



UsFlex® *Go tougher, not thicker!*

Toughest rip and puncture resistant belt made...period.

UsFlex belting has longitudinal rip resistance more than three times that of multiple-ply belts of equivalent rating because of our unique straight-warp construction. UsFlex provides impact resistance up to three times greater than that of conventional plied belting. This unequaled toughness means the belt will not be easily damaged in the loading and conveying of large, sharp material. As a result, UsFlex will provide the longest belt life in the harshest conveying conditions, guaranteed!

Markets & Applications:

- **Large aggregate**
- **Forest products**
- **Coal mining**
- **Hard rock mining**
- **Steel/foundries**
- **Bulk terminals**
- **Recycling**

Reasons to Count on UsFlex

- Balanced covers reduce cupping, curling and tracking problems
- Maximum belt strength and abuse resistance even with large loads
- Excellent load support combined with outstanding troughability due to lightweight, flexible design
- Carcass binder system acts as built-in breaker to resist impact, rip and puncture
- Available in single or dual unit carcass
- Superior carcass adhesion
- State-of-the-art Finger Splice Technology prolongs belt life





UsFlex® Specification Table - "Imperial"

GENERAL DATA

| Carcass Style | UsFlex | UsFlex | UsFlex | UsFlex | UsFlex | UsFlex | UsFlex | UsFlex | UsFlex | UsFlex | UsFlex |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | S2 | S3 | S4 | S5 | D5 | D6 | D8 | D10 | D12 | D15 | |
| Number of Plies | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Carcass Gauge ³ (in) | .095 | .139 | .142 | .169 | .234 | .270 | .300 | .320 | .388 | .439 | |
| Carcass Weight ⁴ (lb/in/ft) | .031 | .043 | .044 | .058 | .096 | .112 | .124 | .137 | .162 | .187 | |
| Elastic Modulus (lbs/in) | 25000 | 35000 | 45000 | 50000 | 58000 | 50000 | 60000 | 70000 | 85000 | 92000 | |

CONVEYOR BELT SPECIFICS

| Max Tension Rating ² (PIW) | 245 | 330 | 440 | 550 | 550 | 660 | 800 | 1000 | 1250 | 1500 |
|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| Troughing/Empty¹ – Min Belt Width (in) | | | | | | | | | | |
| 20 degree idlers | 16 | 20 | 24 | 24 | 24 | 24 | 30 | 30 | 30 | 30 |
| 35 degree idlers | 20 | 24 | 30 | 30 | 30 | 30 | 36 | 36 | 36 | 36 |
| 45 degree idlers | 24 | 30 | 36 | 36 | 36 | 36 | 42 | 42 | 42 | 42 |
| Load Support¹ – Max Belt Width (in) | | | | | | | | | | |
| 20 deg idlers 0 – 40 lbs/ft ³ | 60 | 72 | 84 | 84 | 84 | 96 | 96 | 96 | 96 | 96 |
| 20 deg idlers 41 – 80 lbs/ft ³ | 48 | 66 | 72 | 72 | 84 | 84 | 96 | 96 | 96 | 96 |
| 20 deg idlers 81 – 120 lbs/ft ³ | 42 | 60 | 66 | 72 | 84 | 84 | 84 | 84 | 84 | 84 |
| 20 deg idlers over 120 lbs/ft ³ | 36 | 48 | 60 | 66 | 72 | 72 | 84 | 84 | 84 | 84 |
| 35 deg idlers 0 – 40 lbs/ft ³ | 48 | 66 | 72 | 72 | 84 | 96 | 96 | 96 | 96 | 96 |
| 35 deg idlers 41 – 80 lbs/ft ³ | 36 | 54 | 60 | 66 | 72 | 84 | 96 | 96 | 96 | 96 |
| 35 deg idlers 81 – 120 lbs/ft ³ | 36 | 48 | 54 | 60 | 66 | 72 | 84 | 84 | 84 | 84 |
| 35 deg idlers over 120 lbs/ft ³ | 30 | 42 | 48 | 54 | 60 | 72 | 84 | 84 | 84 | 84 |
| 45 deg idlers 0 – 40 lbs/ft ³ | 42 | 54 | 60 | 66 | 72 | 96 | 96 | 96 | 96 | 96 |
| 45 deg idlers 41 – 80 lbs/ft ³ | 36 | 48 | 54 | 60 | 72 | 84 | 96 | 96 | 96 | 96 |
| 45 deg idlers 81 – 120 lbs/ft ³ | 30 | 42 | 48 | 54 | 60 | 72 | 84 | 84 | 84 | 84 |
| 45 deg idlers over 120 lbs/ft ³ | 24 | 36 | 42 | 48 | 54 | 66 | 72 | 72 | 84 | 84 |
| Minimum Pulley Diameters (in) | | | | | | | | | | |
| 81 – 100% belt rated tension | 16 | 18 | 20 | 20 | 24 | 30 | 36 | 36 | 36 | 36 |
| 61 – 80% belt rated tension | 14 | 16 | 18 | 18 | 20 | 24 | 24 | 30 | 30 | 30 |
| Up to 60% belt rated tension | 12 | 14 | 16 | 16 | 18 | 20 | 20 | 24 | 24 | 24 |

ELEVATOR BELT SPECIFICS

| Maximum Tension Rating (PIW) | 195 | 280 | 370 | 440 | 440 | 550 | 690 | 870 | 1060 | 1150 |
|--|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| "Grain, Wood Chip" Service (50 lbs/ft ³) | 195 | 280 | 370 | 440 | 440 | 550 | 690 | 870 | 1060 | 1150 |
| "Industrial" Service (100 lbs/ft ³) | 175 | 250 | 330 | 400 | 400 | 480 | 620 | 775 | 940 | 1050 |
| Minimum Pulley Diameters (in) | | | | | | | | | | |
| 81 – 100% belt rated tension | 16 | 18 | 20 | 20 | 24 | 30 | 36 | 36 | 36 | 36 |
| 61 – 80% belt rated tension | 14 | 16 | 18 | 18 | 20 | 24 | 24 | 30 | 30 | 30 |
| Up to 60% belt rated tension | 12 | 14 | 16 | 16 | 18 | 20 | 20 | 24 | 24 | 24 |
| Maximum Bucket Projection (in) | | | | | | | | | | |
| "Centrifugal" Elevators | 8 | 10 | 10 | 10 | 12 | 14 | 15 | 16 | 17 | 18 |
| "Continuous" Elevators | 7 | 9 | 10 | 12 | 13 | 15 | 16 | 18 | 20 | 22 |

- ¹ Troughability and Load Support values can be influenced by certain cover gauge and compound combinations used. When in doubt, please contact your FDA representative for selection guidance.
- ² UsFlex tension ratings reflect a minimum 10:1 safety factor through the 660 PIW offering, and an 8:1 minimum safety factor for the remaining higher tension offerings. With the appropriate fastener selection and installation, 4:1 minimum mechanical fastener safety factors can be achieved.
- ³ Add the appropriate cover gauge to this carcass gauge to obtain the approximate overall belt thickness.
- ⁴ Add the appropriate cover weight to this carcass weight to obtain the appropriate overall belt weight.

UsFlex Specification Table - "Metric"

GENERAL DATA

| Carcass Style | UsFlex S2 | UsFlex S3 | UsFlex S4 | UsFlex S5 | UsFlex D5 | UsFlex D6 | UsFlex D8 | UsFlex D10 | UsFlex D12 | UsFlex D15 |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|
| Number of Plies | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| Carcass Gauge ³ (mm) | 2.4 | 3.5 | 3.6 | 4.3 | 6.0 | 6.9 | 7.6 | 8.1 | 9.9 | 11.2 |
| Carcass Weight ⁴ (kg/m ²) | 1.8 | 2.5 | 2.6 | 3.4 | 5.6 | 6.6 | 7.3 | 8.0 | 9.5 | 10.9 |
| Elastic Modulus (N/mm) | 4375 | 6125 | 7875 | 8750 | 10125 | 8750 | 10500 | 12250 | 14875 | 16125 |

CONVEYOR BELT SPECIFICS

| | | | | | | | | | | |
|--|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|
| Max Tension Rating² (N/mm) | 43 | 58 | 77 | 97 | 97 | 116 | 140 | 175 | 219 | 263 |
| Troughing/Empty¹ – Min Belt Width (mm) | | | | | | | | | | |
| 20 degree idlers | 400 | 500 | 600 | 600 | 600 | 600 | 750 | 750 | 750 | 750 |
| 35 degree idlers | 500 | 600 | 750 | 750 | 750 | 750 | 900 | 900 | 900 | 900 |
| 45 degree idlers | 600 | 750 | 900 | 900 | 900 | 900 | 1050 | 1050 | 1050 | 1050 |
| Load Support¹ – Max Belt Width (mm) | | | | | | | | | | |
| 20 deg idlers 0 – 640 kg/m ³ | 1500 | 1800 | 2150 | 2150 | 2150 | 2450 | 2450 | 2450 | 2450 | 2450 |
| 20 deg idlers 641 -1280 kg/m ³ | 1200 | 1700 | 1800 | 1800 | 2150 | 2150 | 2450 | 2450 | 2450 | 2450 |
| 20 deg idlers 1281 -1920 kg/m ³ | 1050 | 1500 | 1700 | 1800 | 2150 | 2150 | 2150 | 2150 | 2150 | 2150 |
| 20 deg idlers over 1920 kg/m ³ | 900 | 1200 | 1500 | 1700 | 1800 | 1800 | 2150 | 2150 | 2150 | 2150 |
| 35 deg idlers 0 – 640 kg/m ³ | 1200 | 1700 | 1800 | 1800 | 2150 | 2450 | 2450 | 2450 | 2450 | 2450 |
| 35 deg idlers 641 -1280 kg/m ³ | 900 | 1400 | 1500 | 1700 | 1800 | 2150 | 2450 | 2450 | 2450 | 2450 |
| 35 deg idlers 1281 -1920 kg/m ³ | 900 | 1200 | 1400 | 1500 | 1700 | 1800 | 2150 | 2150 | 2150 | 2150 |
| 35 deg idlers over 1920 kg/m ³ | 750 | 1050 | 1200 | 1400 | 1500 | 1800 | 2150 | 2150 | 2150 | 2150 |
| 45 deg idlers 0 – 640 kg/m ³ | 1050 | 1400 | 1500 | 1700 | 1800 | 2450 | 2450 | 2450 | 2450 | 2450 |
| 45 deg idlers 641 -1280 kg/m ³ | 900 | 1200 | 1400 | 1500 | 1800 | 2150 | 2450 | 2450 | 2450 | 2450 |
| 45 deg idlers 1281 -1920 kg/m ³ | 750 | 1050 | 1200 | 1400 | 1500 | 1800 | 2150 | 2150 | 2150 | 2150 |
| 45 deg idlers over 1920 kg/m ³ | 600 | 900 | 1050 | 1200 | 1400 | 1700 | 1800 | 1800 | 2150 | 2150 |
| Minimum Pulley Diameters (mm) | | | | | | | | | | |
| 81 – 100% belt rated tension | 400 | 450 | 500 | 500 | 600 | 750 | 900 | 900 | 900 | 900 |
| 61 – 80% belt rated tension | 350 | 400 | 450 | 450 | 500 | 600 | 600 | 750 | 750 | 750 |
| Up to 60% belt rated tension | 300 | 350 | 400 | 400 | 450 | 500 | 500 | 600 | 600 | 600 |

ELEVATOR BELT SPECIFICS

| | | | | | | | | | | |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| Maximum Tension Rating (N/mm) | | | | | | | | | | |
| "Grain, Wood Chip" Service (800 kg/m ³) | 34 | 49 | 65 | 77 | 77 | 96 | 121 | 152 | 186 | 201 |
| "Industrial" Service (1600 kg/m ³) | 175 | 250 | 330 | 400 | 400 | 480 | 620 | 775 | 940 | 1050 |
| Minimum Pulley Diameters (mm) | | | | | | | | | | |
| 81 – 100% belt rated tension | 400 | 450 | 500 | 500 | 600 | 750 | 900 | 900 | 900 | 900 |
| 61 – 80% belt rated tension | 350 | 400 | 450 | 450 | 500 | 600 | 600 | 750 | 750 | 750 |
| Up to 60% belt rated tension | 300 | 350 | 400 | 400 | 450 | 500 | 500 | 600 | 600 | 600 |
| Maximum Bucket Projection (mm) | | | | | | | | | | |
| "Centrifugal" Elevators | 200 | 250 | 250 | 250 | 300 | 350 | 375 | 400 | 425 | 450 |
| "Continuous" Elevators | 175 | 230 | 250 | 300 | 325 | 375 | 400 | 450 | 500 | 550 |

- Troughability and Load Support values can be influenced by certain cover gauge and compound combinations used. When in doubt, please contact your FD representative for selection guidance.*
- UsFlex tensions reflect a minimum 10:1 safety factor through the 116 N/mm rated offerings, and an 8:1 minimum safety factor for the remaining higher tension offerings. With the appropriate fastener selection and installation, 4:1 minimum mechanical fastener safety factors can be achieved.*
- Add the appropriate cover gauge to this carcass gauge to obtain the approximate overall belt thickness.*
- Add the appropriate cover weight to this carcass weight to obtain the appropriate overall belt weight.*