

»»X SERIES USFLEX

High impact, tear and rip resistant belting

UsFlex is engineered to handle the heaviest, sharpest materials that can rip or tear conventional belts. With five times the rip resistance and three times the impact resistance of standard multi-ply belts, UsFlex's unique straight-warp construction ensures maximum durability and longevity in the harshest conditions. Guaranteed to extend belt life where others fail.

UsFlex – Making the Right Selection

Quarrying: Perfect for primary and secondary crushers. Ideal for handling large, sharp, and heavy materials that can easily damage conventional belts.

Mining: Ideal for conveying heavy, abrasive and sharp materials.

Wood industry: Proven capable of handling heavy logs and timber.

Belt characteristics

UsFlex's exceptional impact and tear resistance comes from its innovative straight-warp carcass. Heavy polyester strands run lengthwise and heavy nylon strands crosswise, held by strong yarn. Unlike conventional belts, the strands are straight and not interlocked, allowing the weft to float freely, absorbing impact energy over a larger area for maximum carcass protection.

For optimum carcass protection, Fenner Dunlop RES covers are standard, offering exceptional resistance to cutting and abrasion. Key features include:

- **Outstanding abrasion resistance:** Exceeds the highest DIN W and ISO 'D' standards.
- **Additional cover qualities:** Options available for oil, fire, and heat resistance.
- **Anti-static:** Meets EN ISO 284 anti-static requirements.
- **Ozone and UV resistance:** Compliant with EN ISO 1431 testing to prevent cracking and degradation.
- **REACH compliant:** All covers meet international REACH regulations for safety and performance.

Rip resistance

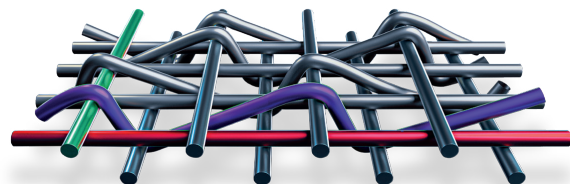
Rip resistance is over five times that of conventional multi-ply belts with a similar tensile strength. The rip resistance is also far superior to Solid Woven and EpP constructions.

Impact resistance

Compared to conventional multi-ply and solid woven belting, the impact resistance of UsFlex is proven to be significantly superior. For example, a single-ply UsFlex type 630/1 has the impact absorbing qualities of a 4-ply EP belt type 1600/4 or an EpP 1250/2.

Tear resistance testing

The tear resistance of UsFlex, measured according to the international EN ISO 505 standard, also significantly exceeds that of conventional multiply belts with a comparable tensile strength. Tests for rip and tear resistance are only made on the actual belt carcass with the top and bottom covers removed. This ensures that the thickness and quality of the cover does not influence the accuracy and consistency of the tests.



The unique straight-warp construction of the UsFlex carcass

Key Components:

- Weft
- Binder Warp
- Straight Warp



UsFlex
Super heavy-duty
conveyor belts

Scan & See a
Real Customer
Story!



Property	630/4	NX4	800/4	UF 630/1	1000/4	NX6	1250/4	UF 1000/2
Longitudinal tensile strength (N/mm)	630	690	800	630	1000	1040	1250	1000
Max. operational tension spliced (N/mm)	472	621	600	567	750	936	937	900
Carcass thickness (mm)	4.3	3.6	5.0	3.5	5.8	4.9	6.4	6.3
Carcass weight (kg/m ²)	4.9	4.3	5.8	4.0	6.7	5.9	7.4	7.0
Min. rip resistance (N)	1250	3500	1500	5000	1500	5000	1500	7000
Min. tear resistance (N)	1000	3000	1000	4000	1000	4000	1000	6000
Min. static fastener efficiency (%)	60	65	60	65	60	65	60	65
Average elongation at T1 (%)	0.9	0.7	0.8	1.3	1.1	1.3	1.4	1.3
Minimum pulley diameter for > 60% (mm)	500	500	630	400	630	630	800	630
Minimum width at 30 deg. trough (mm)	650	800	650	800	800	1000	1000	1000
Max. width at 30 deg. trough (mm)	1600	2000	1800	2200	2200	2200	2200	2200
Belt weight stock item (kg/m ²)	14.0	12.6	14.9	14.2	19.3	18.3	-	19.1

Belt type	Carcass thickness (mm)	Carcass weight (kg/m ²)	Pulley diameters ⁽¹⁾			Min. cover thickness	Min. width (mm)	Max. belt width (mm) for satisfactory load support with material density of t/m ³ ⁽²⁾			
			A (mm)	B (mm)	C (mm)			< 0.75	0.75 - 1.5	1.5 - 2.5	2.5 - 3.2
Standard (stock) UsFlex belt type specifications.											
UF 400/1	2.5	2.7	315	250	200	4 + 2.5	650	1600	1400	1200	1000
UF 500/1	3.4	3.9	400	315	250	6 + 3	800	2000	1800	1600	1400
UF 630/1	3.5	4.0	400	315	250	6 + 3	800	2200	2000	1800	1600
UF 800/1	3.9	4.5	500	400	315	6 + 3	800	2200	2200	2000	1800
UF 1000/2	6.3	7.0	630	500	400	8 + 3	1000	2200	2200	2200	2200
UF 1250/2	6.8	7.7	800	630	500	8 + 3	1000	2200	2200	2200	2200
UF 1600/2	8.1	9.1	1000	800	630	8 + 3	1200	2200	2200	2200	2200

⁽¹⁾ Diameter for belt-loads from 60% up to 100%. For lower loads a smaller diameter can also be suitable.

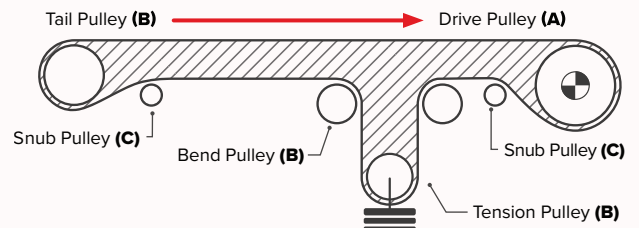
⁽²⁾ The load support of a belt is a factor of the belt width, belt strength and bulk material density. The table indicates the limits for correct load support, based on three idlers of the same length set at 30°.

1 Determine the total belt thickness.

Add the sum of the covers to the carcass thickness.

2 Determine the belt weight per m². *excluding belts for which other weights apply*

Multiply the sum of the covers by 1.15 and add the result to the carcass weight.



Learn more about belt monitoring

