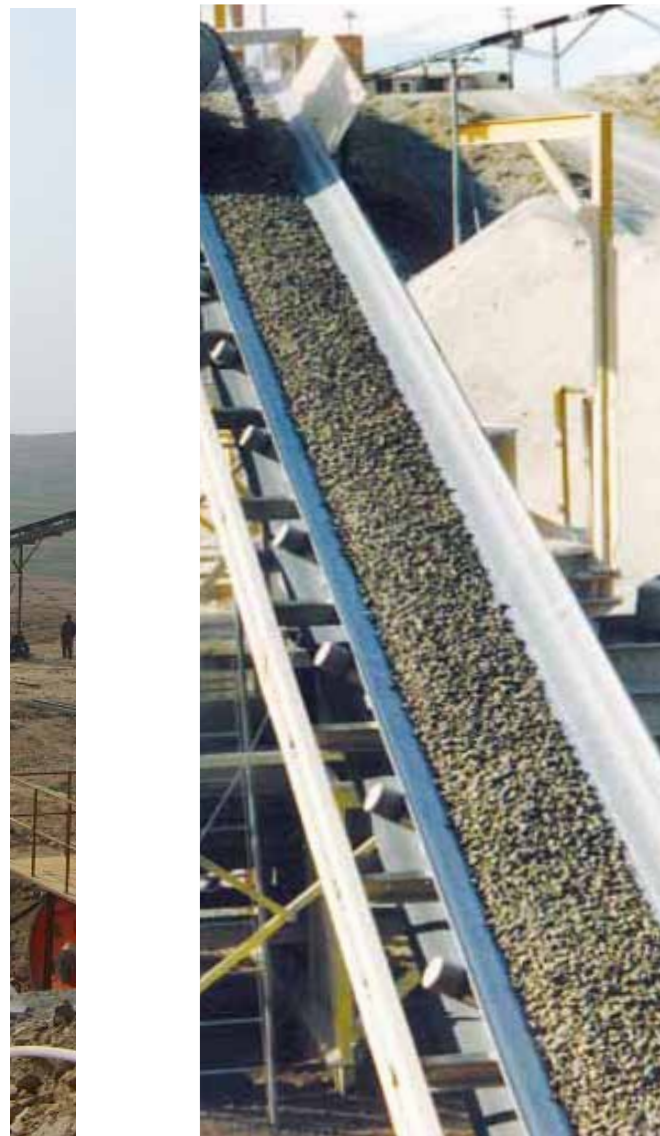


# Abrasion Resistant Rubber Belts

Mechanical Properties





## Quarry & Mining Wear Resistant Conveyor Belt.

Viking Conveyor offers a range of quality wear resistant natural rubber conveyor belts for quarrying and mining applications.

### Mechanical Properties



Product	Plies	Cover Grade	Top Cover	Bottom Cover	Maximum Din Abrasion	Hardness
Viking Tuffply	3	D	5.0	2.0	<85	62-68
Viking Quarrior	3	M24	4.0	1.5	<100	62-68
Viking Conti	3	N	4.0	1.5	<200	66-74
Viking Tuffply	4	D	6.0	2.0	<85	62-68
Viking Quarrior	4	M24	5.0	2.0	<100	62-68
Viking Conti	4	N	5.0	2.0	<200	66-74

Product	Plies	Max Working Tension (KN/m)	Ultimate Tensile Strength (KN/m)	Elongation @ Break	Elongation at 10% Load	Min Pulley Diameter
Viking Tuffply	3	45	450	<12%	<4%	400
Viking Quarrior	3	45	450	<12%	<4%	400
Viking Conti	3	45	450	<10%	<4%	400
Viking Tuffply	4	60	600	<12%	<4%	500
Viking Quarrior	4	60	600	<12%	<4%	500
Viking Conti	4	60	600	<10%	<4%	500



Product	Plies	Ply Adhesion Ply to Top cover N/mm	Ply Adhesion Ply to Ply N/mm	Ply Adhesion Ply to bottom cover N/mm	Tensile Strength Rubber Cover Mpa	Elongation to Break Rubber cover (%)
Viking Tuffply	3	≥4	≥5	≥4	≥18	≥400
Viking Quarrior	3	≥4	≥5	≥4	≥24	≥450
Viking Conti	3	≥3	≥3.2	≥2.4	≥17	≥400
Viking Tuffply	4	≥4	≥5	≥4	≥18	≥400
Viking Quarrior	4	≥4	≥5	≥4	≥24	≥450
Viking Conti	4	≥3	≥3.2	≥2.4	≥17	≥400

### Testing Methods

Test	Test Method
Tensile Strength, MPa	ASTM D 412-98 Method A, Die B
Modulus @ 300%, MPa	ASTM D 412-98 Method A, Die B
Elongation at Break, %	ASTM D 412-98 Method A, Die B
Hardness, Shore A	ASTM D 2240
Abrasion Resistance, mm <sup>3</sup> lost, 10N load	DIN 53516
<b>Standard</b>	<b>EN ISO 14890:2003</b> - Specification for rubber or plastics covered conveyor belts or textile construction for general use.

Viking Tuffply : Typical Test Result					
Specifications:				Top Cover Grade:	D
	EP160-1800 x 3 (5+2)	Width:	1800mm	Pulley Cover Grade:	D
Roll no:	-	Weight Kg/m <sup>2</sup>	12.1	Temp:	23°C
Mark:	-	Textile:	EP160	Humidity:	65%
Norm:	AS1332	Length:	300mm	Client:	Viking Group Ltd
Exterior Appearance : Smooth, finished					
Thickness:	Unit	Total	Top Cover	Bottom Cover	
Required:	mm	-	≥5.0	≥2.0	
Tested:	mm	10.5	5.1	2.0	
Tension Strength & Elongation					
	Unit	Test Values		Average	Required
TS/warp	N/mm	547.4	537.0	542.2	≥480
E/warp	%	18.3	18.8	18.6	≥12
TS/weft	N/mm	186.6	185.1	222.5	-
E/weft	%	25.0	23.1	24.1	-
E/under 10%	%	0.9	1.0	1.0	≤4.0
Adhesion					
	Unit	Test Value		Average	Required
Cover A with 1 <sup>st</sup>	N/mm	17.1	16.2	16.7	≥5.0
1 <sup>st</sup> with 2 <sup>nd</sup>		11.0	11.6	11.3	≥5.0
2 <sup>nd</sup> with 3 <sup>rd</sup>		11.4	10.7	11.1	≥5.0
4 <sup>th</sup> with Cover B		6.7	8.6	7.7	≥4.0
Cover properties					
	Unit	Test Value		Average	Required
TS	Mpa	19.0	19.1	19.1	≥18
E/Break	%	652.3	629.3	627.3	≥400
(S&A) Abrasion	mm <sup>3</sup>	48.3	51.2	49.8	≤90
Hardness	Shore A	62	63	62.5	62.68



### Quarrior

Quarrior is a quality M Grade belt with high gouge and tear resistance combined with high abrasion resistance. This is an excellent utility conveyor belt designed to handle sharp rock while maintaining good abrasion resistance to fines.

### Tuffply

Viking Tuffply conveyor belts are built to take a pounding in the hardest environments including quarries, mines, and fertiliser works. We make them using Viking's specially formulated super abrasion resistant natural rubber compound gained from over 40 years experience in conveyor seles and services throughout NZ.

### Conti

Conti is a reliable and economical N Grade moderately abrasion resistant natural rubber conveyor belt suitable for low duty conveyors or applications where the conveyor belt is replaced as a result of mechanical damage or abuse rather than wear.

Call us on **0800 845 464** to dicuss your engineering and technical requirements.

## Viking Quarrior : Typical Test Result

					Top Cover Grade:	M-24
Specifications:	EP160-1800 x 3 (4 + 1.5)	Width:	1802mm	Pulley Cover Grade:	M-24	
Roll No:	-	Weight kg/m <sup>2</sup>	11	Temp:	23°C	
Mark:	-	Textile:	EP160	Humidity:	65%	
Norm:	AS1332	Length:	300m	Client:	Viking Group Ltd	

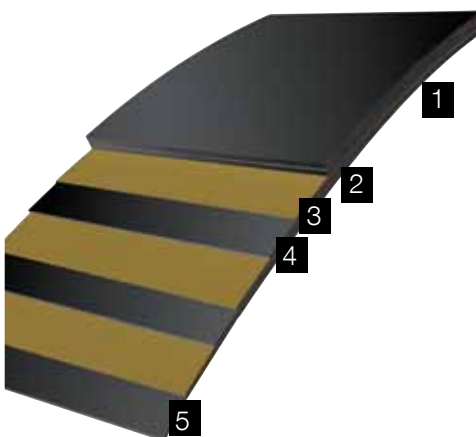
### Exterior Appearance: Smooth, finished

Thickness:	Unit	Total	Top Cover	Bottom Cover	
Required:	mm	-	4.0	1.5	
Tested:	mm	9.4	4.1	1.5	

Tension Strength & Elongation	Unit	Test Values	Average	Average	Required
TS/warp	N/mm	508.8	524.3	516.6	≥480
E/warp	%	13.3	13.5	13.4	≥10
TS/weft	N/mm	160.7	161.4	161.1	-
E/weft	%	18.6	20.3	19.5	-
E/under 10% load	%	1.3	0.9	1.1	≤4.0
Adhesion	Unit	Test Value		Average	Required
Cover A with 1 <sup>st</sup>	N/mm	12.5	10.9	11.7	≥5.0
1 <sup>st</sup> with 2 <sup>nd</sup>		14.9	12.0	13.5	≥5.0
2 <sup>nd</sup> with 3 <sup>rd</sup>		9.9	13.1	11.5	≥5.0
3 <sup>rd</sup> with cover B		8.6	8.5	8.6	≥4.0

Cover properties	Unit	Test Value		Average	Required
TS	Mpa	25.4	25.6	25.5	≥24
E/Break	%	601.0	607.9	604.5	≥450
(S&A) Abrasion	mm <sup>3</sup>	93.9	95.6	94.8	≤100
Hardness	Shore A	63	63	63	-

### TUFFPLY (Long Life Construction)



1. **Top Cover:** Made from super abrasion resistant natural Rubber. Tested to EN ISO 14890:2003 - Specification for rubber or plastic covered conveyor belts or textile construction for general use.

2. **Nylon Cord Breaker** (optional). Special embedded nylon cord net which limits gouge and tear while distributing heavy impact more effectively.

3. **Fabric :** Made from the best quality polyester nylon fabric to provide strength and durability while under heavy load.

4. **Interply Skim.** Interply skim or cushion rubber chosen to provide maximum ply to ply cover adhesion.

5. **Bottom Cover.** Made from the same super abrasion resistant natural rubber as the top cover.

- Available in longer lengths
- Can be made to customer specification
- Available with your company name and date of manufacture stamped in the belt

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