RR Endless

A brand of Riva Renzo Group

EnergyGrip Series

Caterpillar Belts for Haul-Off Units

RR Endless

The Riva Renzo Company was established in 1981, so it can boast more than 40 years experience. The Company is manufacturing rubber products and, specifically, endless rubber belts and V-belts for many industrial sectors.

Since the very beginning Riva Renzo has believed in the value of the "endless technology" as the best reply to many industrial requirements. Therefore we developed a proper technology which enables us to supply belts truly endless without any joint or seam that can fulfill at best customers' requirements as for thickness uniformity, planarity, ability to run on small pulleys diameter, ability to run at high speed, even in critical working conditions such as high pulling force and vertical pressure.

Our Endless Caterpillar belts for haul-off units of wire, cables plastic pipes and profiles represent a core business of our Company and met quite a success on the market. Our belts are available in a wide range of rubber qualities, tensile core strengths and surface executions, in order to fulfill any specific application requirement. We design any belt according to your needs, basing on your own application details.

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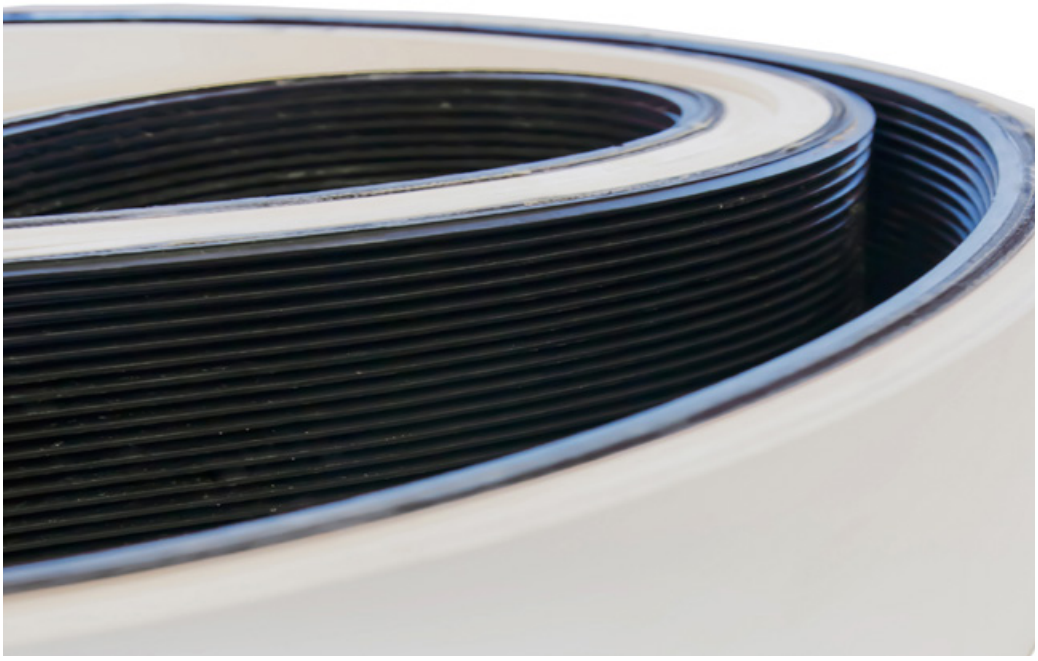
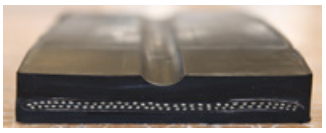
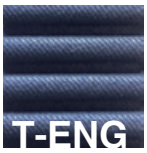






EXAMPLE OF PRODUCT CHOICE

Tab.1	PIPE & PLASTIC PROFILES	DATA CABLES	LOW-MEDIUM VOLTAGE CABLES	HIGH VOLTAGE CABLES	SUBMARINE CABLES
NR 50 GR	•				
NR 60 GR	•	•	•		
NR 65 BL		•	•	•	•
NR 75 BL				•	•
NR 55 WT	•	•			
NR 70 WT			•		
CSM 60 GR	•	•	•		
NR-BR 55 BL	•	•	•		
CTK 1000	•	•	•	•	
CTK 1500			•	•	•
CTK 2000				•	•
CTK 2500					•
BTT	•	•	•	•	
BTM				•	•
BMM				•	•

RUBBER QUALITY

Tab.2	DESCRIPTION	COLOUR	HARDNESS Sh.A	BASIC POLYMER
NR-GR	No-Staining Rubber	Grey	50-60	Natural Rubber
NR-BL	Wear Resistant Rubber	Black	65-75	Natural Rubber
NR-WT	No-Staining Rubber	White	55-70	Natural Rubber
CSM	Heat and Oil Resistant Rubber	Grey	60	Chlorosulfonated polyethylene
NR-BR	Wear Resistant Rubber	Black	55-65	Butadiene Rubber
NR-NBR	Oil Resistant Rubber	Black	75	Nitrile Rubber



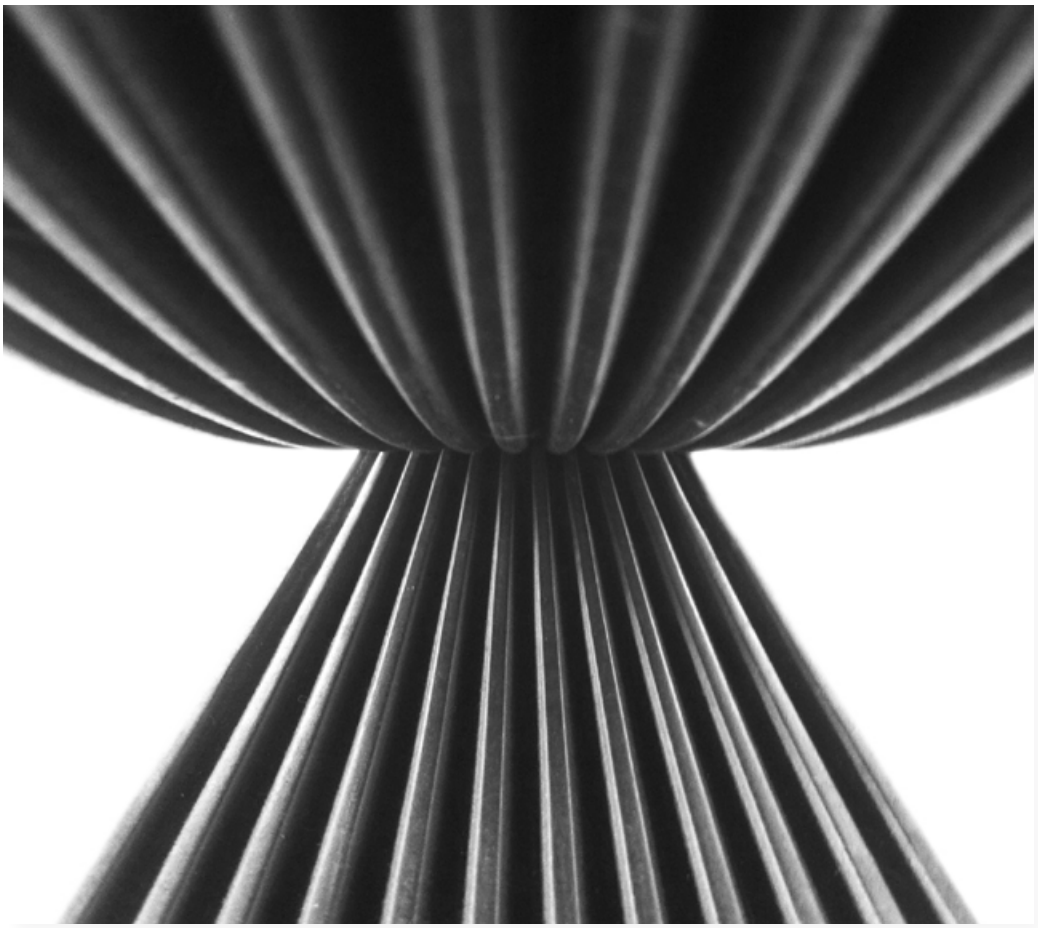
ENERGYGRIP CHARACTERISTICS

Tab.3	TOP COVER PROFILE	BOTTOM COVER PROFILE	THICKNESS	WIDTH (mm)	MAX LENGTH (mm)
ENERGYGRIP	R1, R6, R7	Smooth	10 - 60	50 - 600	18500
V-ENERGYGRIP	R1, R6, R7	Poly-V ribs	See Tab. 5 Pg. 4	50 - 575	18500
T-ENERGYGRIP	R1, R6, R7	Timing belt	See Tab. 6 Pg. 5	25 - 500	Ask for info

TENSION MEMBER

Tab.4	FIBER (Warp)	FIBER (Weft)	CONSTRUCTION	FEATURE
CTK	Aramid	Cotton	Cord	Tension Member
TT	Polyester	Polyester	Textile	Breaker
TM	-	Metal	Cord	Breaker

For complete datasheet, check Attachment C at the end of the catalogue.



V-ENERGYGRIP SERIES

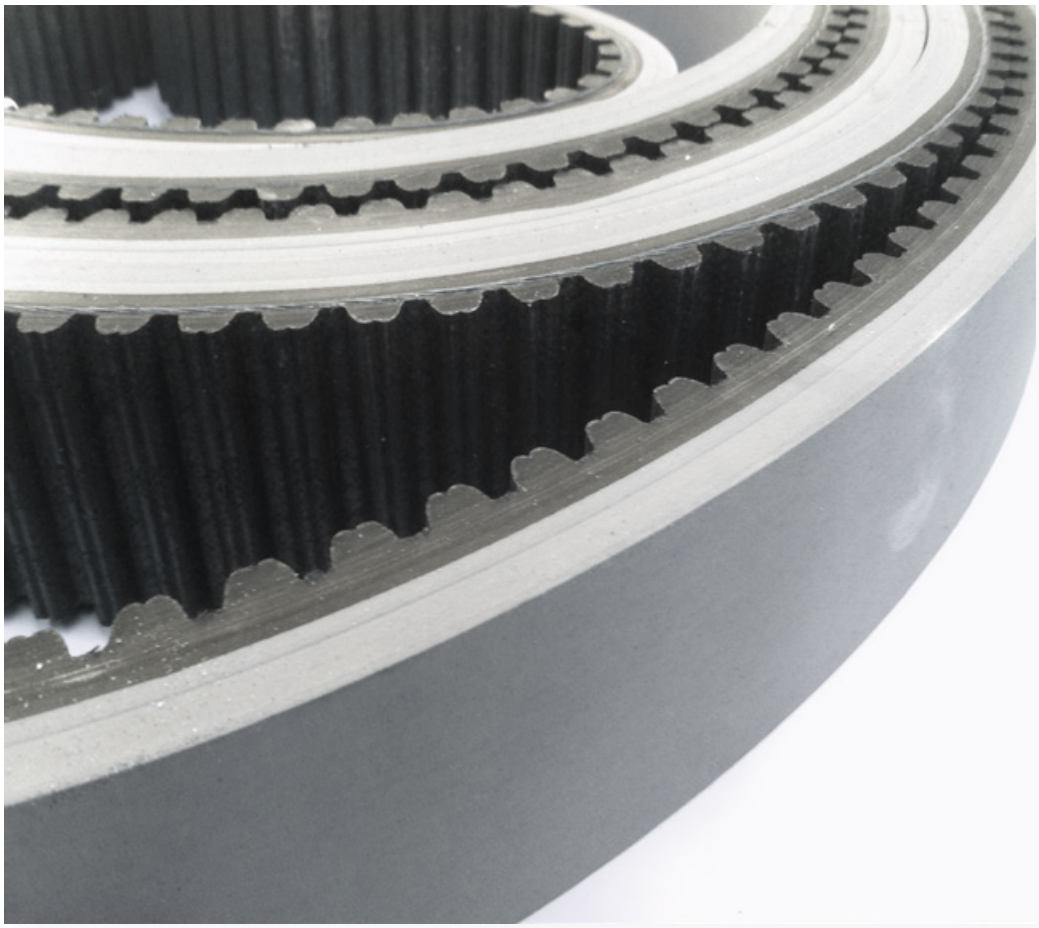
Tab.5	TOP PROFILE COVER	SIZE	PITCH (mm)	TOOTH THICKNESS (mm)	MINIMUM BELT THICKNESS (mm)
V-ENERGYGRIP *(L & M type can be made with built-in reinforcement)*	R1, R6, R7	J	2,35	1,9	6
	R1, R6, R7	L	4,7	4,2	12
	R1, R6, R7	M	9,4	8	18

Both EnergyGrip and V-EnergyGrip series belts are mostly manufactured with fabric wrapped tensile core and possibly rubber cover edges to prevent fraying and cord extraction.

In case of high vertical pressure, we can add special reinforcements such as special breaker fabrics or even metal layers in order to avoid the longitudinal splitting of the belt.

Thanks to our own manufacturing technique, we are able to produce any lenght you need, as we are not tied up to standard poly-V sizes.

Our poly-V belts are not fabricated but produced in a single piece: no glue, no joint, no failure!



T-ENERGYGRIP SERIES

Tab.6	TOP PROFILE COVER	SIZE	PITCH (mm)	TOOTH THICKNESS (mm)	MINIMUM BELT THICKNESS (mm)
T-ENERGYGRIP	R1, R6, R7	L	9,525	1,91	6
	R1, R6, R7	H	12,7	2,29	7
	R1, R6, R7	XH	22,225	6,35	13
	R1, R6, R7	5 M	5	2,1	6
	R1, R6, R7	8 M	8	3,4	8
	R1, R6, R7	14 M	14	6,1	12

T-EnergyGrip series belts are manufactured with rubber polymers and ancillary fabric such to meet at best the requirements of the specific application.

The rubber covers are molded on the base by hot vulcanizing raw rubber compound (and not fabricated gluing vulcanized rubber to the base belts).

Once again we are proud to state: no glue, no joint, no failure!

Can be made with metal breaker inside

We are not tied to any specific size and thanks to our 40 years experiece, we have a deep knowledge of caterpillar belts market. This enables us to supply almost any special belt profile currently available on the market.
Our belts can also be designed on demand to best suit specific working conditions and, if needed, our technical department can support the customer in the design phase based on his requests and application data (see Attachment A and B, "Questionnaire" and "Data collection form").

SPECIAL PROFILES

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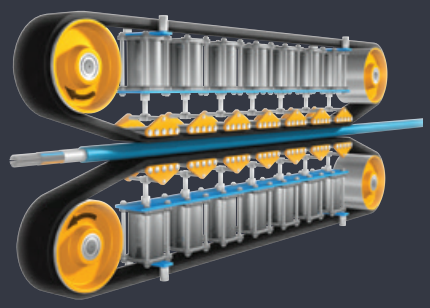
SUBMARINE SERIES

ENERGYGRIP CTK 1000 BTT

ENERGYGRIP CTK 1500 BTT

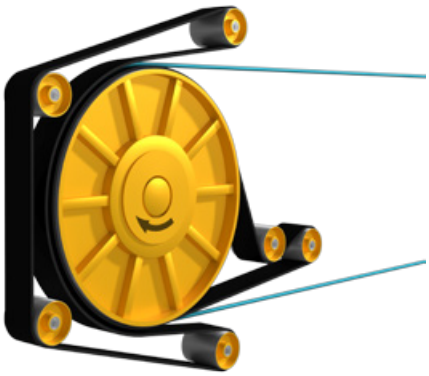
ENERGYGRIP CTK2000 BTM

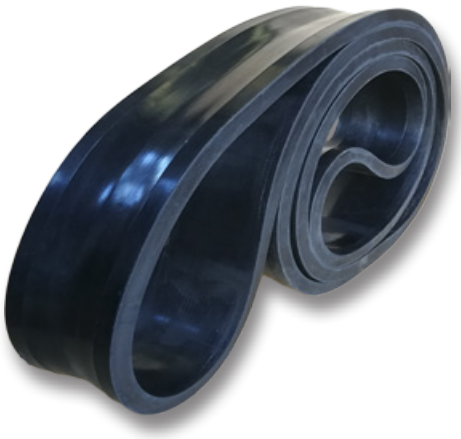
ENERGYGRIP CTK2500 BMM



High-tech rubber Caterpillar belts and Capstan belts for haul-off units of heavy duty submarine cables and umbilical cables.

Truly endless execution, with a wide range of rubber compounds and a unique combination of aramide and metal cords, combine to create top resistance to extreme down-pressure and ensure the best resistance to high pulling force (over 10 tons).

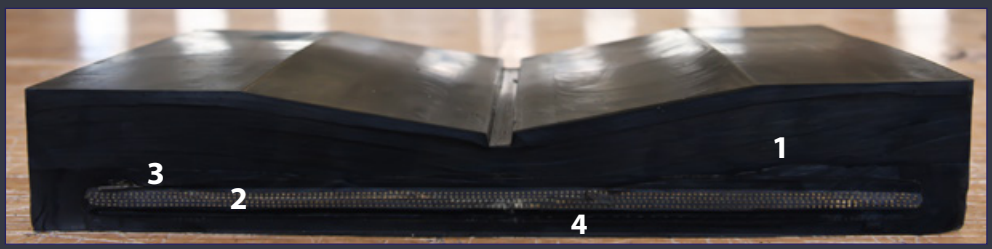




Main features :

- Truly endless execution (no splice)
- Fully molded construction
- All-rubber edges (no fraying)
- Bi-directional run
- High flexibility
- Uniform thickness
- High strength – low stretch

ENERGYGRIP NR65BL CTK 2500 BMM R7



① **Top Rubber Cover** with highest physical-mechanical characteristics: flat, notched or with longitudinal groove

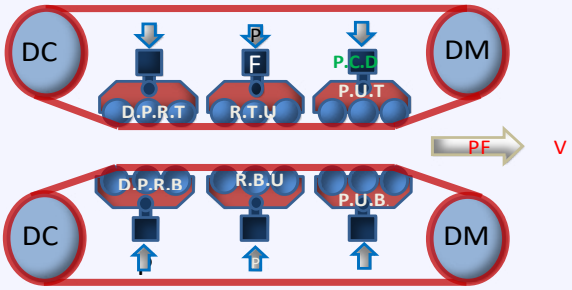
② **Tension Member** Aramide Cord with utmost strenght and low elongation

③ **Metal Breaker Fabric** such to ensure best resistance to extreme down-pressure

④ **Bottom Rubber Cover** flat or poly-V (standard or with truncated central ribs)

ATTACHMENTS

HAUL-OFF UNIT SCHEME



Oem _____
Type _____
Year of manuf. _____
Part nr. _____

HAUL-OFF DATA

Pulling Force	PF	_____	kN
Drive Pulley Dia. (without flanges)	DM	_____	mm
Driven Pulley Dia. (without flanges)	DC	_____	mm
Speed	V	_____	m/sec
Number of Top Pressure Units	PUT	_____	n
Number of Bottom Pressure Units	PUB	_____	n
Number of Roller per Top Unit	RTU	_____	n
Number of Rollers per Bottom Unit	RBU	_____	n
Diameter Pressure Rollers Top	DPRT	_____	mm
Diameter Pressure Rollers Bottom	DPRB	_____	mm
Pressure Cylinder Diameter	PCD	_____	mm
Max Air Circuit Pressure used	P	_____	bar
Clamping Force	F	_____	daN
Drive pulley coating		_____	

PULLED MATERIAL

Cable	☐	Dimensions	mm	_____	
Plastic Profile	☐	Metal	☐	Rubber	☐
Pipe/Hose	☐	PVC-PU	☐	Other	☐
Wire	☐	Any Oil	☐	--> Type	_____
		Any Heat	☐	--> °C	_____

CURRENT BELT

Top Cover

Smooth	☐		
Cross Notches	☐	--> Pitch ..... mm	Depth..... mm
		Width ..... mm	
Longit. Grooves	☐	--> Radius ..... °	Ang. ..... °
		Width ..... mm	Depth..... mm

Bottom Cover

Flat	☐		
Poly-V	☐	--> Type	_____
Timing	☐	--> Type	_____

Belt Dimensions

Width	mm	_____
Inner Length	mm	_____
Thickness	mm	_____
Hardness	Sh/A	_____

MORE DATA

Clamping Length mm	_____
Max Belts Opening mm	_____

ATTACHMENT A

ENERGYGRIP Data Collection

BELT CODE

Reference .....

First Installation date .....

Operator name .....

CABLE 1

Cable Diameter .....mm

Cable coating .....(metal, rubber, pvc, etc)

Actual pressure .....bars

Actual pulling force .....KN

Worked Hours .....hours

Q.ty of cable produced .....km

CABLE 2 .....switch date

Cable Diameter .....mm

Cable coating .....(metal, rubber, pvc, etc)

Actual pressure .....bars

Actual pulling force .....KN

Worked Hours .....hours

Q.ty of cable produced .....km

CABLE 3 .....switch date

Cable Diameter .....mm

Cable coating .....(metal, rubber, pvc, etc)

Actual pressure .....bars

Actual pulling force .....KN

Worked Hours .....hours

Q.ty of cable produced .....km

CABLE 4 .....switch date

Cable Diameter .....mm

Cable coating .....(metal, rubber, pvc, etc)

Actual pressure .....bars

Actual pulling force .....KN

Worked Hours .....hours

Q.ty of cable produced .....km

Uninstallation date .....

Reasons **see back side**

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ENERGYGRIP Data Collection

BELT CODE

REASON OF FAILURE

		TOP BELT	BOTTOM BELT
A.	Snapping (complete break of tension member)	☐	☐
B.	Top Cover abrasion	☐	☐
C.	Top Cover cracks	☐	☐
D.	Top Cover gets sticky	☐	☐
E.	Bottom Cover damage	☐	☐
F.	Bottom Cover gets sticky	☐	☐
G.	Swelling and softening of rubber covers	☐	☐
H.	Side running	☐	☐
I.	Others.....		

REMARKS

In order to support you in improving belts performance, please fill and return this form

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ENERGYGRIP Datasheet

CATERPILLAR BELTS

RUBBER COVER TYPE	HARDNESS Sh.A	BREAKING STRENGTH N/mm²	ELONG. AT BREAK %	ABRASION mm³ *(DIN 53516)*
NR-BR 55 BL	55 ± 5	≥ 20	≥ 550	70 ± 10
NR-BR 65 BL	65 ± 5	≥ 20	≥ 550	40 ± 10
NR 65 BL	65 ± 5	≥ 16	≥ 500	110 ± 10
NR 75 BL	75 ± 5	≥ 17	≥ 400	90 ± 10
NR 50 GR	50 ± 5	≥ 14	≥ 500	250 ± 10
NR 60 GR	60 ± 5	≥ 16	≥ 600	160 ± 10
NR 55 WT	55 ± 5	≥ 14	≥ 600	250 ± 10
NR 70 WT	70 ± 5	≥ 21	≥ 500	90 ± 10
CSM 60 GR	60 ± 5	≥ 20	≥ 600	200 ± 10
NR-NBR	75 ± 5	≥ 15	≥ 500	220 ± 10

RUBBER CODE	DESCRIPTION	COLOUR	BASIC POLYMER
NR-GR	No-Staining Rubber	Grey	Natural Rubber
NR-BL	Wear Resistant Rubber	Black	Natural Rubber
NR-WT	No-Staining Rubber	White	Natural Rubber
CSM	Heat and Oil Resistant Rubber	Grey	Chlorosulfonated polyethylene
NR-BR	Wear Resistant Rubber	Black	Butadiene Rubber
NR-NBR	Oil Resistant Rubber	Black	Nitrile Rubber

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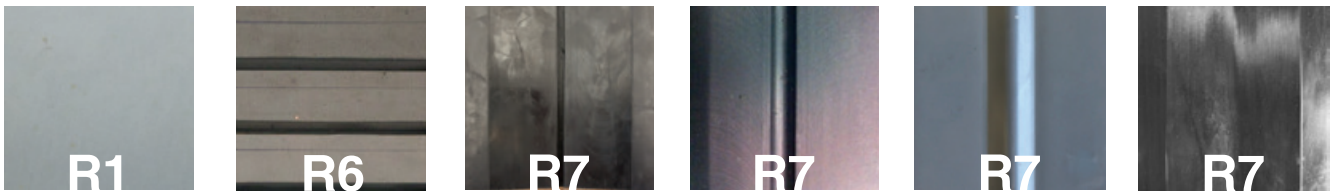
ENERGYGRIP Datasheet

ARAMIDIC FIBER TENSILE CORE	BREAKING STRENGTH N/mm	ELONG. AT BREAK %	MAX WORKING LOAD daN/cm	ELONG. AT MAX WORKING LOAD
CTK 1000	≥ 1000	≥ 5	200	1,5%
CTK 1500	≥ 1500	≥ 5	300	1,5%
CTK 2000	≥ 2000	≥ 5	400	1,5%
CTK 2500	≥ 2500	≥ 5	500	1,5%

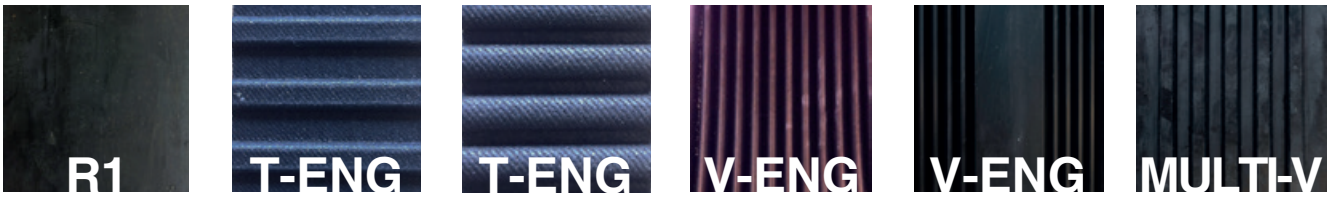
DIMENSION	MINIMUM mm	MAXIMUM mm	TOLERANCES
WIDTH	25	600	± 3 mm
LENGTH	Upon request	18500	± 0,5 %
THICKNESS	10	60	± 1 mm

CARCASS	FIBER (Warp)	FIBER (Weft)	STRUCTURE	FEATURES
CTK	Aramid	Cotton	Cord	Tension Member
TT	Polyester	Polyester	Textile	Breaker
TM	-	Metal	Cord	Breaker

EXAMPLE OF TOP PROFILES



EXAMPLE OF BOTTOM PROFILES



Other top and bottom profile aviable on request

DENOMINATION (Example)

PRODUCT TYPE	TENSION MEMBER	TOP COVER	BOTTOM COVER	TOP SIDE FINISH
ENERGYGRYP	CTK 1500	NR65BL	NR75BL	R1

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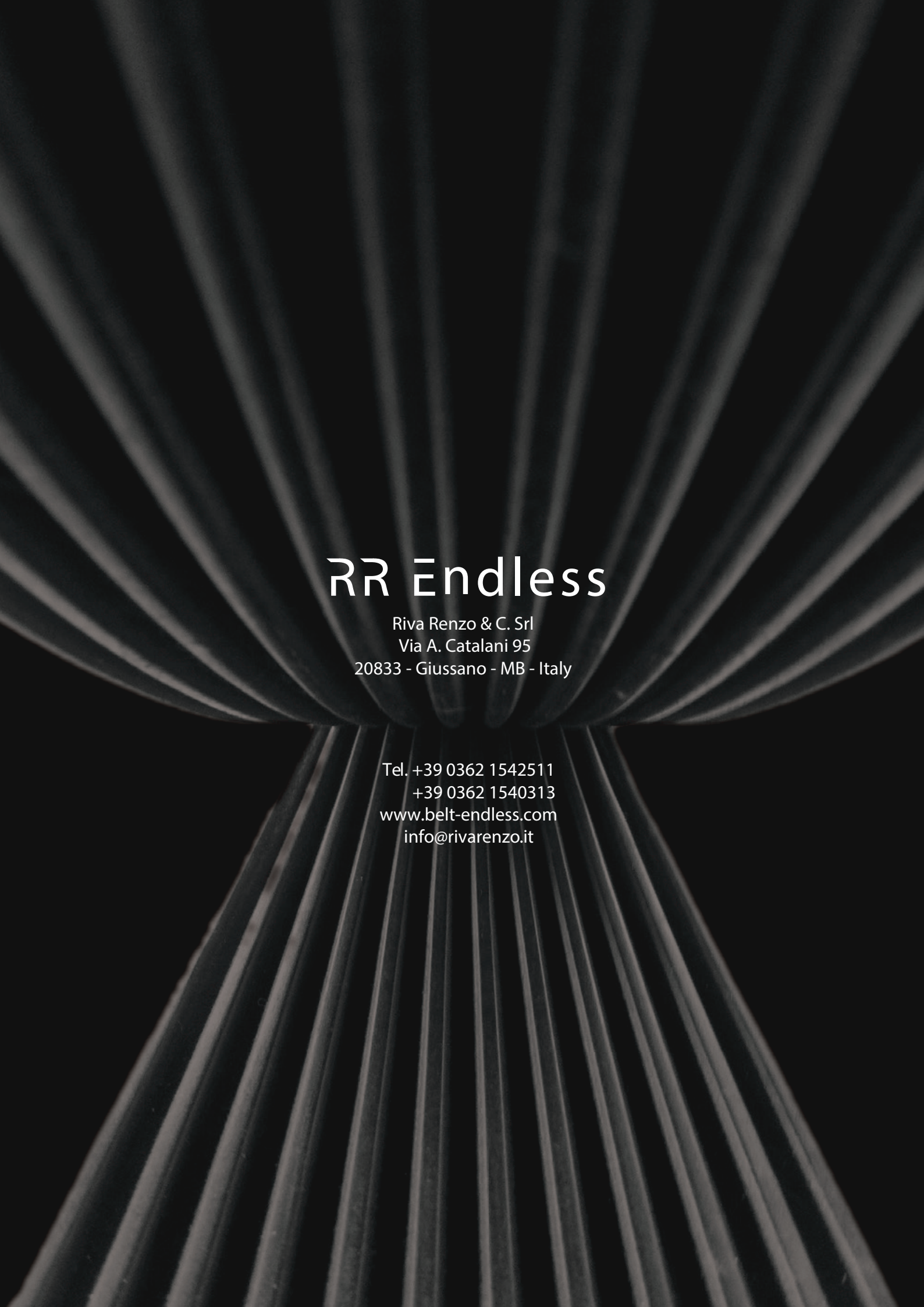

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