------------------------|-------|------|-------|------|-------|------|------|-------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| Non-Reinforced Belting | Eagle Opaque 80        |       |      |       | ●    | ●     | ●    |      |       |      |      | ●    | ●    | ●    | ●    |      | ●    |      |       | ●     | ●     |       |
|                        | Eagle Orange 85        | ●     | ●    | ●     | ●    | ●     | ●    | ●    | ●     | ●    |      |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Clear 85         | ●     | ●    | ●     | ●    | ●     | ●    | ●    | ●     | ●    | ●    |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Green 89 T       |       |      |       |      |       |      |      |       |      |      | ●    | ●    | ●    | ●    | ●    | ●    | ●    | ●     | ●     | ●     |       |
|                        | Eagle Red 90           |       |      | ●     | ●    |       | ●    | ●    |       |      |      | ●    | ●    | ●    |      |      |      | ●    |       |       | ●     | ●     |
|                        | Eagle Clear 95         | ●     | ●    | ●     | ●    | ●     | ●    | ●    | ●     | ●    | ●    |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Red 85 CXF       |       |      |       |      |       |      |      |       |      |      |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Clear 85 QC      |       |      | ○     | ○    | ○     | ○    | ○    |       |      | ○    |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Yellow 85 QC     |       |      | ○     | ○    | ○     | ○    | ○    |       |      | ○    |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Clear 85 TOR     |       | ●    |       |      |       |      |      |       |      |      |      |      |      |      |      |      |      |       |       |       |       |
| Reinforced Belting     | Eagle Orange 85 R      |       |      | ●     | ●    | ●     | ●    | ●    | ●     | ●    | ●    |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Hyfen 85 R       |       | ●    | ●     | ●    | ●     | ●    | ●    | ●     | ●    |      |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Green 89 RT      |       |      |       |      |       |      |      |       |      |      | ●    | ●    | ●    | ●    | ●    | ●    | ●    | ●     | ●     | ●     |       |
|                        | Eagle Hyfen 95 R       |       |      |       |      |       |      |      |       |      |      |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Beige 95 R       |       |      |       |      |       |      |      |       |      |      |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Hyfen 85 CXF/CXR |       |      |       |      |       |      |      |       |      |      |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Red 50 CC        |       |      |       |      |       | ●    |      |       |      |      |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Blue 55 CC       |       |      |       |      |       | ●    |      |       |      |      |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Natural 55 CC    |       |      |       |      |       | ○    |      |       |      |      |      |      |      |      |      |      |      |       |       |       |       |
|                        | Eagle Green 63 CC      |       |      |       |      |       | ●    |      |       |      |      |      |      |      |      |      |      |      |       |       |       |       |
| Eagle Natural 63 CC    |                        |       |      |       |      | ○     |      |      |       |      |      |      |      |      |      |      |      |      |       |       |       |       |
| Eagle Fabricated Belts | ●                      | ●     | ●    | ●     | ●    | ●     | ●    | ●    | ●     | ●    | ●    | ●    | ●    | ●    | ●    | ●    | ●    | ●    | ●     | ●     | ●     |       |

*Note: Some diameters and cross sections may be subject to minimum orders*





V Belting

| 8mm x 5mm | 3L | 3L T-Top | 3L Crown-Top | 3L Twin | Z/10 | A/13 | AA | A Twin | A Ridge-Top | A Ridge-Top R | A Hi-Ridge-Top | B/17 | BB | B Ribbed | B Wing-Top | B Ridge-Top | C/22 | C Ribbed | D Ribbed | D/32 | E Ribbed |                        |
|-----------|----|----------|--------------|---------|------|------|----|--------|-------------|---------------|----------------|------|----|----------|------------|-------------|------|----------|----------|------|----------|------------------------|
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Opaque 80        |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Orange 85        |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Clear 85         |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Green 89 T       |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Red 90           |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Clear 95         |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Red 85 CXF       |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Clear 85 QC      |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Yellow 85 QC     |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Clear 85 TOR     |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Orange 85 R      |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Hyfen 85 R       |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Green 89 RT      |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Hyfen 95 R       |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Beige 95 R       |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Hyfen 85 CXF/CXR |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Red 50 CC        |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Blue 55 CC       |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Natural 55 CC    |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Green 63 CC      |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Natural 63 CC    |
|           |    |          |              |         |      |      |    |        |             |               |                |      |    |          |            |             |      |          |          |      |          | Eagle Fabricated Belts |

Non-Reinforced Belting

Reinforced Belting

Note: Flat belting available in Eagle Orange 85. See page 22 for cross sections

## Eagle Opaque 80

 DESCRIPTION  
 Round, Non-Reinforced

 HARDNESS  
 80A  
 FDA COMPLIANT  
 No

 COEFFICIENT OF FRICTION  
 Stainless Steel .75  
 Steel .65  
 UHMW .50

 TEMPERATURE RANGE  
 -22°F to +150°F  
 -30°C to +66°C

| Cross Section                | Dimensions Ø                 |      | Minimum Pulley Ø |      | Working Load @ Percent Tension |      |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|------------------------------|------------------------------|------|------------------|------|--------------------------------|------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|                              | (in)                         | (mm) | (in)             | (mm) | 4%                             |      | 6%    |       | 8%    |       | 10%   |       |                       |                       |
|                              |                              |      |                  |      | (lbs)                          | (N)  | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)   |                       |                       |
| 2mm                          |                              | 2    | .56              | 14   | 0.2                            | 0.8  | 0.4   | 1.8   | 0.5   | 2.2   | 0.6   | 2.7   | .003                  | .002                  |
| 3mm                          |                              | 3    | .81              | 21   | 0.5                            | 2.2  | 0.8   | 3.6   | 1.1   | 4.9   | 1.4   | 6.2   | .006                  | .004                  |
| 4mm                          |                              | 4    | 1.19             | 30   | 0.8                            | 3.6  | 1.4   | 6.2   | 2.0   | 8.9   | 2.5   | 11.1  | .01                   | .007                  |
| <sup>3</sup> / <sub>16</sub> | <sup>3</sup> / <sub>16</sub> |      | 1.31             | 33   | 1.2                            | 5.3  | 2.0   | 8.9   | 2.8   | 12.5  | 3.5   | 15.6  | .01                   | .007                  |
| 5mm                          |                              | 5    | 1.38             | 35   | 1.3                            | 5.8  | 2.2   | 9.8   | 3.1   | 13.8  | 3.9   | 17.3  | .02                   | .013                  |
| 6mm                          |                              | 6    | 1.63             | 42   | 1.8                            | 8.0  | 3.0   | 13.3  | 4.2   | 18.6  | 5.3   | 23.4  | .025                  | .017                  |
| <sup>1</sup> / <sub>4</sub>  | <sup>1</sup> / <sub>4</sub>  |      | 1.75             | 44   | 1.8                            | 8.0  | 3.0   | 13.3  | 4.2   | 18.6  | 5.3   | 23.4  | .03                   | .020                  |
| 8mm                          |                              | 8    | 2.25             | 56   | 3.3                            | 14.7 | 5.6   | 24.9  | 7.8   | 34.0  | 9.9   | 44.0  | .04                   | .027                  |
| <sup>3</sup> / <sub>8</sub>  | <sup>3</sup> / <sub>8</sub>  |      | 2.63             | 67   | 4.0                            | 17.6 | 6.7   | 29.9  | 9.4   | 34.7  | 11.9  | 52.7  | .06                   | .040                  |
| 10mm                         |                              | 10   | 2.75             | 70   | 5.2                            | 23.1 | 8.8   | 39.1  | 12.3  | 54.7  | 15.4  | 68.5  | .07                   | .047                  |
| <sup>1</sup> / <sub>2</sub>  | <sup>1</sup> / <sub>2</sub>  |      | 3.50             | 89   | 7.0                            | 31.3 | 12.0  | 53.2  | 16.7  | 74.4  | 21.1  | 93.7  | .10                   | .067                  |
| 15mm                         |                              | 15   | 4.13             | 105  | 11.6                           | 51.6 | 19.7  | 87.6  | 27.6  | 122.8 | 34.7  | 154.3 | .14                   | .094                  |
| 18mm                         |                              | 18   | 5.00             | 126  | 16.7                           | 74.3 | 28.4  | 126.3 | 39.7  | 176.6 | 50.0  | 222.4 | .22                   | .147                  |

## Eagle Opaque 80

 DESCRIPTION  
 Trapezoidal, Non-Reinforced


Additional cross sections available – consult factory

 HARDNESS  
 80A  
 FDA COMPLIANT  
 No

 COEFFICIENT OF FRICTION  
 Stainless Steel .75  
 Steel .65  
 UHMW .50

 TEMPERATURE RANGE  
 -22°F to +150°F  
 -30°C to +66°C

| Cross Section | Dimensions w x h*            |                               | Minimum Pulley Ø |      | Working Load @ Percent Tension |      |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|------------------------------|-------------------------------|------------------|------|--------------------------------|------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|               | (in)                         | (mm)                          | (in)             | (mm) | 4%                             |      | 6%    |       | 8%    |       | 10%   |       |                       |                       |
|               |                              |                               |                  |      | (lbs)                          | (N)  | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)   |                       |                       |
| 8 X 5         |                              | 8 x 5                         | 1.38             | 35   | 1.7                            | 7.6  | 3.6   | 16.0  | 5.7   | 25.4  | 7.7   | 34.2  | .02                   | .013                  |
| 3L            |                              | 9.5 x 6                       | 1.50             | 39   | 2.3                            | 10.2 | 4.7   | 20.9  | 7.5   | 33.4  | 10.2  | 45.4  | .03                   | .020                  |
| 3L T-Top      | <sup>9</sup> / <sub>16</sub> | <sup>19</sup> / <sub>64</sub> | 2.00             | 53   | 3.4                            | 15.1 | 7.1   | 31.6  | 11.2  | 49.8  | 15.2  | 67.6  | .05                   | .034                  |
| Z/10          |                              | 10 x 6.5                      | 1.63             | 42   | 2.7                            | 12.0 | 5.6   | 24.9  | 8.9   | 39.6  | 12.1  | 53.8  | .05                   | .034                  |
| A/13          |                              | 13 x 8                        | 2.25             | 56   | 4.2                            | 18.7 | 8.8   | 39.1  | 14.0  | 62.3  | 19.0  | 84.5  | .07                   | .047                  |
| A Ridge Top   |                              | 13 x 16                       | 4.44             | 112  | 4.2                            | 18.7 | 8.8   | 39.1  | 14.0  | 62.3  | 19.0  | 84.5  | .09                   | .060                  |
| B/17          |                              | 17 x 11.5                     | 3.00             | 77   | 7.3                            | 32.5 | 15.2  | 67.6  | 24.2  | 107.6 | 32.8  | 145.9 | .11                   | .074                  |
| B Ridge Top   |                              | 17 x 20                       | 5.50             | 140  | 7.3                            | 32.4 | 15.2  | 67.6  | 24.2  | 107.6 | 32.8  | 145.9 | .13                   | .087                  |
| C/22          |                              | 22 x 14.5                     | 3.88             | 98   | 12.7                           | 56.5 | 26.7  | 118.8 | 42.5  | 189   | 57.6  | 256.2 | .19                   | .128                  |
| C Ridge Top   |                              | 22 x 28                       | 7.75             | 196  | 12.7                           | 56.5 | 26.7  | 118.8 | 42.5  | 189   | 57.6  | 256.2 | .25                   | .168                  |

# TECHNICAL DATA

## Eagle Orange 85 Eagle Clear 85

DESCRIPTION  
Round, Non-Reinforced



HARDNESS  
85A  
FDA COMPLIANT  
Yes

COEFFICIENT OF FRICTION  
Stainless Steel .70  
Steel .60  
UHMW .45

TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section | Dimensions Ø |      | Minimum Pulley Ø |      | Working Load @ Percent Tension |      |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|--------------|------|------------------|------|--------------------------------|------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|               | (in)         | (mm) | (in)             | (mm) | 4%                             |      | 6%    |       | 8%    |       | 10%   |       |                       |                       |
|               |              |      |                  |      | (lbs)                          | (N)  | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)   |                       |                       |
| 2mm           |              | 2    | 0.63             | 16   | 0.2                            | 0.9  | 0.3   | 1.3   | 0.4   | 1.8   | 0.5   | 2.2   | .003                  | .002                  |
| 3/32          | 3/32         |      | 0.75             | 19   | 0.2                            | 0.9  | 0.3   | 1.3   | 0.4   | 1.8   | 0.5   | 2.2   | .004                  | .003                  |
| 1/8           | 1/8          | 3    | 0.94             | 24   | 0.5                            | 2.2  | 0.7   | 3.1   | 1.0   | 4.4   | 1.2   | 5.3   | .006                  | .004                  |
| 4mm           |              | 4    | 1.25             | 32   | 0.8                            | 3.6  | 1.2   | 5.3   | 1.6   | 7.1   | 1.9   | 8.5   | .01                   | .007                  |
| 3/16          | 3/16         |      | 1.50             | 38   | 1.1                            | 4.9  | 1.7   | 7.6   | 2.2   | 9.8   | 2.7   | 12.0  | .01                   | .007                  |
| 5mm           |              | 5    | 1.56             | 40   | 1.2                            | 5.3  | 1.8   | 8.0   | 2.4   | 10.7  | 3.0   | 13.3  | .02                   | .013                  |
| 6mm           |              | 6    | 1.88             | 48   | 1.7                            | 7.6  | 2.6   | 11.6  | 3.5   | 15.6  | 4.3   | 19.1  | .025                  | .017                  |
| 1/4           | 1/4          |      | 2.00             | 51   | 1.9                            | 8.5  | 2.9   | 12.9  | 3.9   | 17.3  | 4.8   | 21.4  | .03                   | .020                  |
| 5/16          | 5/16         |      | 2.50             | 64   | 3.0                            | 13.3 | 4.6   | 20.5  | 6.1   | 27.1  | 7.6   | 33.8  | .04                   | .027                  |
| 8mm           |              | 8    | 2.50             | 64   | 3.0                            | 13.3 | 4.6   | 20.5  | 6.1   | 27.1  | 7.6   | 33.8  | .04                   | .027                  |
| 3/8           | 3/8          |      | 3.00             | 76   | 4.3                            | 19.1 | 6.6   | 29.4  | 8.8   | 39.1  | 10.9  | 48.5  | .06                   | .040                  |
| 10mm          |              | 10   | 3.13             | 80   | 4.7                            | 20.9 | 7.3   | 32.5  | 9.7   | 43.1  | 12.0  | 53.4  | .07                   | .047                  |
| 1/2           | 1/2          |      | 4.00             | 102  | 7.6                            | 33.8 | 11.8  | 52.5  | 15.7  | 69.8  | 19.3  | 85.8  | .10                   | .067                  |
| 9/16          | 9/16         |      | 4.50             | 114  | 9.7                            | 43.1 | 14.9  | 66.3  | 19.9  | 88.5  | 24.5  | 109.0 | .13                   | .087                  |
| 15mm          |              | 15   | 4.75             | 120  | 10.7                           | 47.6 | 16.4  | 72.9  | 21.9  | 97.4  | 27.0  | 120.1 | .14                   | .094                  |
| 5/8           | 5/8          |      | 5.00             | 127  | 11.9                           | 52.9 | 18.4  | 81.8  | 24.5  | 109.0 | 30.2  | 134.3 | .16                   | .095                  |
| 3/4           | 3/4          |      | 6.00             | 152  | 17.7                           | 78.7 | 26.5  | 117.9 | 35.3  | 157.0 | 43.5  | 193.5 | .23                   | .155                  |

## Eagle Orange 85 Eagle Clear 85

DESCRIPTION  
Trapezoidal,  
Non-Reinforced



HARDNESS  
85A  
FDA COMPLIANT  
Yes

COEFFICIENT OF FRICTION  
Stainless Steel .70  
Steel .60  
UHMW .45

TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section  | Dimensions w x h* |      | Minimum Pulley Ø |      | Working Load @ Percent Tension |       |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|----------------|-------------------|------|------------------|------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|                | (in)              | (mm) | (in)             | (mm) | 4%                             |       | 6%    |       | 8%    |       | 10%   |       |                       |                       |
|                |                   |      |                  |      | (lbs)                          | (N)   | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)   |                       |                       |
| 6 x 4          | 6 x 4             |      | 1.25             | 32   | 0.9                            | 4.0   | 1.6   | 7.1   | 2.2   | 9.8   | 2.8   | 12.5  | .02                   | .013                  |
| 8 x 5          | 8 x 5             |      | 1.56             | 40   | 1.6                            | 7.1   | 2.7   | 12.0  | 3.8   | 16.9  | 4.8   | 21.4  | .02                   | .013                  |
| Z/10           | 10 x 6            |      | 1.88             | 48   | 2.4                            | 10.7  | 4.1   | 18.2  | 5.8   | 25.8  | 7.3   | 32.5  | .05                   | .034                  |
| Z Twin         | 24 x 7            |      | 2.25             | 56   | 5.4                            | 24.0  | 9.1   | 40.5  | 12.8  | 56.9  | 16.2  | 72.1  | .11                   | .074                  |
| 3L             | 3/8 x 7/32        |      | 1.75             | 45   | 2.2                            | 9.8   | 3.7   | 16.5  | 5.2   | 23.1  | 6.5   | 28.9  | .03                   | .020                  |
| 3L T-Top       | 9/16 x 19/64      |      | 2.38             | 60   | 3.2                            | 14.2  | 5.5   | 24.5  | 7.7   | 34.2  | 9.7   | 43.1  | .05                   | .034                  |
| 3L Crown-Top   | 9/16 x 1/4        |      | 2.00             | 51   | 3.2                            | 14.2  | 5.5   | 24.5  | 7.7   | 34.2  | 9.7   | 43.1  | .05                   | .034                  |
| 3L Twin        | 15/16 x 17/64     |      | 2.13             | 54   | 6.1                            | 27.1  | 10.3  | 45.8  | 14.5  | 64.5  | 18.4  | 81.8  | .10                   | .067                  |
| A/13           | 1/2 x 5/16        |      | 2.50             | 64   | 4.0                            | 17.8  | 6.8   | 30.2  | 9.6   | 42.7  | 12.2  | 54.3  | .07                   | .047                  |
| A Ridge-Top    | 1/2 x 7/16        |      | 2.50             | 64   | 4.0                            | 17.8  | 6.8   | 30.2  | 9.6   | 42.7  | 12.2  | 54.3  | .07                   | .047                  |
| A Hi-Ridge-Top | 1/2 x 5/8         |      | 5.00             | 127  | 6.7                            | 29.8  | 11.3  | 50.3  | 15.9  | 70.7  | 20.1  | 89.4  | .09                   | .060                  |
| A Twin         | 1 3/16 x 5/16     |      | 2.50             | 64   | 8.2                            | 36.5  | 14.0  | 62.3  | 19.6  | 87.2  | 24.8  | 110.3 | .15                   | .101                  |
| AA             | 1/2 x 13/32       |      | 3.25             | 83   | 5.8                            | 25.8  | 9.8   | 43.6  | 13.7  | 60.9  | 17.4  | 77.4  | .09                   | .060                  |
| B Ribbed       | 11/16 x 13/32     |      | 3.25             | 83   | 7.0                            | 31.1  | 11.8  | 52.5  | 16.6  | 73.8  | 21.0  | 93.4  | .11                   | .074                  |
| B/17           | 11/16 x 13/32     |      | 3.25             | 83   | 7.0                            | 31.1  | 11.8  | 52.5  | 16.6  | 73.8  | 21.0  | 93.4  | .11                   | .074                  |
| B Wing-Top     | 11/16 x 5/8       |      | 3.25             | 83   | 7.0                            | 31.1  | 11.8  | 52.5  | 16.6  | 73.8  | 21.0  | 93.4  | .11                   | .074                  |
| BB             | 11/16 x 9/16      |      | 4.25             | 108  | 8.8                            | 39.1  | 14.9  | 66.3  | 20.9  | 93.0  | 26.5  | 117.9 | .16                   | .108                  |
| C Ribbed       | 29/32 x 17/32     |      | 4.50             | 114  | 12.1                           | 53.8  | 20.6  | 91.6  | 28.9  | 128.5 | 36.6  | 162.8 | .19                   | .128                  |
| C/22           | 29/32 x 17/32     |      | 4.50             | 114  | 12.1                           | 53.8  | 20.6  | 91.6  | 28.9  | 128.5 | 36.6  | 162.8 | .19                   | .128                  |
| D Ribbed       | 1 5/16 x 3/4      |      | 7.00             | 178  | 25.2                           | 112.1 | 42.7  | 189.9 | 59.9  | 266.4 | 75.8  | 337.2 | .38                   | .255                  |
| E Ribbed       | 1 11/16 x 1 3/32  |      | 15.00            | 381  | 47.8                           | 212.6 | 81.1  | 360.7 | 113.9 | 505.9 | 144   | 640.5 | .71                   | .477                  |

## Eagle Orange 85

DESCRIPTION  
Flat, Non-ReinforcedHARDNESS  
85A  
FDA COMPLIANT  
YesCOEFFICIENT OF FRICTION  
Stainless Steel .70  
Steel .60  
UHMW .45TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section  | Dimensions w x h* (in)              | Minimum Pulley Ø (in) (mm) |     | Working Load @ Percent Tension |      |       |      |       |      |      |      | Weight per foot (lbs) | Weight per meter (kg) |
|----------------|-------------------------------------|----------------------------|-----|--------------------------------|------|-------|------|-------|------|------|------|-----------------------|-----------------------|
|                |                                     |                            |     | 4%                             |      | 6%    |      | 8%    |      | 10%  |      |                       |                       |
|                |                                     | (lbs)                      | (N) | (lbs)                          | (N)  | (lbs) | (N)  | (lbs) | (N)  |      |      |                       |                       |
| .055 X .375    | $\frac{3}{8} \times \frac{7}{128}$  | .38                        | 10  | 0.9                            | 3.9  | 1.3   | 5.8  | 1.7   | 7.6  | 2.1  | 9.3  | .01                   | .007                  |
| .062 X .500    | $\frac{1}{2} \times \frac{1}{16}$   | .50                        | 13  | 1.3                            | 5.9  | 2.0   | 8.8  | 2.6   | 11.5 | 3.1  | 13.9 | .02                   | .013                  |
| .062 X .750 ** | $\frac{3}{4} \times \frac{1}{16}$   | 1.00                       | 25  | 2.0                            | 8.8  | 3.0   | 13.2 | 3.9   | 17.2 | 4.7  | 20.9 | .03                   | .020                  |
| .062 X 1.50    | $1 \frac{1}{2} \times \frac{1}{16}$ | .50                        | 13  | 4.0                            | 17.6 | 5.9   | 26.4 | 7.8   | 34.5 | 9.4  | 41.8 | .05                   | .034                  |
| .062 X 1.75    | $1 \frac{3}{4} \times \frac{1}{16}$ | .50                        | 13  | 4.6                            | 20.5 | 6.9   | 30.8 | 9.0   | 40.2 | 11.0 | 48.8 | .06                   | .040                  |
| .062 X 2.00    | $2 \times \frac{1}{16}$             | .50                        | 13  | 5.3                            | 23.5 | 7.9   | 35.2 | 10.3  | 46.0 | 12.5 | 55.8 | .07                   | .047                  |
| .062 X 3.00    | $3 \times \frac{1}{16}$             | .50                        | 13  | 7.9                            | 35.2 | 11.9  | 52.7 | 15.5  | 68.9 | 18.8 | 83.7 | .10                   | .067                  |
| .125 X .625    | $\frac{5}{8} \times \frac{1}{8}$    | 1.00                       | 25  | 3.3                            | 14.8 | 5.0   | 22.2 | 6.5   | 29.0 | 7.9  | 35.1 | .04                   | .027                  |
| .125 X 1.00    | $1 \times \frac{1}{8}$              | 1.00                       | 25  | 5.3                            | 23.6 | 8.0   | 35.4 | 10.4  | 46.3 | 12.6 | 56.2 | .07                   | .047                  |
| .250 X .625    | $\frac{5}{8} \times \frac{1}{4}$    | 2.00                       | 51  | 6.6                            | 29.6 | 10.0  | 44.3 | 13.0  | 57.9 | 15.8 | 70.3 | .08                   | .054                  |
| .078 X .750    | $\frac{3}{4} \times \frac{5}{64}$   | .63                        | 16  | 2.5                            | 11.1 | 3.7   | 16.6 | 4.9   | 21.7 | 5.9  | 26.3 | .03                   | .020                  |
| .090 X 1.00    | $1 \times \frac{3}{32}$             | .75                        | 19  | 3.8                            | 17.0 | 5.7   | 25.5 | 7.5   | 33.4 | 9.1  | 40.5 | .05                   | .034                  |
| .090 X 1.25    | $1 \frac{1}{4} \times \frac{3}{32}$ | .75                        | 19  | 4.8                            | 21.3 | 7.2   | 31.9 | 9.4   | 41.7 | 11.4 | 50.6 | .06                   | .040                  |
| .090 X 1.50    | $1 \frac{1}{2} \times \frac{3}{32}$ | .75                        | 19  | 5.7                            | 25.5 | 8.6   | 38.3 | 11.3  | 50.0 | 13.7 | 60.7 | .07                   | .047                  |
| .090 X 2.00    | $2 \times \frac{3}{32}$             | .75                        | 19  | 7.7                            | 34.1 | 11.5  | 51.0 | 15.0  | 66.7 | 18.2 | 81.0 | .09                   | .060                  |

\*\* belt has .156" radius guide.

## Eagle Red 85 CXF

DESCRIPTION  
Trapezoidal, Non-Reinforced  
with Co-Extruded Flat Top← nominal 0.10"  
Add 0.10" nominal to listed height for total belt height.HARDNESS  
85A Base, 60A Top  
FDA COMPLIANT  
NoCOEFFICIENT OF FRICTION  
Stainless Steel 1.00  
Steel .90  
UHMW .85TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section | Dimensions w x h* (in)               | Minimum Pulley Ø (in) (mm) |     | Working Load @ Percent Tension |      |       |      |       |       |      |       | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|--------------------------------------|----------------------------|-----|--------------------------------|------|-------|------|-------|-------|------|-------|-----------------------|-----------------------|
|               |                                      |                            |     | 4%                             |      | 6%    |      | 8%    |       | 10%  |       |                       |                       |
|               |                                      | (lbs)                      | (N) | (lbs)                          | (N)  | (lbs) | (N)  | (lbs) | (N)   |      |       |                       |                       |
| A/13          | $\frac{1}{2} \times \frac{5}{16}$    | 3.00                       | 76  | 4.7                            | 20.9 | 7.4   | 32.9 | 10.1  | 44.9  | 12.5 | 55.6  | .07                   | .047                  |
| B/17          | $\frac{11}{16} \times \frac{13}{32}$ | 4.00                       | 102 | 8.0                            | 35.6 | 12.6  | 56.0 | 17.1  | 76.1  | 21.4 | 95.2  | .11                   | .074                  |
| C/22          | $\frac{29}{32} \times \frac{17}{32}$ | 5.00                       | 127 | 14.0                           | 62.3 | 22.1  | 98.3 | 30.0  | 133.4 | 37.4 | 166.4 | .19                   | .128                  |

Eagle Clear 85 QC  
Eagle Yellow 85 QCDESCRIPTION  
Round, Hollow, Non-ReinforcedHARDNESS  
85A  
FDA COMPLIANT  
YesCOEFFICIENT OF FRICTION  
Stainless Steel .70  
Steel .60  
UHMW .45TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section | Dimensions w x h* (in) | Minimum Pulley Ø (in) (mm) |     | Working Load @ Percent Tension |      |       |      |       |      |      |      | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|------------------------|----------------------------|-----|--------------------------------|------|-------|------|-------|------|------|------|-----------------------|-----------------------|
|               |                        |                            |     | 4%                             |      | 6%    |      | 8%    |      | 10%  |      |                       |                       |
|               |                        | (lbs)                      | (N) | (lbs)                          | (N)  | (lbs) | (N)  | (lbs) | (N)  |      |      |                       |                       |
| 3/16          | .1875 x .080           | 2.00                       | 51  | 0.5                            | 2.2  | 0.7   | 3.1  | 0.9   | 4.0  | 1.1  | 4.9  | .01                   | .007                  |
| 1/4           | .25 x .098             | 2.50                       | 64  | 0.8                            | 3.6  | 1.3   | 5.8  | 1.7   | 7.6  | 2.1  | 9.3  | .02                   | .013                  |
| 5/16          | .3125 x .126           | 3.00                       | 76  | 1.3                            | 5.8  | 2.0   | 8.9  | 2.7   | 12.0 | 3.3  | 14.7 | .03                   | .022                  |
| 3/8           | .375 x .152            | 3.50                       | 89  | 1.8                            | 8.0  | 2.9   | 12.9 | 3.8   | 16.9 | 4.7  | 20.9 | .05                   | .034                  |
| 1/2           | .500 x .214            | 4.50                       | 114 | 3.3                            | 14.7 | 5.1   | 22.7 | 6.8   | 30.2 | 8.4  | 37.4 | .09                   | .060                  |
| 5/8           | .625 x .273            | 5.50                       | 140 | 5.0                            | 22.2 | 7.7   | 34.2 | 10.3  | 45.8 | 12.7 | 56.5 | .13                   | .087                  |

# TECHNICAL DATA

## Eagle Green 89 T

DESCRIPTION  
Round, Textured, Non-Reinforced



HARDNESS  
89A  
FDA COMPLIANT  
No

COEFFICIENT OF FRICTION  
Stainless Steel .50  
Steel .40  
UHMW .30

TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section | Dimensions Ø (mm) |  | Minimum Pulley Ø (mm) |     | Working Load @ Percent Tension |       |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|-------------------|--|-----------------------|-----|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|               |                   |  |                       |     | 4%                             |       | 6%    |       | 8%    |       | 10%   |       |                       |                       |
|               |                   |  |                       |     | (lbs)                          | (N)   | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)   |                       |                       |
| 2mm           | 2                 |  | .75                   | 19  | 0.2                            | 0.9   | 0.4   | 1.8   | 0.5   | 2.2   | 0.7   | 3.1   | .003                  | .002                  |
| 3mm           | 3                 |  | 1.00                  | 27  | 0.6                            | 2.7   | 0.9   | 4.0   | 1.2   | 5.3   | 1.5   | 6.7   | .006                  | .004                  |
| 4mm           | 4                 |  | 1.44                  | 36  | 1.0                            | 4.4   | 1.6   | 7.1   | 2.1   | 9.3   | 2.6   | 11.6  | .01                   | .007                  |
| 5mm           | 5                 |  | 1.75                  | 45  | 1.5                            | 6.7   | 2.4   | 10.7  | 3.3   | 14.7  | 4.1   | 18.2  | .02                   | .013                  |
| 6mm           | 6                 |  | 2.13                  | 54  | 2.2                            | 9.8   | 3.5   | 15.6  | 4.7   | 20.9  | 5.9   | 26.2  | .025                  | .017                  |
| 7mm           | 7                 |  | 2.50                  | 63  | 3.0                            | 13.3  | 4.7   | 20.9  | 6.4   | 28.5  | 8.0   | 35.6  | .03                   | .022                  |
| 8mm           | 8                 |  | 2.83                  | 72  | 3.9                            | 17.3  | 6.2   | 27.6  | 8.4   | 37.4  | 10.4  | 46.3  | .04                   | .027                  |
| 10mm          | 10                |  | 3.50                  | 90  | 6.1                            | 27.1  | 9.7   | 43.1  | 13.1  | 58.3  | 16.3  | 72.5  | .07                   | .047                  |
| 12mm          | 12                |  | 4.25                  | 108 | 8.7                            | 38.7  | 13.9  | 61.8  | 18.9  | 84.1  | 23.5  | 104.5 | .09                   | .078                  |
| 15mm          | 15                |  | 5.25                  | 135 | 13.6                           | 60.5  | 21.7  | 96.5  | 29.6  | 131.7 | 36.6  | 162.8 | .14                   | .094                  |
| 18mm          | 18                |  | 6.38                  | 162 | 18.8                           | 83.6  | 30.9  | 137.4 | 42.5  | 189.0 | 53.0  | 235.7 | .22                   | .147                  |
| 20mm          | 20                |  | 7.00                  | 180 | 23.2                           | 103.2 | 38.2  | 169.9 | 52.4  | 233.1 | 65.5  | 291.3 | .23                   | .155                  |

## Eagle Red 90

DESCRIPTION  
Round, Non-Reinforced



HARDNESS  
90A  
FDA COMPLIANT  
No

COEFFICIENT OF FRICTION  
Stainless Steel .60  
Steel .50  
UHMW .38

TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section | Dimensions Ø (in) (mm) |  | Minimum Pulley Ø (in) (mm) |     | Working Load @ Percent Tension |       |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|------------------------|--|----------------------------|-----|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|               |                        |  |                            |     | 4%                             |       | 6%    |       | 8%    |       | 10%   |       |                       |                       |
|               |                        |  |                            |     | (lbs)                          | (N)   | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)   |                       |                       |
| 2mm           | 2                      |  | .75                        | 20  | 1.1                            | 4.7   | 1.5   | 6.7   | 1.9   | 8.5   | 2.2   | 9.9   | .003                  | .002                  |
| 3mm           | 3                      |  | 1.19                       | 30  | 2.4                            | 10.5  | 3.4   | 15.2  | 4.3   | 19.1  | 5.0   | 22.3  | .006                  | .004                  |
| 4mm           | 4                      |  | 1.56                       | 40  | 4.2                            | 18.7  | 6.1   | 26.9  | 7.6   | 33.9  | 8.9   | 39.7  | .01                   | .007                  |
| 3/16          | 3/16                   |  | 1.88                       | 47  | 6.0                            | 26.5  | 8.6   | 38.2  | 10.8  | 48.1  | 12.6  | 56.2  | .01                   | .007                  |
| 1/4           | 1/4                    |  | 2.75                       | 70  | 10.6                           | 47.1  | 15.3  | 67.9  | 19.2  | 85.4  | 22.5  | 100.0 | .03                   | .020                  |
| 8mm           | 8                      |  | 3.13                       | 80  | 16.8                           | 74.8  | 24.2  | 107.7 | 30.5  | 135.6 | 35.7  | 158.7 | .04                   | .027                  |
| 3/8           | 3/8                    |  | 3.75                       | 95  | 23.8                           | 106.0 | 34.3  | 152.7 | 43.2  | 192.2 | 50.6  | 224.9 | .06                   | .040                  |
| 1/2           | 1/2                    |  | 5.00                       | 127 | 42.4                           | 188.5 | 61.0  | 271.5 | 76.8  | 341.7 | 89.9  | 399.9 | .10                   | .067                  |
| 15mm          | 15                     |  | 5.90                       | 150 | 59.1                           | 262.9 | 85.2  | 378.8 | 107.2 | 476.7 | 125.4 | 557.8 | .14                   | .094                  |
| 18mm          | 18                     |  | 7.00                       | 180 | 85.1                           | 378.6 | 122.6 | 545.4 | 154.3 | 686.5 | 180.6 | 803.3 | .22                   | .147                  |

## Eagle Red 90

DESCRIPTION  
Trapezoidal, Non-Reinforced



*Additional cross sections available - consult factory*

HARDNESS  
90A  
FDA COMPLIANT  
No

COEFFICIENT OF FRICTION  
Stainless Steel .60  
Steel .50  
UHMW .38

TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section | Dimensions w x h* (mm) |  | Minimum Pulley Ø (in) (mm) |     | Working Load @ Percent Tension |       |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|------------------------|--|----------------------------|-----|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|               |                        |  |                            |     | 4%                             |       | 6%    |       | 8%    |       | 10%   |       |                       |                       |
|               |                        |  |                            |     | (lbs)                          | (N)   | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)   |                       |                       |
| 8 X 5         | 8 x 5                  |  | 2.0                        | 50  | 9.5                            | 42.1  | 15.0  | 66.8  | 19.9  | 88.7  | 24.0  | 106.9 | .02                   | .013                  |
| Z/10          | 10 x 6.5               |  | 2.5                        | 65  | 14.8                           | 65.8  | 23.4  | 104.3 | 31.1  | 138.5 | 37.5  | 167.0 | .05                   | .034                  |
| A/13          | 13 x 8                 |  | 3.13                       | 80  | 24.1                           | 107.0 | 38.1  | 169.5 | 50.6  | 225.3 | 61.0  | 271.5 | .07                   | .047                  |
| B/17          | 17 x 11.5              |  | 4.5                        | 115 | 43.9                           | 195.2 | 69.5  | 309.3 | 92.4  | 411.0 | 111.3 | 495.3 | .11                   | .074                  |
| C/22          | 22 x 14.5              |  | 5.75                       | 145 | 72.2                           | 321.2 | 114.4 | 508.9 | 152.0 | 676.2 | 183.2 | 814.9 | .19                   | .128                  |

## Eagle Clear 95

DESCRIPTION  
Round, Non-ReinforcedHARDNESS  
95A  
FDA COMPLIANT  
YesCOEFFICIENT OF FRICTION  
Stainless Steel .55  
Steel .45  
UHMW .35TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section | Dimensions Ø (in) | Minimum Pulley Ø (in) (mm) |     | Working Load @ Percent Tension |       |       |       |       |       |      |       | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|-------------------|----------------------------|-----|--------------------------------|-------|-------|-------|-------|-------|------|-------|-----------------------|-----------------------|
|               |                   |                            |     | 4%                             |       | 6%    |       | 8%    |       | 10%  |       |                       |                       |
|               |                   | (lbs)                      | (N) | (lbs)                          | (N)   | (lbs) | (N)   | (lbs) | (N)   |      |       |                       |                       |
| 3/32          | 3/32              | 1.00                       | 25  | 0.7                            | 3.1   | 1.2   | 5.3   | 1.5   | 6.7   | 1.9  | 5.3   | .004                  | .003                  |
| 1/8           | 1/8               | 1.25                       | 32  | 0.9                            | 4.0   | 1.4   | 6.2   | 1.7   | 7.6   | 2.1  | 6.2   | .01                   | .007                  |
| 3/16          | 3/16              | 1.88                       | 48  | 2.0                            | 8.9   | 3.0   | 13.3  | 3.9   | 17.3  | 4.6  | 13.3  | .01                   | .007                  |
| 1/4           | 1/4               | 2.50                       | 64  | 3.6                            | 16.0  | 5.4   | 24.0  | 6.9   | 30.7  | 8.2  | 24.0  | .03                   | .020                  |
| 5/16          | 5/16              | 3.13                       | 79  | 5.7                            | 25.4  | 8.4   | 37.4  | 10.8  | 48.0  | 12.9 | 37.4  | .04                   | .027                  |
| 3/8           | 3/8               | 3.75                       | 95  | 8.2                            | 36.5  | 12.1  | 53.8  | 15.6  | 69.4  | 18.5 | 53.8  | .06                   | .040                  |
| 1/2           | 1/2               | 5.00                       | 127 | 14.5                           | 64.5  | 21.6  | 96.1  | 27.7  | 123.2 | 32.9 | 96.1  | .10                   | .067                  |
| 9/16          | 9/16              | 5.63                       | 143 | 18.4                           | 81.8  | 27.3  | 121.4 | 35.0  | 155.7 | 41.7 | 121.4 | .13                   | .087                  |
| 5/8           | 5/8               | 6.25                       | 159 | 22.7                           | 101.0 | 33.7  | 149.9 | 43.3  | 192.6 | 51.4 | 149.9 | .16                   | .095                  |
| 3/4           | 3/4               | 7.50                       | 190 | 32.7                           | 145.4 | 48.5  | 215.7 | 62.3  | 277.1 | 74.1 | 215.7 | .23                   | .155                  |

## Eagle Clear 95

DESCRIPTION  
Trapezoidal, Non-ReinforcedHARDNESS  
95A  
FDA COMPLIANT  
YesCOEFFICIENT OF FRICTION  
Stainless Steel .55  
Steel .45  
UHMW .35TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section  | Dimensions w x h* (in) | Minimum Pulley Ø (in) (mm) |     | Working Load @ Percent Tension |       |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|----------------|------------------------|----------------------------|-----|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|                |                        |                            |     | 4%                             |       | 6%    |       | 8%    |       | 10%   |       |                       |                       |
|                |                        | (lbs)                      | (N) | (lbs)                          | (N)   | (lbs) | (N)   | (lbs) | (N)   |       |       |                       |                       |
| 3L             | 3/8 x 7/32             | 2.19                       | 56  | 4.1                            | 18.2  | 6.6   | 29.4  | 8.9   | 39.6  | 10.8  | 48.0  | .03                   | .020                  |
| 3L T-Top       | 9/16 x 19/64           | 2.50                       | 64  | 6.1                            | 27.1  | 9.9   | 44.0  | 13.3  | 59.2  | 16.2  | 72.1  | .05                   | .034                  |
| 3L Twin        | 15/16 x 17/64          | 2.50                       | 64  | 11.4                           | 50.7  | 18.6  | 82.7  | 25.0  | 111.2 | 30.5  | 135.7 | .10                   | .067                  |
| A/13           | 1/2 x 5/16             | 3.13                       | 79  | 7.6                            | 33.8  | 12.3  | 54.7  | 16.6  | 73.8  | 20.2  | 89.8  | .07                   | .047                  |
| A Ridge-Top    | 1/2 x 7/16             | 3.13                       | 79  | 7.6                            | 33.8  | 12.3  | 54.7  | 16.6  | 73.8  | 20.2  | 89.8  | .07                   | .047                  |
| A Hi-Ridge-Top | 1/2 x 5/8              | 6.00                       | 152 | 12.5                           | 55.6  | 20.3  | 90.3  | 27.4  | 121.9 | 33.4  | 148.6 | .09                   | .060                  |
| A Twin         | 1 3/16 x 5/16          | 3.13                       | 79  | 15.4                           | 68.5  | 25.1  | 111.6 | 33.8  | 150.3 | 41.2  | 183.3 | .15                   | .101                  |
| AA             | 1/2 x 13/32            | 4.13                       | 105 | 10.8                           | 48.0  | 17.6  | 78.3  | 23.7  | 105.4 | 28.8  | 128.1 | .09                   | .060                  |
| B/17           | 11/16 x 13/32          | 4.13                       | 105 | 13.1                           | 58.3  | 21.3  | 94.7  | 28.6  | 127.2 | 34.8  | 154.8 | .11                   | .074                  |
| BB             | 11/16 x 9/16           | 5.63                       | 143 | 16.5                           | 73.4  | 26.8  | 119.2 | 36.1  | 160.6 | 44.0  | 195.7 | .16                   | .108                  |
| C/22           | 29/32 x 17/32          | 5.38                       | 136 | 22.7                           | 101.0 | 37.0  | 164.6 | 49.8  | 221.5 | 60.7  | 270.0 | .19                   | .128                  |
| D Ribbed       | 1 5/16 x 3/4           | 8.50                       | 216 | 47.1                           | 209.5 | 76.8  | 341.6 | 103.3 | 459.5 | 125.9 | 560.0 | .38                   | .255                  |

# TECHNICAL DATA

## Eagle Hyfen 85 R

DESCRIPTION  
Round, Reinforced



HARDNESS  
85A  
FDA COMPLIANT  
Yes

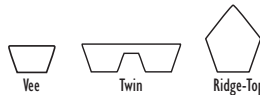
COEFFICIENT OF FRICTION  
Stainless Steel .70  
Steel .60  
UHMW .45

TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section                | Dimensions Ø (in)            | Minimum Pulley Ø (in) | Minimum Pulley Ø (mm) | Working Load @ Percent Tension |      |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|------------------------------|------------------------------|-----------------------|-----------------------|--------------------------------|------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|                              |                              |                       |                       | 1%                             |      | 2%    |       | 3%    |       | 4%    |       |                       |                       |
|                              |                              |                       |                       | (lbs)                          | (N)  | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)   |                       |                       |
| <sup>3</sup> / <sub>16</sub> | <sup>3</sup> / <sub>16</sub> | 2.00                  | 51                    | 2.8                            | 12.5 | 6.8   | 30.2  | 11.2  | 49.8  | 15.5  | 68.9  | .01                   | .007                  |
| <sup>1</sup> / <sub>4</sub>  | <sup>1</sup> / <sub>4</sub>  | 2.75                  | 70                    | 3.7                            | 16.3 | 8.9   | 39.5  | 14.9  | 66.1  | 20.6  | 91.5  | .03                   | .020                  |
| <sup>5</sup> / <sub>16</sub> | <sup>5</sup> / <sub>16</sub> | 3.44                  | 87                    | 3.7                            | 16.3 | 8.9   | 39.5  | 14.9  | 66.1  | 20.6  | 91.5  | .04                   | .027                  |
| <sup>3</sup> / <sub>8</sub>  | <sup>3</sup> / <sub>8</sub>  | 4.13                  | 105                   | 5.5                            | 24.5 | 13.3  | 59.2  | 22.3  | 99.2  | 30.9  | 137.3 | .06                   | .040                  |
| <sup>1</sup> / <sub>2</sub>  | <sup>1</sup> / <sub>2</sub>  | 5.50                  | 140                   | 7.3                            | 32.6 | 17.7  | 78.9  | 29.7  | 132.2 | 41.2  | 183.1 | .10                   | .067                  |
| <sup>9</sup> / <sub>16</sub> | <sup>9</sup> / <sub>16</sub> | 6.19                  | 157                   | 8.2                            | 36.7 | 20.0  | 88.8  | 33.4  | 148.8 | 46.3  | 206.0 | .13                   | .087                  |
| <sup>5</sup> / <sub>8</sub>  | <sup>5</sup> / <sub>8</sub>  | 6.88                  | 175                   | 11.0                           | 48.9 | 26.6  | 118.4 | 44.6  | 198.4 | 61.7  | 274.6 | .16                   | .095                  |
| <sup>3</sup> / <sub>4</sub>  | <sup>3</sup> / <sub>4</sub>  | 8.25                  | 210                   | 11.0                           | 48.9 | 26.6  | 118.4 | 44.6  | 198.4 | 61.7  | 274.6 | .23                   | .155                  |

## Eagle Hyfen 85 R

DESCRIPTION  
Trapezoidal, Reinforced



HARDNESS  
85A  
FDA COMPLIANT  
Yes

COEFFICIENT OF FRICTION  
Stainless Steel .70  
Steel .60  
UHMW .45

TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section | Dimensions w x h* (in)                                        | Minimum Pulley Ø (in) | Minimum Pulley Ø (mm) | Working Load @ Percent Tension |       |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|---------------------------------------------------------------|-----------------------|-----------------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|               |                                                               |                       |                       | 1%                             |       | 2%    |       | 3%    |       | 4%    |       |                       |                       |
|               |                                                               |                       |                       | (lbs)                          | (N)   | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)   |                       |                       |
| A Ridge-Top   | <sup>1</sup> / <sub>2</sub> x <sup>9</sup> / <sub>16</sub>    | 6.19                  | 157                   | 17.4                           | 77.4  | 25.1  | 111.4 | 33.8  | 150.1 | 42.8  | 190.2 | .09                   | .060                  |
| B Ridge-Top   | <sup>21</sup> / <sub>32</sub> x <sup>11</sup> / <sub>16</sub> | 7.50                  | 191                   | 25.7                           | 114.4 | 37.0  | 164.6 | 49.8  | 221.7 | 63.2  | 280.9 | .04                   | .027                  |
| 3L Twin       | <sup>15</sup> / <sub>16</sub> x <sup>11</sup> / <sub>64</sub> | 3.00                  | 76                    | 14.4                           | 63.9  | 20.7  | 91.9  | 27.8  | 123.8 | 35.3  | 156.8 | .10                   | .067                  |
| A Twin        | 1 <sup>3</sup> / <sub>16</sub> x <sup>5</sup> / <sub>16</sub> | 3.44                  | 87                    | 16.5                           | 73.3  | 23.7  | 105.5 | 31.9  | 142.1 | 40.5  | 180.0 | .15                   | .101                  |
| D/32          | 1 <sup>1</sup> / <sub>4</sub> x <sup>3</sup> / <sub>4</sub>   | 12.00                 | 305                   | 77.1                           | 343.0 | 111.0 | 493.6 | 149.5 | 664.9 | 189.4 | 842.4 | .38                   | .255                  |

## Eagle Hyfen 85 CXF Eagle Hyfen 85 CXR

DESCRIPTION  
Trapezoidal, Reinforced



← nominal 0.10"  
Add 0.10" nominal to listed height for total belt height.

HARDNESS  
85A Base, 60A Top  
FDA COMPLIANT  
Yes

COEFFICIENT OF FRICTION  
Stainless Steel .70  
Steel .60  
UHMW .45

TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section | Dimensions w x h* (in)                                        | Minimum Pulley Ø (in) | Minimum Pulley Ø (mm) | Working Load @ Percent Tension |       |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|---------------------------------------------------------------|-----------------------|-----------------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|               |                                                               |                       |                       | 1%                             |       | 2%    |       | 3%    |       | 4%    |       |                       |                       |
|               |                                                               |                       |                       | (lbs)                          | (N)   | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)   |                       |                       |
| A/13          | <sup>1</sup> / <sub>2</sub> x <sup>5</sup> / <sub>16</sub>    | 4.50                  | 115                   | 22.2                           | 98.6  | 29.6  | 131.7 | 36.7  | 163.1 | 43.4  | 193.2 | .07                   | .047                  |
| B/17          | <sup>21</sup> / <sub>32</sub> x <sup>13</sup> / <sub>32</sub> | 5.50                  | 140                   | 32.7                           | 145.7 | 43.7  | 194.6 | 54.1  | 240.9 | 64.1  | 285.3 | .11                   | .074                  |
| C/22          | <sup>7</sup> / <sub>8</sub> x <sup>11</sup> / <sub>32</sub>   | 7.00                  | 178                   | 48.9                           | 217.6 | 65.4  | 290.7 | 80.9  | 359.9 | 95.9  | 426.3 | .19                   | .128                  |
| D/32          | 1 <sup>1</sup> / <sub>4</sub> x <sup>3</sup> / <sub>4</sub>   | 12.50                 | 318                   | 96.4                           | 428.7 | 128.7 | 572.6 | 159.4 | 708.8 | 188.8 | 839.7 | .15                   | .101                  |
| A Twin        | 1 <sup>3</sup> / <sub>16</sub> x <sup>5</sup> / <sub>16</sub> | 4.5                   | 115                   | 21.0                           | 93.3  | 28.0  | 124.7 | 34.7  | 154.4 | 41.1  | 182.9 | .38                   | .255                  |

## Eagle Orange 85 R

 DESCRIPTION  
 Round, Reinforced
 

 HARDNESS  
 85A  
 FDA COMPLIANT  
 Yes

 COEFFICIENT OF FRICTION  
 Stainless Steel .70  
 Steel .60  
 UHMW .45

 TEMPERATURE RANGE  
 -22°F to +150°F  
 -30°C to +66°C

| Cross Section | Dimensions Ø (in) (mm) | Minimum Pulley Ø (in) (mm) | Working Load @ Percent Tension |     |       |      |       |      |       |      | Weight per foot (lbs) | Weight per meter (kg) |      |
|---------------|------------------------|----------------------------|--------------------------------|-----|-------|------|-------|------|-------|------|-----------------------|-----------------------|------|
|               |                        |                            | 1%                             |     | 2%    |      | 3%    |      | 4%    |      |                       |                       |      |
|               |                        |                            | (lbs)                          | (N) | (lbs) | (N)  | (lbs) | (N)  | (lbs) | (N)  |                       |                       |      |
| 1/4           | 1/4                    | 2.50                       | 64                             | 0.8 | 3.6   | 2.8  | 12.3  | 5.4  | 24.1  | 7.8  | 34.6                  | .03                   | .020 |
| 5/16          | 5/16                   | 3.13                       | 79                             | 1.3 | 5.6   | 4.3  | 19.3  | 8.5  | 37.6  | 12.1 | 54.0                  | .04                   | .027 |
| 8mm           | 8                      | 3.13                       | 80                             | 1.8 | 8.0   | 6.2  | 27.8  | 12.2 | 54.2  | 17.5 | 77.8                  | .04                   | .027 |
| 3/8           | 3/8                    | 3.75                       | 95                             | 1.8 | 8.0   | 6.2  | 27.8  | 12.2 | 54.2  | 17.5 | 77.8                  | .06                   | .040 |
| 1/2           | 1/2                    | 5.00                       | 127                            | 3.2 | 14.2  | 11.1 | 49.4  | 21.6 | 96.3  | 31.1 | 138.2                 | .10                   | .067 |
| 9/16          | 9/16                   | 5.63                       | 143                            | 4.1 | 18.0  | 14.0 | 62.5  | 27.4 | 121.9 | 39.3 | 175.0                 | .13                   | .087 |
| 15mm          | 15                     | 5.90                       | 150                            | 4.5 | 20.0  | 15.5 | 68.9  | 30.2 | 134.3 | 43.4 | 193.0                 | .14                   | .094 |
| 5/8           | 5/8                    | 6.25                       | 159                            | 5.0 | 22.3  | 17.3 | 77.1  | 33.8 | 150.4 | 48.6 | 216.0                 | .16                   | .095 |
| 3/4           | 3/4                    | 7.50                       | 191                            | 7.2 | 32.1  | 25.0 | 111.1 | 48.7 | 216.6 | 69.9 | 311.1                 | .23                   | .155 |

## Eagle Orange 85 R

 DESCRIPTION  
 Trapezoidal, Reinforced
 

Vee

Additional cross sections available – consult factory

 HARDNESS  
 85A  
 FDA COMPLIANT  
 Yes

 COEFFICIENT OF FRICTION  
 Stainless Steel 1.00  
 Steel .90  
 UHMW .85

 TEMPERATURE RANGE  
 -22°F to +150°F  
 -30°C to +66°C

| Cross Section | Dimensions w x h* (mm) | Minimum Pulley Ø (in) (mm) | Working Load @ Percent Tension |      |       |      |       |      |       |      | Weight per foot (lbs) | Weight per meter (kg) |      |
|---------------|------------------------|----------------------------|--------------------------------|------|-------|------|-------|------|-------|------|-----------------------|-----------------------|------|
|               |                        |                            | 1%                             |      | 2%    |      | 3%    |      | 4%    |      |                       |                       |      |
|               |                        |                            | (lbs)                          | (N)  | (lbs) | (N)  | (lbs) | (N)  | (lbs) | (N)  |                       |                       |      |
| Z/10          | 10 x 6                 | 2.38                       | 60                             | 2.6  | 11.4  | 6.1  | 27.0  | 9.7  | 43.0  | 12.7 | 56.6                  | .05                   | .034 |
| A/13          | 13 x 8                 | 3.13                       | 80                             | 4.0  | 17.9  | 9.5  | 42.4  | 15.2 | 67.6  | 20.0 | 89.0                  | .07                   | .047 |
| B/17          | 17 x 11                | 4.38                       | 110                            | 7.0  | 30.9  | 16.5 | 73.3  | 26.2 | 116.7 | 34.5 | 153.7                 | .11                   | .074 |
| C/22          | 22 x 14                | 5.50                       | 140                            | 12.1 | 53.8  | 28.7 | 127.7 | 45.7 | 203.3 | 60.2 | 267.8                 | .19                   | .128 |

## Eagle Green 89 RT

 DESCRIPTION  
 Round, Reinforced, Textured
 

 HARDNESS  
 89A  
 FDA COMPLIANT  
 No

 COEFFICIENT OF FRICTION  
 Stainless Steel .50  
 Steel .40  
 UHMW .30

 TEMPERATURE RANGE  
 -22°F to +150°F  
 -30°C to +66°C

| Cross Section | Dimensions Ø (mm) | Minimum Pulley Ø (in) (mm) | Working Load @ Percent Tension |      |       |      |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |      |
|---------------|-------------------|----------------------------|--------------------------------|------|-------|------|-------|-------|-------|-------|-----------------------|-----------------------|------|
|               |                   |                            | 1%                             |      | 2%    |      | 3%    |       | 4%    |       |                       |                       |      |
|               |                   |                            | (lbs)                          | (N)  | (lbs) | (N)  | (lbs) | (N)   | (lbs) | (N)   |                       |                       |      |
| 5             | 5                 | 2.00                       | 50                             | 1.7  | 7.4   | 5.0  | 22.2  | 10.2  | 45.5  | 15.8  | 70.1                  | .02                   | .013 |
| 6             | 6                 | 2.38                       | 60                             | 2.4  | 10.6  | 7.2  | 32.0  | 14.7  | 65.5  | 22.7  | 101.0                 | .025                  | .017 |
| 7             | 7                 | 2.75                       | 70                             | 3.3  | 14.5  | 9.8  | 43.5  | 20.0  | 89.1  | 30.9  | 137.4                 | .03                   | .022 |
| 8             | 8                 | 3.13                       | 80                             | 4.3  | 18.9  | 12.8 | 56.8  | 26.2  | 116.4 | 40.4  | 179.5                 | .04                   | .027 |
| 10            | 10                | 3.94                       | 100                            | 6.6  | 29.6  | 20.0 | 88.8  | 40.9  | 181.9 | 63.1  | 280.5                 | .06                   | .047 |
| 12            | 12                | 4.75                       | 120                            | 9.6  | 42.6  | 28.8 | 127.9 | 58.9  | 262.0 | 90.8  | 403.9                 | .09                   | .078 |
| 15            | 15                | 5.90                       | 150                            | 15.0 | 66.5  | 44.9 | 199.8 | 92.0  | 409.3 | 141.9 | 631.1                 | .14                   | .094 |
| 18            | 18                | 7.00                       | 180                            | 21.5 | 95.8  | 64.7 | 287.8 | 132.5 | 589.4 | 204.3 | 908.8                 | .22                   | .147 |



# TECHNICAL DATA

## Eagle Beige 95 R

DESCRIPTION  
Trapezoidal, Reinforced



HARDNESS  
95A  
FDA COMPLIANT  
Yes

COEFFICIENT OF FRICTION  
Stainless Steel .55  
Steel .45  
UHMW .35

TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section | Dimensions w x h* (mm) | Minimum Pulley Ø (in) | Minimum Pulley Ø (mm) | Working Load @ Percent Tension |       |       |       |       |       |       |        | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|------------------------|-----------------------|-----------------------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|-----------------------|-----------------------|
|               |                        |                       |                       | 1%                             |       | 2%    |       | 3%    |       | 4%    |        |                       |                       |
|               |                        |                       |                       | (lbs)                          | (N)   | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)    |                       |                       |
| 3L            | 9.5 x 6                | 2.63                  | 67                    | 11.1                           | 49.2  | 25.8  | 114.8 | 37.9  | 168.4 | 46.6  | 207.2  | .03                   | .020                  |
| Z/10          | 10 x 6                 | 2.81                  | 72                    | 12.5                           | 55.6  | 29.0  | 129   | 42.6  | 189.5 | 52.4  | 233.1  | .05                   | .034                  |
| A/13          | 13 x 8                 | 3.75                  | 96                    | 20.6                           | 91.6  | 48.0  | 213.5 | 70.5  | 313.6 | 86.7  | 385.6  | .07                   | .047                  |
| B/17          | 17 x 11                | 5.19                  | 132                   | 35.5                           | 157.9 | 83.0  | 369.2 | 121.7 | 541.3 | 149.8 | 666.3  | .11                   | .074                  |
| C/22          | 22 x 14                | 6.63                  | 168                   | 61.9                           | 275.3 | 144.5 | 642.7 | 212.0 | 943.0 | 260.9 | 1160.5 | .19                   | .128                  |
| 3L Cogged     | 9.5 x 6                | 2.63                  | 67                    | 11.1                           | 49.4  | 25.8  | 114.8 | 37.9  | 168.6 | 46.6  | 207.3  | .03                   | .020                  |
| A Cogged      | 13 x 8                 | 3.13                  | 80                    | 20.6                           | 91.6  | 48.0  | 213.5 | 70.5  | 313.6 | 86.7  | 385.6  | .06                   | .040                  |
| B Cogged      | 17 x 11                | 4.38                  | 110                   | 35.5                           | 157.9 | 83.0  | 369.2 | 121.7 | 541.3 | 149.8 | 666.3  | .10                   | .067                  |
| C Cogged      | 22 x 14                | 5.50                  | 140                   | 61.9                           | 275.3 | 144.5 | 642.7 | 212.0 | 943.0 | 260.9 | 1160.5 | .18                   | .127                  |

## Eagle Hyfen 95 R

DESCRIPTION  
Trapezoidal, Reinforced



HARDNESS  
95A  
FDA COMPLIANT  
Yes

COEFFICIENT OF FRICTION  
Stainless Steel .45  
Steel .55  
UHMW .35

TEMPERATURE RANGE  
-22°F to +150°F  
-30°C to +66°C

| Cross Section | Dimensions w x h* (in) | Minimum Pulley Ø (in) | Minimum Pulley Ø (mm) | Working Load @ Percent Tension |       |       |       |       |       |       |       | Weight per foot (lbs) | Weight per meter (kg) |
|---------------|------------------------|-----------------------|-----------------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-----------------------|-----------------------|
|               |                        |                       |                       | 1%                             |       | 2%    |       | 3%    |       | 4%    |       |                       |                       |
|               |                        |                       |                       | (lbs)                          | (N)   | (lbs) | (N)   | (lbs) | (N)   | (lbs) | (N)   |                       |                       |
| A/13          | 1/2 x 3/8              | 4.50                  | 114                   | 22.3                           | 99.2  | 32.4  | 144.2 | 41.6  | 185.2 | 50.4  | 224.1 | .07                   | .047                  |
| B/17          | 21/32 x 1/2            | 6.00                  | 152                   | 32.9                           | 146.5 | 47.9  | 213.0 | 61.5  | 273.5 | 74.4  | 330.9 | .11                   | .074                  |
| C/22          | 7/8 x 5/8              | 7.50                  | 191                   | 49.2                           | 218.8 | 71.5  | 318.2 | 91.9  | 408.6 | 111.2 | 494.4 | .19                   | .128                  |
| A Cogged      | 1/2 x 3/8              | 3.50                  | 89                    | 22.3                           | 99.2  | 32.4  | 144.2 | 41.6  | 185.2 | 50.4  | 224.1 | .06                   | .040                  |
| B Cogged      | 21/32 x 1/2            | 4.50                  | 114                   | 32.9                           | 146.5 | 47.9  | 213.0 | 61.5  | 273.5 | 74.4  | 330.9 | .10                   | .067                  |
| C Cogged      | 7/8 x 5/8              | 8.50                  | 216                   | 49.2                           | 218.8 | 71.5  | 318.2 | 91.9  | 408.6 | 111.2 | 494.4 | .18                   | .127                  |

## V-Belts

All urethane V-belts in the “classical” profiles, i.e. A, B, C, and D, are designed to fit RMA compliant pulleys as per the groove details illustrated in Fig. 1 below. The light duty 3L cross section belt is designed to fit pulleys as per the groove details illustrated in Fig. 1 below.

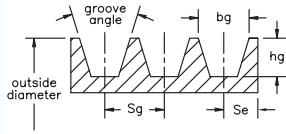
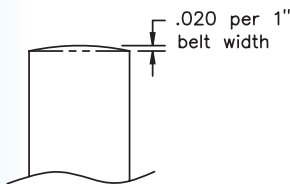
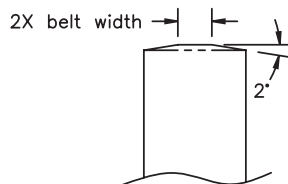
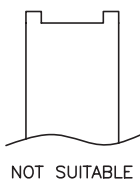


Figure 1

| Cross Section | Diameter Range               | Groove Angle $\pm 0.33^\circ$ | $b_g$             | $h_g$ Min | $S_g \pm 0.025$ | $S_e$ |
|---------------|------------------------------|-------------------------------|-------------------|-----------|-----------------|-------|
| A             | Up thru 5.4                  | 34°                           | 0.494             | 0.460     | 0.625           | 0.375 |
|               | Over 5.4                     | 38°                           | 0.504 $\pm 0.005$ | 0.460     | 0.625           | 0.375 |
| B             | Up thru 7.0                  | 34°                           | 0.637             | 0.550     | 0.750           | 0.500 |
|               | Over 7.0                     | 38°                           | 0.650 $\pm 0.006$ | 0.550     | 0.750           | 0.500 |
| C             | Up thru 7.99                 | 34°                           | 0.879             | 0.750     | 1.000           | 0.688 |
|               | Over 7.99 to and incl. 12.0  | 36°                           | 0.887             | 0.750     | 1.000           | 0.688 |
|               | Over 12.0                    | 38°                           | 0.895 $\pm 0.007$ | 0.750     | 1.000           | 0.688 |
| D             | Up thru 12.99                | 34°                           | 1.259             | 1.020     | 1.438           | 0.875 |
|               | Over 12.99 to and incl. 17.0 | 36°                           | 1.271             | 1.020     | 1.438           | 0.875 |
|               | Over 17.0                    | 38°                           | 1.283 $\pm 0.008$ | 1.020     | 1.438           | 0.875 |
| 3L            | 2.2 thru 3.1                 | 34°                           | 0.364             | 0.406     | 0.500           | 0.313 |
|               | 3.2 thru 4.2                 | 36°                           | 0.364             | 0.406     | 0.500           | 0.313 |
|               | Over 4.2                     | 38°                           | 0.364             | 0.406     | 0.500           | 0.313 |

## Flat Belts

All flat belts have a natural tendency to move laterally. Therefore a flat or straight pulley is not recommended, as the belt would walk off the pulley. To keep the belt in the center of the pulley it must have a crown. Fig. 2 illustrates a round crown and is the preferred method. A modified round crown as illustrated in Fig. 3 is also acceptable. A flat pulley with guide flanges (Fig. 4) is not recommended. Even with the guide flanges the belt will move laterally and potentially could climb up onto them.

RECOMMENDED  
Figure 2ACCEPTABLE  
Figure 3NOT SUITABLE  
Figure 4

## Round Belts

Round urethane belts are commonly run in pulleys with a round profile, see Fig. 5. In the absence of round groove pulleys, round belts can also be used in pulleys with vee grooves, Fig. 6. The table below shows the dimensional data when a round belt is used in a V-groove.

| Pulley Size | Pulley Diameter      | Groove Angle | Round Belt | w    | a     | b     |
|-------------|----------------------|--------------|------------|------|-------|-------|
| 2L          | Under 1.50"          | 32°          | 3/16"      | .240 | .010  | .084  |
|             |                      |              | 1/4"       | .243 | .153  | -.028 |
| 2L          | 1.50" to 1.99" O.D.  | 34°          | 3/16"      | .243 | .016  | .078  |
|             |                      |              | 1/4"       | .246 | .151  | -.026 |
| 2L          | 2.00" to 2.50" O.D.  | 36°          | 3/16"      | .246 | .020  | .074  |
|             |                      |              | 1/4"       | .250 | .146  | -.021 |
| 2L          | Over 2.50" O.D.      | 38°          | 3/16"      | .250 | .020  | .074  |
|             |                      |              | 1/4"       | .250 | .146  | -.021 |
| 3L          | Under 2.20" O.D.     | 32°          | 1/4"       | .360 | -.049 | .174  |
|             |                      |              | 5/16"      | .360 | .094  | .062  |
| 3L          | 2.20" to 3.19" O.D.  | 34°          | 1/4"       | .364 | -.043 | .168  |
|             |                      |              | 5/16"      | .364 | .094  | .062  |
| 3L          | 3.20" to 4.20" O.D.  | 36°          | 1/4"       | .368 | -.037 | .062  |
|             |                      |              | 5/16"      | .368 | .095  | .061  |
| 3L          | Over 4.20" O.D.      | 38°          | 1/4"       | .372 | -.031 | .156  |
|             |                      |              | 5/16"      | .372 | .095  | .061  |
| A           | 2.60" to 5.40" P.D.  | 34°          | 5/16"      | .494 | -.118 | .274  |
|             |                      |              | 3/8"       | .494 | .019  | .168  |
|             |                      |              | 1/2"       | .494 | .297  | -.047 |
| A           | Over 5.40" P.D.      | 38°          | 5/16"      | .504 | -.097 | .253  |
|             |                      |              | 3/8"       | .504 | .030  | .157  |
|             |                      |              | 1/2"       | .504 | .286  | .036  |
| B           | 4.60" to 7.00" P.D.  | 34°          | 1/2"       | .637 | .062  | .188  |
|             |                      |              | 9/16"      | .637 | .199  | .082  |
|             |                      |              | 5/8"       | .637 | .340  | -.027 |
| B           | Over 7.00" P.D.      | 38°          | 1/2"       | .650 | .074  | .176  |
|             |                      |              | 9/16"      | .650 | .200  | .081  |
|             |                      |              | 5/8"       | .650 | .331  | -.018 |
| C           | 7.00" to 7.99" P.D.  | 34°          | 5/8"       | .879 | -.056 | .369  |
|             |                      |              | 3/4"       | .879 | .218  | .157  |
| C           | 8.00" to 12.00" P.D. | 36°          | 5/8"       | .887 | -.041 | .354  |
|             |                      |              | 3/4"       | .887 | .222  | .153  |
| C           | Over 12.00" P.D.     | 38°          | 5/8"       | .895 | -.027 | .340  |
|             |                      |              | 3/4"       | .895 | .226  | .149  |

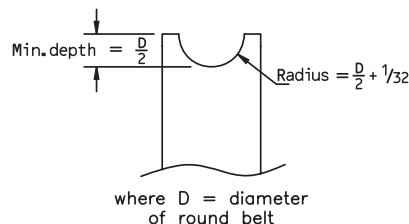


Figure 5

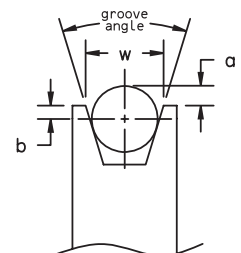


Figure 6

# ENGINEERING DATA

## Belt Installation Tension

When non-reinforced urethane is stretched and released, elasticity is the characteristic that brings the material back to its original shape. This “memory” is what gives non-reinforced urethane belting its self-tensioning properties.

When a non-reinforced belt is first installed (stretched) the material does not return to 100% of its original length and in fact, continues to lose elasticity over its life span. This loss in elasticity causes what is commonly called tension decay.

To overcome the initial and continued stretching, a non-reinforced belt will require what is referred to as “installed” tension. Installation tensions in the 6% to 10% range will normally be sufficient for most applications. If higher tensions are required, the application may exceed the belt’s load capacity. For reference, below are installed tensions:

All Eagle® non-reinforced belting: 8 – 10%

Quick-Connect Belting: 6 – 8%

All Eagle reinforced belts contain a reinforcing polyester tensile member, which increases the modulus elasticity of the urethane material and reduces the “stretch” of a non-reinforced belt. Since an endless reinforced belt is essentially a fixed length, the eventual small amount of elongation from tension decay can be dealt with by mechanical take-up devices. This device should accommodate at least 4% of the belt’s length to overcome tension decay.

## Belt Installation Length

The belt tension length, or “cut length,” can be determined from the measured belt length or calculated belt length. The measured length can be obtained by taking a measuring tape and following the path of the belt around all of the pulleys, or through computer aided design (CAD) techniques. The calculated length can be obtained from the following formula.

Note: this formula applies to two-pulley drives only.

$$L = 2C + 1.57 (D + d) + \frac{(D - d)^2}{4C}$$

where: L = Installation length

C = center of pulley shaft to center of pulley shaft distance

D = pitch diameter of large pulley

d = pitch diameter of small pulley

For non-reinforced urethane belting, the cut length is determined by using the measured or calculated (reference) belt length times the percent of required installation tension (6 to 10%).

Cut length = reference length x % tension

Example: 44 inches x 8% tension

= 44 x .92

= 40.5 inches

For reinforced urethane belting, the cut length is the measured or calculated length plus 1½ inches.

## Temperature

The temperature range of urethane belting is determined by the thermoplastic resin. Like all thermoplastic resins its physical properties are reduced at higher temperatures. The material softens, loses strength and elongates excessively to the point of premature failure. Temperature ranges are listed under each individual belt type in the Technical Data section.

## Minimum Pulley Diameter

Non-reinforced urethane belts can operate on smaller diameter pulleys than urethane belts with a reinforcing tensile member. Reinforced belts require a larger pulley diameter to prevent premature flex fatigue failure of the polyester tensile member. The most common serious mistake in designing urethane belting is the selection of a pulley diameter that is too small. Listed under each individual belt type is the recommended minimum pulley diameter. Smaller diameters can be used only if a reduction in belt service life is acceptable.

## Belt Profile Tolerance

### Round Belts:

Up to and including 3/16" (5mm) diameter: ± 0.005"

Over 3/16" (5mm) up to and including 1/4" (6.3mm) diameter: ± 0.007"

Over 1/4" (6.3mm) up to and including 9/16" (14mm) diameter: ± 0.010"

Over 9/16" (14mm) in diameter: ± 0.012"

### Flat and V-Belts:

All profiles: ± 0.015"

If a tighter tolerance is required, consult Fenner Drives application engineering group with your requirements.

1. Refer to the Technical Data chart for the belt material and cross section selected.
2. Use the following formula that meets your application requirements (Note: if belt supported by rollers use .17 for  $\mu$ ):

a. Horizontal Transport with Slider Bed

$$T_e = W_t \times \mu + B_{wt}$$

c. Incline or Decline Transport with Slider Bed

$$T_e = \frac{W_t}{C} \times (H_t + \mu \times \sqrt{C^2 + H_t^2}) + B_{wt}$$

b. Horizontal Transport with Slider Bed and Product Accumulation

$$T_e = W_t \times \mu + B_{wt} + A_{wt}$$

d. Incline or Decline Transport with Slider Bed and Product Accumulation

$$T_e = \frac{W_t}{C} \times (H_t + \mu \times \sqrt{C^2 + H_t^2}) + B_{wt} + A_{wt}$$

Where:  $T_e$  = Effective Tension  
 $W_t$  = Total Weight on Conveyor  
 $C$  = Conveyor Center Distance  
 $B_{wt}$  = Belt weight/unit length x  $C$

$A_{wt}$  = Accumulating weight x  $\mu'$   
 (where  $\mu'$  is the COF between belt and product)  
 $H_t$  = Incline or decline height  
 $\mu$  = COF on slider bed material from chart

3. Determine Tight Tension ( $T_1$ ).

Flat and round belts —  $T_1 = T_e \times 2$

V-belts —  $T_1 = T_e \times 1.25$

4. Refer to the Technical Data chart for the material and cross section selected and compare  $T_1$  to the Working Load at 10% tension. If only one belt is desired  $T_1$  may not be greater than the Working Load at 10% tension. If more than one belt is required divide  $T_1$  by the Working Load at 10% tension to arrive at number of belts. Round up to the nearest whole number of belts.
5. Find load per belt by dividing  $T_1$  by number of belts. From the Technical Data chart determine the percent installed tension for the load per belt.
6. Belt cut length (in.) = measured or calculated belt length (in.) x (1 – corresponding % tension).

## Engineering Data — Selection Example

Type of belt being considered = Eagle Orange 85A in 1/4" round

Head-to-tail center distance (C) = 10 feet

Incline or decline = none

Product accumulation on belt(s)? = no

Total weight on belt(s) = 15 lbs.

Type of belt support = UHMW slider bed

1. Refer to the Technical Data chart for the belt material and cross section selected.

| Eagle Orange 85 |                                | DESCRIPTION                        | HARDNESS                           | COEFFICIENT OF FRICTION                      | TEMPERATURE RANGE                 |       |      |       |      |     |      |                             |                             |
|-----------------|--------------------------------|------------------------------------|------------------------------------|----------------------------------------------|-----------------------------------|-------|------|-------|------|-----|------|-----------------------------|-----------------------------|
| Eagle Clear 85  |                                | Round,<br>Non-Reinforced           | 85A<br>FDA COMPLIANT<br>Yes        | Stainless Steel .70<br>Steel .60<br>UHMW .45 | -22°F to +150°F<br>-30°C to +66°C |       |      |       |      |     |      |                             |                             |
| Cross Section   | Dimensions $\emptyset$<br>(in) | Minimum Pulley $\emptyset$<br>(in) | Minimum Pulley $\emptyset$<br>(mm) | Working Load @ Percent Tension               |                                   |       |      |       |      |     |      | Weight<br>per foot<br>(lbs) | Weight<br>per meter<br>(kg) |
|                 |                                |                                    |                                    | 4%                                           |                                   | 6%    |      | 8%    |      | 10% |      |                             |                             |
| (lbs)           | (N)                            | (lbs)                              | (N)                                | (lbs)                                        | (N)                               | (lbs) | (N)  | (lbs) | (N)  |     |      |                             |                             |
| 6mm             | 6                              | 1.88                               | 48                                 | 1.7                                          | 7.6                               | 2.6   | 11.6 | 3.5   | 15.6 | 4.3 | 19.1 | .025                        | .017                        |
| 1/4             | 1/4                            | 2.00                               | 51                                 | 1.9                                          | 8.5                               | 2.9   | 12.9 | 3.9   | 17.3 | 4.8 | 21.4 | .03                         | .020                        |

2. Horizontal Transport with Slider Bed. Since the belt will run in UHMW slider bed the COF( $\mu$ ) of .45 is used from Technical Data chart. From the chart the belt weight is .03 lbs/ft giving a total belt weight of .30 lbs (.03 x 10').

$$T_e = 15 \text{ lbs} \times .45 + .30 = 7.05$$

3. Determine Tight Tension ( $T_1$ ).

$$\text{round belts } T_1 = 7.05 \times 2 = 14.10$$

4. Refer to the Technical Data chart for the material and cross section selected and compare  $T_1$  to the Working Load at 10% tension. If only one belt is desired  $T_1$  may not be greater than the Working Load at 10% tension. If more than one belt is required divide  $T_1$  by the Working Load at 10% tension to arrive at number of belts. Round up to the nearest whole number of belts.

$$1/4" \text{ round rated } 4.8 \text{ lbs @ } 10\% \text{ tension. } 14.10 \div 4.8 = 2.94 \text{ call } 3 \text{ belts}$$

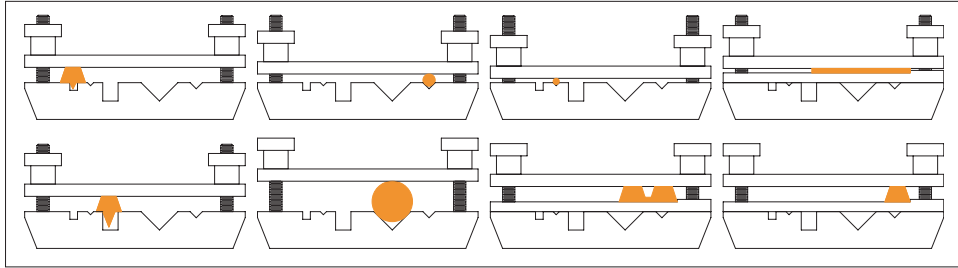
5. Find load per belt by dividing  $T_1$  by number of belts. From the Technical Data chart determine the percent installed tension for the load per belt.

$$\text{Load/belt} = 14.10 \div 3 = 4.70 \text{ lbs}$$

$$\text{corresponding installed tension} = 9.8\%$$

# WELDING INSTRUCTIONS — NON-REINFORCED

*A proper butt weld will yield 100% of the belt's ultimate tensile strength. With the tools provided and these instructions, proper welding technique can be achieved. Note: A clean environment contributes toward ensuring a proper weld. Make sure the area is well ventilated and free of dirt, dust and draft.*



| Round Belt Sizes |             | Use V-Groove |
|------------------|-------------|--------------|
| 3/32" - 1/8"     | 2mm - 3mm   | Small        |
| 3/16" - 5/16"    | 4mm - 8mm   | Medium       |
| 3/8" - 3/4"      | 10mm - 15mm | Large        |

Figure 2

1. Examine the hot knife for scratches in the surface of the coated blade. A damaged hot knife can affect weld results.
2. Plug the hot knife into 110/120v outlet and preheat for approximately ten minutes. Once hot, use a clean, dry cloth and gently remove from the coated surface any urethane residue from previous welding. **Warning: Do not use a hard object to scrape urethane from hot knife blade.**
3. Using the cutting shears provided or a pair of sharp scissors, cut each end of the belt perfectly square. Note: Contact Fenner Drives for instructions on determining correct belt length.
4. Refer to Figure 1. Slide the spacer toward the mounting clamps, squeeze the handles closed, and finger tighten the thumb nut located to the right of the right side mounting clamp.
5. Figure 2 illustrates possible belt clamp mounting positions. Starting on one side, loosen the clamp nuts and place belt in desired clamping position. Slide belt in clamp so that the end is halfway between the two mounting clamps. Tighten clamp nuts. Note: For round and ridge top profiles, remove bottom plate.
6. On the opposite clamp, loosen nuts and place belt in the same clamping position. **Warning: Make sure belt does not contain any twist.** Slide belt in clamp until the two belt ends butt together. Make sure that ends are properly aligned on all sides; see

Fig. 3. Tighten clamp nuts. Note: Try to keep both clamping plates parallel to the grooved base blocks.

7. Loosen thumb nut on right approx. 1½ turns and allow the handles to open. With your left thumb, hold the spacer forward and with your right hand, insert the blade of hot knife between belt ends and squeeze handles together. Refer to Figure 4.

8. As the belt ends begin to melt, the handles will contact the spacer. Hold handles tight against the spacer. After the appropriate time (refer to Table 1), quickly release the handles, slide the spacer toward yourself, withdraw the hot knife blade, and squeeze the handles together.

9. Tighten the thumb nut on the right and allow the welded joint to cure. Small cross section belts should be left in the clamp for a minimum of one minute to allow for initial cooling. Belt cross sections over ¼" wide should be left in the clamp a minimum of three minutes. **Warning: Allow the belt to cure for a minimum of ½ hour prior to installing, tensioning, or putting strain on the belt weld.** Note: While the belt is cooling, this is a good time to use a clean, dry cloth to remove any residue from the hot knife blade.
10. Loosen clamp nuts and remove belt from clamp. Using the flash cutters, remove the bead from the splice; see Fig. 5. Note: The flash cutters have been designed specifically for urethane trimming and are not to be used for cutting metal, wire, etc.



Figure 1



Figure 3



Figure 4



Figure 5

| Belt Sizes                                                                                                     | Estimated Heating Time |
|----------------------------------------------------------------------------------------------------------------|------------------------|
| 3/32"-1/4", 2mm-6mm, .055" Thick Flats                                                                         | <10 sec                |
| 5/16", 7mm-9mm, all 3L, .06"x.75", .06"x1.5", .08"x.75", .09"x1.00", .13"x.63"                                 | 10-20 sec              |
| 3/8", 10mm, all A (except Hi-Ridge Top), .06"x1.75", .06"x2.00", .09"x1.25", .09"x1.50", .13"x1.00", .25"x.63" | 21-30 sec              |
| 1/2"-9/16", 12mm-15mm, all Twin, A Hi-Ridge Top, all B, .06"x3.00", .09"x2.00"                                 | 31-50 sec              |
| 5/8"-3/4", C, D                                                                                                | >50 sec                |

Table 1

*If you have any questions, just call us at 1-800-243-3374. One of our Inside Sales Specialists will be happy to assist you.*

*Fenner Drives' Overlap Welder is designed exclusively to produce an overlap joint in Eagle® Reinforced Belting. A proper overlap weld will yield more than 100% of the belt's ultimate tensile strength. With the tools provided and these instructions, proper overlap welding technique can be achieved. Note: A clean environment can contribute to ensuring a proper weld. Make sure the area is well ventilated and free of dust, dirt and draft. Practice makes perfect. We strongly encourage getting familiar with the welder and practicing a weld on a short piece of belt before making a final weld on the belt.*

1. Securely fasten welder to mounting surface.
2. If this is a new welder, proceed to step 4.
3. Examine the light green coated surface of the heating element for scratches. A scratched and damaged coated surface can affect weld results; heating element may need replaced.
4. On the front of the control box is an on/off switch, indicator light and fuse holder. On the left side of the control box is a power supply line and thermocouple. Plug the power supply line and thermocouple into the left side of the control box. On the right side of the control box is the main power cord that is plugged into an 110/120v electrical power source.



Figure 1

5. On top of the control box is the temperature control dial. Set the control dial at 440°F for blue/green Hyfen belts and red LCF Can Cable belt or 500°F for light blue, light green and natural Can Cable belts. Turn the power switch to the on position. The large red indicator light will stay on. On the temperature control dial, an indicator light will come on and remain on while element is heating. **Warning: Do not start welding until this light goes out the first time.** This indicator light will then fluctuate on and off as the heating element maintains the correct welding temperature. Note: If light green coated surface contains urethane residue use a clean, dry cloth to remove it. **Warning: Do not use any object to scrape urethane from surface.**
6. Turn large wing nut several turns counterclockwise until it stops. Pull back on red knob on front (sliding) die. Push down on black knob on top of welder and pull brass pin out to release

coated heating element. Swing heating element away from die area.

7. Remove the black star-shaped thumbnuts from the welder. Select and position the correct vee or round dies in the welder. Insert a black star-shaped thumbnut into each die and finger-tighten as in Fig. 1. When welding V-belt, the split die fits into the front (sliding) section of the welder.

8. Using the cutting shears provided, cut each end of round belt at a 15° angle, or V-belt straight as in Fig. 2.



Figure 2

9. For round belt, continue to step 9a; uncogged V-belt, continue to step 9b; cogged V-belt, to step 9c.

- a. Slide end of the round belt into the rear die until it overhangs approximately 1/16" and angle on belt is parallel with angle on die. Clamp the belt into position by lightly tightening the knurled thumbnut finger tight. On the front (sliding) die, the flat side of the holding clamp must face up. If not, turn knurled thumbnut counter-



Figure 3 Holding Clamp

- clockwise and remove. Push holding clamp from base and rotate clamp 180° until flat side is up. Reassemble knurled thumbnut. Slide end of belt into front die and position exactly same as rear die. Lightly finger-tighten knurled thumbnut. See Fig. 3. **Caution: Make sure belt does not contain any twist.**

b. Slide end of the uncogged V-belt into the rear die until it overhangs approximately 1/16", but not more than 1/8". Clamp belt into position by lightly tightening the knurled thumbnut finger tight. On the front (sliding) die the flat side of the holding clamp must face up. If not, turn knurled thumbnut counterclockwise and remove. Push holding clamp from base and rotate clamp 180° until the flat side is up. Reassemble knurled thumbnut. Slide end of V-belt into front die and position exactly the same as the rear die. Lightly finger-tighten knurled thumbnut. See Fig. 4. **Caution: Make sure red belt does not contain any twist.**

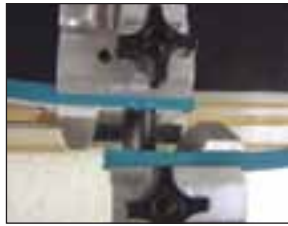


Figure 4

c. Slide end of the cogged V-belt into the rear die until one cog overhangs. Clamp belt into position by lightly tightening the knurled thumbnut finger tight. On the front (sliding) die, the flat side of the holding clamp must face down. If not, turn knurled thumbnut counterclockwise and remove. Push holding clamp from base and rotate clamp 180° till flat side is down. Reassemble knurled thumbnut. Slide end of cogged V-belt into front die and position exactly the same as the rear die. Lightly finger-tighten thumbnut. See Fig. 5. Note: Lip on holding clamp must be engaged in notch on V-belt. **Caution: Make sure belt does not contain any twist.**



Figure 5

10. Swing coated heating element into position above and between dies. Pull out on brass pin, push down and hold black knob (on top of welder) and release brass pin. This locks heating element into position.

11. Turn large wing nut clockwise, moving it forward until both overlapping surfaces contact the coated heating element. Continue turning large wing nut as belt ends melt and material is squeezed out of weld area. Continue turning large wing nut until it stops. **Warning: do not over tighten.** See Fig. 6.



Figure 6

12. After a maximum of 20 seconds (less for smaller profiles), turn large wing nut counterclockwise 3-4 full turns. Pull back on red knob till front (sliding) die stops. Push down on black knob on top of welder; on back of welder, slightly push on the two guide rods to move coated heating element. Pull brass pin out and release coated heating element. Swing heating element away from die area. Immediately push red knob forward and quickly spin large wing nut clockwise until stop is reached. **Important: This sequence must be done very quickly.** See Fig. 7.



Figure 7

13. While weld is cooling, use a clean, dry cloth to wipe excess urethane material from coated heating element. It is important that heating element be cleaned between every weld.

14. After a minimum of one minute, turn large wing nut counterclockwise several turns. Loosen both knurled thumbnuts several turns and pull back on red knob on front (sliding) die. Remove belt from welder, Fig. 8, and using special flash cutters trim weld flash from belt, Fig. 9. Note: The flash cutters have been designed specifically for trimming urethane and are not to be used for cutting metal, wire, etc. **Warning: Allow the belt to cure for a minimum of ½ hour prior to installing, tensioning or putting strain on the belt weld.**



Figure 8



Figure 9

*You'll receive a FREE CD demonstrating the welding technique with your welding kit!*

# Chemical Resistance Chart

Urethane is extremely resistant to many industrial oils and chemicals, but not all. Below are a wide variety of oils and chemicals found in industrial applications. Consult Fenner Drives application engineering group for assistance on projects with design criteria outside these parameters, or obtain a sample belt and determine its compatibility in the precise operating conditions.

| <i>Acids</i>               | <i>Rating</i> | <i>Fuels</i>                 | <i>Rating</i> | <i>Solvents</i>             | <i>Rating</i> |
|----------------------------|---------------|------------------------------|---------------|-----------------------------|---------------|
| Acetic, 5%                 | C             | ASTM Fuel A                  | A             | Acetone                     | C             |
| Boric, 4%                  | C             | ASTM Fuel B                  | C             | Aniline                     | C             |
| Chromic                    | C             | ASTM Fuel C                  | C             | Benzene                     | C             |
| Citronic                   | C             | Diesel Fuel                  | B             | Benzyl Alcohol              | C             |
| Formic                     | C             | Gasoline, Premium            | C             | Butane                      | C             |
| HCl                        | B             | Gasohol (10-15% Methanol)    | C             | Butyl Acetate               | C             |
| Hydrochloric, 10%          | C             | Jet Fuel, JP-4               | A             | Butyl Alcohol               | C             |
| Lactic                     | C             | Kerosene                     | A             | Carbon Tetrachloride        | C             |
| Nitric, >1%                | C             |                              |               | Chlorobenzene               | C             |
| Oleic                      | C             | <b>Oils</b>                  | <b>Rating</b> | Chloroform                  | C             |
| Phosphoric                 | C             | ASTM Oil #1                  | A             | Cyclohexane                 | C             |
| Sulfuric, <20%             | B             | ASTM Oil #2                  | A             | Ethanol                     | C             |
| Sulfuric, >20%             | C             | ASTM Oil #3                  | A             | Ether                       | C             |
|                            |               | Brake Fluid (ATE or ATS)     | C             | Ethyl Acetate               | C             |
|                            |               | Gear Box Oil (SAE 90)        | A             | Freon 11, 12, 22            | C             |
| <b>Alkalines</b>           | <b>Rating</b> | Hydraulic Fluid              | C             | Freon 113                   | A             |
| Ammonia, >10%              | C             | Hydraulic/Water Emulsion     | C             | Glycerine, Glycerol, Glycol | A             |
| Detergent, 1%              | A             | Mineral Oil                  | A             | Heptane                     | B             |
| Potassium Hydroxide        | B             | Motor Oil                    | A             | Hexane                      | C             |
| Soap, 1%                   | A             | Parafin Oil                  | A             | Isopropyl Alcohol           | C             |
| Sodium Hydroxide, 10%      | C             | Petroleum (Texas Sour Crude) | A             | Methanol                    | C             |
|                            |               | Power Steering Fluid         | B             | Methyl Acetate              | C             |
|                            |               | Skydrol 500 Oil              | C             | Methyl Ethyl Ketone         | C             |
| <b>Aqueous Solutions</b>   | <b>Rating</b> | Transmission Oil A           | A             | Methyl Glycol               | C             |
| Aluminum Chloride, 10%     | C             |                              |               | Methylene Chloride          | C             |
| Ammonium Chloride, 10%     | C             | <b>Greases</b>               | <b>Rating</b> | N-Methyl Pyrroidone         | C             |
| Bleaching Agent, 40%       | B             | Calcium Grease               | B             | Perchloroethylene           | C             |
| Bleaching Agent, 100%      | C             | Sodium Grease                | B             | Pyridine                    | C             |
| Calcium Chloride, 40%      | C             | Teflon Grease                | A             | Turpentine                  | A             |
| Caustic Soda, 10%          | B             |                              |               | Tetrachloroethylene         | C             |
| Cola                       | A             | <b>Miscellaneous</b>         | <b>Rating</b> | Tetrahydrofuran             | C             |
| Ferric Chloride, 10%       | C             | Diocetyl Phthalate (DOP)     | A             | Toluene                     | C             |
| Hydrogen Peroxide, 3%      | B             | Ethylene Chloride            | C             | Trichloroethylene           | C             |
| Isopropanol, 50%           | C             | Ethylene Dichloride          | C             | Xylene                      | C             |
| Magnesium Chloride, 30%    | C             | Eythlene GlycoWater 50/50    | C             |                             |               |
| Potassium Chloride, 40%    | C             | Household Cleaner            | B             |                             |               |
| Potassium Dichromate, 10%  | C             | Naptha                       | A             |                             |               |
| Potassium Permanganate, 5% | C             | Silage (Silo) Juice          | C             |                             |               |
| Sea Water                  | B             | Natural Perspiration         | B             |                             |               |
| Sodium Bisulfate, 10%      | C             | Tincture of Iodine           | C             |                             |               |
| Sodium Chloride, 10%       | C             | Tricresyl Phosphate          | C             |                             |               |
| Sodium Hypochlorite, 5%    | C             |                              |               |                             |               |
| Sodium Thiosulfate, 20%    | A             |                              |               |                             |               |
| Water, Deionized           | A             |                              |               |                             |               |

### Rating Key

A - Fluid has little or no effect

B - Fluid has minor to moderate effect

C - Fluid has severe effect



## Frequently Asked Questions

*Q Are all of the urethane products FDA approved?*

*A* Eagle® Green 89 and Eagle Red and Blue Can Cable are not. Standard Eagle Red 85 CXF and Eagle Hyfen CXF and CXR are not; consult factory for availability of FDA compliant materials. All of the other belts are manufactured from FDA compliant materials.

*Q I have an application involving 200°F/93°C temperature. Can I use your urethane belting?*

*A* Our Eagle urethane products are usually limited to 130°F/54°C (see product info for details). At higher temperatures the urethane softens and loses strength, resulting in excessive stretch. However, Fenner Drives' PowerTwist Plus® should be considered as an option.

*Q My application involves washdown. What effect will it have on the belt?*

*A* Urethane is resistant to water and many industrial chemicals, but not resistant to all. Consult the chemical resistance chart in this catalog or contact Fenner Drives application engineering group with the contaminants present and we will make a recommendation.

*Q The standard profiles shown do not appear to suit my needs. Do you make special profiles?*

*A* Yes! At Fenner Drives, we welcome the opportunity. Contact Fenner Drives application engineering group for assistance.

*Q Can I run your flat belting on pulleys that have no crown?*

*A* No. A crown on the pulley prevents the belt from moving laterally and running off the pulley. Flat pulleys with guide flanges are also not recommended. The belt may want to climb the guide flange.

*Q I plan on using a "B" section urethane belt. Will your belt fit pulleys that I can buy from numerous power transmission distributors?*

*A* Yes. All of our "classical" urethane belts, i.e. A, B, C and D, are designed to fit RMA compliant pulleys.

*Q Why can't I butt weld your reinforced urethane belting?*

*A* You can, but in most applications it is not recommended. To receive the full load carrying capacity of the belt, an overlap weld is recommended.

*Q Do I need some take-up adjustment when using your urethane belts?*

*A* When using non-reinforced urethane belting, take-up is not required. However, all reinforced type belting does require take-up. One good option is our T-Max™ rotary belt tensioners with a PowerMax™ idler pulley.

*Q On my conveying application, the product being moved could occasionally accumulate. What belt do you recommend for this?*

*A* Our Eagle Green 89 with its textured surface provides a lower coefficient of friction and is ideal for applications where product accumulation can occur.

*For any questions about our extensive line of products, just call 1-800-243-3374 and your Inside Sales Specialist will help you.*