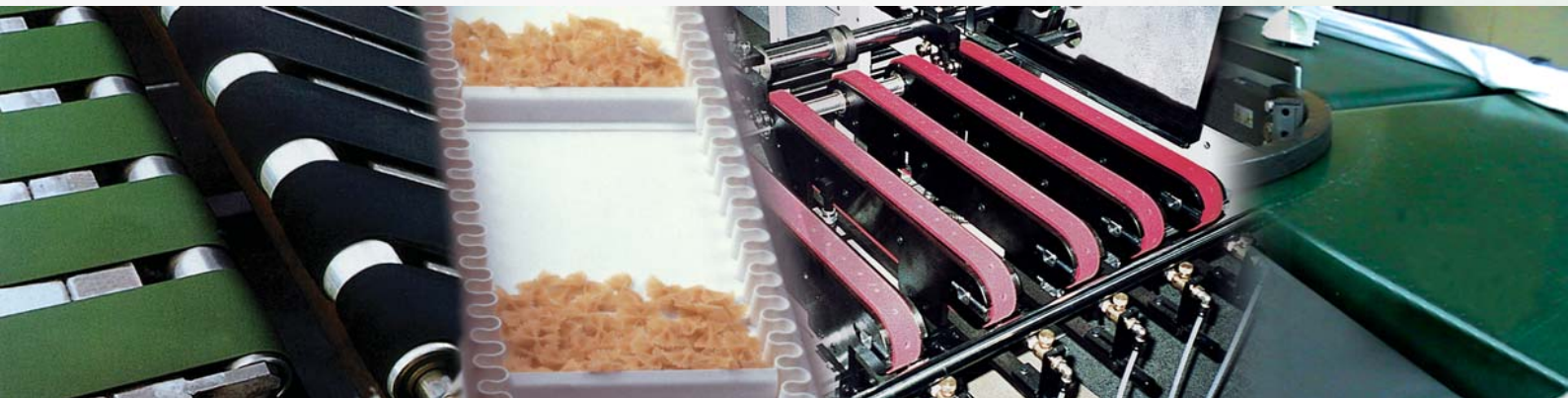


CHIORINO[®]
1906



Ideas in motion

INDEX

CONVEYOR AND PROCESS BELTS

Conveyor and process belts	Page	2
Standard production program	"	6
Joining methods	"	10
Lateral profiles and longitudinal guides	"	12
Polyurethane and PVC sidewalls	"	13
Special applications	"	14
Corner belt conveyors	"	15
Guide to belt selection according to conveyor design	"	16
Guide to belt selection according to differing applications	"	18

TRANSMISSION BELTS

Flat transmission belts	"	20
Transmission belts and spindle tapes for the textile industry	"	24
Polyurethane round and V-belts	"	25

JOINTING EQUIPMENT

"Fast Joint" equipment	"	26
Punchers and skivers	"	28
Presses	"	29

RUBBER PRODUCTS

"MF" endless rubber belts	"	30
"UT" belts for haul-off machines	"	32
Endless belts for miscellaneous industries	"	32
"WD" belts for the woodworking industry	"	33
Rubber and silicone sheeting	"	34
"Texgum" roller coverings	"	35
Rubber products for textile industry	"	36

WORLDWIDE NETWORK AND HEADQUARTERS

Worldwide network of distribution and sale	"	38
Italian branches	"	40
Headquarters and production plants	"	40

4/2004 ISSUE

CONVEYOR AND PROCESS BELTS

CHIORINO manufactures conveyor and process belting from raw materials through the complete cycle of both sophisticated calenders and spreading lines to a manufacturing width of 2000, 3000 and 3500 mm.

The standard product range is made up of more than 110 different belt types, able to match the application needs for both light and medium duty conveyor belts for all industries. Carcasses range from polyester to cotton, polyamide, aramide and fiberglass fabrics with covered surfaces of:

- **POLYURETHANE**
- **PVC**
- **ELASTOMER**
- **SILICONE**

CHIORINO is able to perform all necessary operations in its highly automated workshops including finger punching, skiving, pressing, edge trimming, for the fabrication of endless belt manufacture.

Special belts can also be manufactured complete with:

- **guides, profiles and sidewalls** fitted by means of high frequency and hot air welding machines;
- **perforations**;
- special **corrugated** and **finger profiles** for belts used in the fruit and vegetable industry;
- **sealed edge protection**, in particular for use in the food industry.

CHIORINO also manufactures **corner belt conveyors**.



IDEAS IN MOTION shows CHIORINO and its Sister Companies' philosophy:

- ideas, quality, flexibility;
- research and development of customised solutions. Whilst offering a wide range of standard products CHIORINO designs, in partnership with both OEMs and endusers, customised solutions, in order to match the application needs. The quality of the CHIORINO belts is continuously improving thanks to this research and testing for specialised applications.
- CHIORINO offer a worldwide technical support and fitting service thanks to a distribution network of 15 Sister Companies and more than 60 exclusive Distributors spread over the 5 continents.

CHIORINO's ENGINEERING DIVISION designs for its own workshops and those of its Sister Companies and Distributors all the equipment for the fabrication of conveyor and transmission belts. This important technical knowledge guarantees precision to a high standard throughout the world, ensuring ease of use and reliability.

CHIORINO is certified according to **UNI EN ISO 9001:2000** that guarantee quality control systems at all operating levels over the entire process of design, production, marketing and after-sale service to customer.

CHIORINO works in accordance with a policy aiming to respect and protect the surrounding environment; for this reason its environment system is certified according to **UNI EN ISO 14001**.



CONVEYOR AND PROCESS BELTS FOR ALL INDUSTRIAL SECTORS

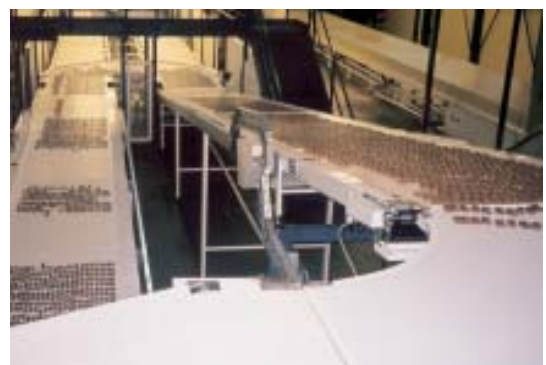
CHIORINO produces conveyor and process belts for light and medium duty in all industrial and service sectors.

CHIORINO belts are suitable for all types of Conveyors, whether horizontal, roller supported, troughed, inclined, with suction, curved, etc.

The vast range of CHIORINO products offer a choice of belts with many features including:

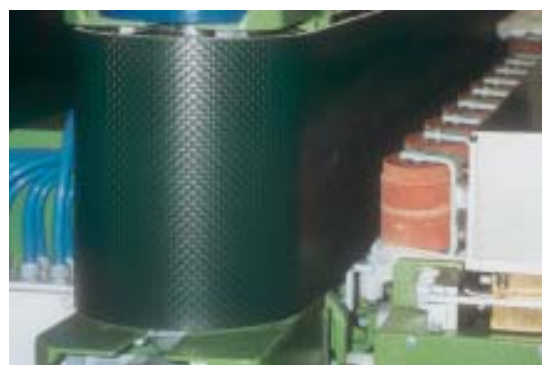
- anti-static and non-conductive
- flame retardant (in compliance with DIN 22103 and ISO 340 standards)
- food quality types to FDA and HACCP standards
- resistance to abrasion, oils, fats and chemicals
- surfaces with low, medium or high coefficient of friction
- high temperature resistance
- high transverse rigidity and dimensional stability
- low noise (LdB belts)
- smooth or textured surfaces

Ongoing research in the field of elastomer science ensures innovative solutions capable of anticipating and meeting all market demands. The Research and Development Laboratory is also qualified to certify raw materials, semi-finished and finished products and to constantly guarantee high quality standards for all CHIORINO products.












The major application sectors for CHIORINO belts are listed below.

- Airports
- Parcel handling
- Postal automation
- Commercial distribution
- Sports equipment
- Packaging and wrapping
- Bakers and oven products
- Chocolate and sweets sectors
- Milling and grinding
- Drinks industry
- Fruit and vegetables, vineyards
- Meat processing
- Paper, cardboard and printing
- Woodworking and furniture
- Mechanical, metallurgical and automobile
- Textiles and apparel
- Tanning
- Marble and granite
- Brick, ceramics and glass



STANDARD PRODUCTION PROGRAM

Type	FDA approved	Perm. antist.	Low noise fabric on driving surface (LdB)	Colour of the conveying surface	Total thickness	Weight	Minimum diameter (1)	Elongation pull		Temperature resistance [°C]		Maximum production width	Comparat. coefficient of friction
								for 1%	max adm.		min.	max.	
					[mm]	[kg/m ²]	[mm]	[N/mm]				[mm]	
1M6 U0-V3 A N		○		black	0,8	0,8	20	6	6	- 10	+ 60	3500	LF
1M6 U0-V5		○	○	green	1,0	1,1	20	6	6	- 10	+ 60	3000	MF
1M6 U0-V5 W	○	○	○	white	1,0	1,1	20	6	6	- 10	+ 60	3000	MF
1M6 U0-V5 N		○	○	black	1,0	1,1	30	6	6	- 10	+ 60	3000	LF
1M6 V5-V5		○		green	1,8	2,0	30	6	6	- 10	+ 60	3000	MF
2T5 0-V-0	○	○		white	1,6	1,7	30	5	10	- 10	+ 60	2000	LF
2MT5 U0-V3			○	green	1,8	2,0	30	6	12	- 10	+ 60	3000	LF
2MT5 U0-V3 N		○	○	black	1,8	2,0	30	6	12	- 10	+ 60	3000	LF
2MT5 U0-V3 SM N		○	○	black	1,9	2,0	30	6	12	- 10	+ 60	2000	LF
2M8 U0-V-U0	○	○		natural	1,5	1,5	30	8	16	- 10	+ 60	3000	LF
2M8 U0-V5				green	2,0	2,3	30	8	16	- 10	+ 60	3000	MF
2M8 U0-V5 A		○		green	2,0	2,3	30	8	16	- 10	+ 60	3500	MF
2M8 U0-V5 FM		○		green	2,1	2,3	30	8	16	- 10	+ 60	3000	MF
2M8 U0-V5 W	○			white	2,0	2,3	30	8	16	- 10	+ 60	3000	MF
2M8 U0-V5 W A	○	○		white	2,0	2,3	30	8	16	- 10	+ 60	3000	MF
2M8 U0-V5 PN W	○			white	2,2	2,3	30	8	16	- 10	+ 60	2000	MF
2M8 U0-V5 FM N		○		black	2,1	2,3	30	8	16	- 10	+ 60	3000	HF
2M8 V5-V5 W	○			white	2,5	3,0	50	8	16	- 10	+ 60	2000	MF
2M8 U0-V17 GP		○		green	5,2	3,7	50	8	16	- 10	+ 60	2000	HF
2M10 U0-V10				green	2,8	3,3	50	10	20	- 10	+ 60	3000	MF
2M10 U0-V10 W	○			white	2,8	3,3	50	10	20	- 10	+ 60	3000	MF
2M12 U0-V-U0 grey		○	○	grey	1,7	1,6	60	12	24	- 10	+ 60	3000	LF
2M12 U0-V-U0 FR		○	○	anthracite	2,5	2,5	50	12	24	- 10	+ 60	2000	LF
2T12 U0-V0				green	2,5	2,6	80	12	24	- 10	+ 60	2000	LF
2M12 U0-V3		○	○	green	1,9	2,1	60	12	24	- 10	+ 60	3000	LF
2M12 U0-V3 N		○	○	black	1,9	2,1	60	12	24	- 10	+ 60	3000	LF
2M12 U0-V7 LG		○	○	green	2,4	2,4	50	12	24	- 10	+ 60	2000	HF
2M12 U0-V8 RT		○	○	green	2,3	2,4	50	12	24	- 10	+ 60	2000	HF
2M12 U0-V10			○	green	2,5	3,3	60	12	24	- 10	+ 60	3000	MF
2M12 U0-V10 A		○	○	green	2,5	3,3	60	12	24	- 10	+ 60	3500	MF
2M12 U0-V10 W	○		○	white	2,5	2,9	60	12	24	- 10	+ 60	3000	MF
2M12 U0-V10 N		○	○	black	2,9	3,5	80	12	24	- 10	+ 60	3000	LF
2M12 U0-V10 FR		○	○	anthracite	2,5	2,9	50	12	24	- 10	+ 60	3000	MF
2T12 U0-V10		○		green	2,5	2,9	60	12	24	- 10	+ 60	3000	MF
2T12 U0-V10 W	○			white	2,5	2,9	60	12	24	- 10	+ 60	3000	MF
2T12 U0-V10 FM FR		○		anthracite	2,6	2,9	50	12	24	- 10	+ 60	3000	MF
2M12 V5-V10				green	3,0	3,5	80	12	24	- 10	+ 60	2000	MF
2T12 V5-V10 W	○			white	3,0	3,5	80	12	24	- 10	+ 60	2000	MF
2M12 U0-V15 CL W	○		○	white	5,5	3,5	80	12	24	- 10	+ 60	2000	MF
2M12 U0-V15 FB W	○		○	white	4,1	3,5	80	12	24	- 10	+ 60	2000	MF
2M12 U0-V15 GPL N		○	○	black	3,8	3,5	50	12	24	- 10	+ 60	2000	HF
2M12 U0-V15 LG FR		○	○	anthracite	3,3	3,8	50	12	24	- 10	+ 60	2000	HF
2M12 U0-V15 ST W	○		○	white	3,6	3,5	80	12	24	- 10	+ 60	2000	MF
2M12 U0-V20 FB FR		○	○	anthracite	4,6	3,9	50	12	24	- 10	+ 60	2000	HF
2M12 U0-V20 GP		○	○	green	5,5	3,9	50	12	24	- 10	+ 60	2000	HF
2M12 U0-V20 GP FR		○	○	anthracite	5,5	3,9	50	12	24	- 10	+ 60	2000	HF
2T12 U0-V20 GP W	○			white	5,5	3,9	50	12	24	- 10	+ 60	2000	HF
2M20 U0-V25 RT			○	green	5,0	5,7	100	20	40	- 10	+ 60	2000	MF
3T18 U0-V0				green	3,7	3,9	120	18	36	- 10	+ 60	2000	LF
3M18 U0-V15 A		○	○	green	4,2	4,9	100	18	36	- 10	+ 60	3000	MF
3M18 U0-V15 W	○		○	white	4,2	4,9	100	18	36	- 10	+ 60	3000	MF
3T18 U0-V15		○		green	4,0	4,9	100	18	36	- 10	+ 60	3000	MF
3T18 U0-V15 W	○			white	4,0	5,0	100	18	36	- 10	+ 60	3000	MF
3M30 U0-V25 RT			○	green	6,6	7,8	200	30	60	- 10	+ 60	2000	MF
SILON	SILON 25 W	○		white	2,5	1,3	30	10	---	- 10	+ 120	2000	LF
	SILON 25 HC		○	grey	2,5	1,6	30	10	---	- 10	+ 120	2000	LF
	SILON 40 HC		○	grey	4,0	2,4	70	10	---	- 10	+ 120	2000	LF
	SILON 40 HC FR		○	grey	3,7	2,2	70	10	---	- 10	+ 120	2000	LF
	SILON 60 HC		○		grey	5,5	3,4	100	10	---	- 10	+ 120	2000

(1) Minimum roller diameter is dependent on the joint recommended by CHIORINO. Double the value if back flexing.

The technical data of this table have been formulated under normal environment conditions. They are subject to alteration without notice.

STANDARD PRODUCTION PROGRAM

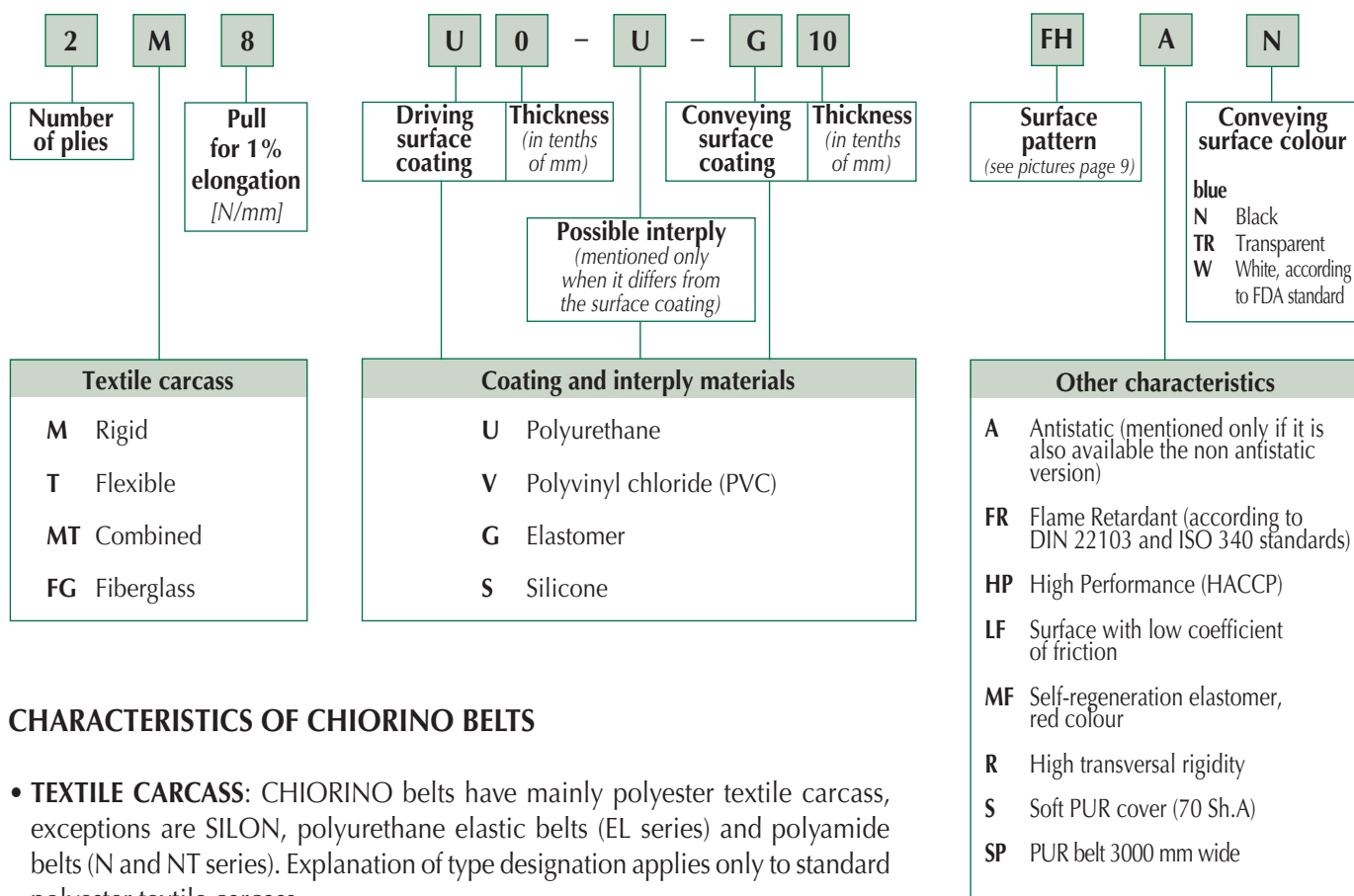
Type	FDA approved	Perm. antist.	Low noise fabric on driving surface (LdB)	Colour of the conveying surface	Total thickness	Weight	Minimum diameter (1)	Elongation pull		Temperature resistance [°C]		Maximum production width	Comparat. coefficient of friction	
					[mm]	[kg/m ²]	[mm]	for 1%	max adm.	min.	max.	[mm]		
POLYURETHANE	1M4 U0-U0	○			natural	0,4	0,4	↗	4	4	- 20	+ 100	3000	LF
	1M4 U0-U0 A	○	○		natural	0,4	0,4	↗	4	4	- 20	+ 100	3000	LF
	1M4 U0-U1 W S A	○	○		white	0,6	0,7	↗	4	4	- 20	+ 100	2000	HF
	1M4 U0-U2 HP W	○			white	0,7	0,8	↗	4	4	- 20	+ 100	2000	MF
	1M4 U0-U2 HP W A	○	○		white	0,7	0,8	↗	4	4	- 20	+ 100	2000	MF
	1M4 U0-U2 N SP		○		black	0,7	0,8	↗	4	4	- 20	+ 100	3000	LF
	1M6 U0-U2	○	○	○	green	0,8	0,9	↗	6	6	- 20	+ 100	2000	LF
	1M6 U0-U2 W A	○	○		white	0,8	0,9	↗	6	6	- 20	+ 100	2000	LF
	2M5 U0-U0 HP A	○	○		white	1,0	1,0	↗	6	12	- 20	+ 100	2000	LF
	2M5 U0-U1 W S A	○	○		white	1,3	1,5	↗	6	12	- 20	+ 100	2000	HF
	2M5 U0-U2 A	○	○		green	1,3	1,4	↗	6	12	- 20	+ 100	2000	LF
	2M5 U0-U2 HP W	○			white	1,3	1,4	↗	6	12	- 20	+ 100	2000	MF
	2M5 U0-U2 HP W A	○	○		white	1,3	1,4	↗	6	12	- 20	+ 100	2000	MF
	2M5 U0-U2 HP PN W	○			white	1,4	1,5	↗	6	12	- 20	+ 100	2000	MF
	2M5 U0-U2 HP blue	○			blue	1,3	1,4	↗	6	12	- 20	+ 100	2000	MF
	2M5 U0-U2 HP blue A	○	○		blue	1,3	1,4	↗	6	12	- 20	+ 100	2000	MF
	2M5 U0-U2 LF W A	○	○		white	1,3	1,5	↗	6	12	- 20	+ 100	2000	LF
	2MT6 U0-0	○			natural	1,5	1,4	↗	6	12	- 20	+ 100	2000	LF
	2M8 U0-U0 grey SP		○		grey	1,3	1,4	↗	8	16	- 20	+ 100	3000	LF
	2T8 U0-0	○			white	1,3	1,4	↗	8	16	- 20	+ 100	3000	LF
	2M8 U0-U2 SP		○		green	1,5	1,6	↗	8	16	- 20	+ 100	3500	LF
	2M8 U0-U2 N		○		black	1,4	1,6	↗	8	16	- 20	+ 100	2000	LF
	2M8 U0-U5 TR	○	○		transp.	1,7	2,0	40	8	16	- 20	+ 100	2000	MF
	2M12 U0-U3 R A	○	○		green	1,7	1,8	60	12	24	- 20	+ 100	2000	LF
	2M12 U0-U3 R W A	○	○		white	1,7	1,8	60	12	24	- 20	+ 100	2000	LF
	2M12 U0-U10 W	○		○	white	2,4	2,7	50	12	24	- 20	+ 100	2000	LF
	2M12 V5-V-U10 W	○	○		white	3,5	4,0	100	12	24	- 10	+ 60	2000	LF
	2T12 U0-U2 W SP	○			white	1,6	1,8	30	12	24	- 20	+ 100	3000	LF
	2M12 U0-U15 LT W	○		○	white	5,5	3,1	50	12	24	- 20	+ 100	600	LF
	2M12 U0-U20	○	○		green	3,5	4,2	80	12	24	- 20	+ 100	2000	LF
	ST 06	○	○		green	0,6	0,6	10	4	4	- 20	+ 100	2000	MF
	EL 2-U10 FL	○	○		green	1,0	1,2	10	2 ⁽²⁾	2 ⁽²⁾	- 20	+ 60	2000	MF
	EL 2-U10 W	○			white	1,0	1,0	10	2 ⁽²⁾	2 ⁽²⁾	- 20	+ 60	2000	LF
	EL 2-U10 HP W	○			white	1,0	1,1	10	2 ⁽²⁾	2 ⁽²⁾	- 20	+ 100	2000	MF
	EL 3-U15 FL	○	○		green	1,5	1,6	10	3 ⁽²⁾	3 ⁽²⁾	- 20	+ 60	2000	MF
	EL 4-U20 FH	○			green	2,1	2,1	10	4 ⁽²⁾	4 ⁽²⁾	- 20	+ 60	2000	MF
	EL 4-U20 W	○			white	2,0	2,2	20	4 ⁽²⁾	4 ⁽²⁾	- 20	+ 60	2000	LF
	1M6 U0-U5 FL	○	○	○	green	1,0	1,1	10	6	6	- 20	+ 100	2000	MF
	1M6 U3-U3 FL	○	○		green	1,2	1,3	10	6	6	- 20	+ 100	2000	MF
	1M6 U5-U5 FL	○	○		green	1,6	1,9	30	6	6	- 20	+ 100	2000	MF
⁽²⁾ = pull for 8% elongation [N/mm]														
ELASTOMER	2T6 0-U-G5 FL		○		green	1,8	1,8	20	6	12	- 20	+ 70	1200	MF
	2M8 U0-U-G5 FL		○		green	2,0	2,4	30	8	16	- 20	+ 100	1200	MF
	2M8 U0-U-G10 FH		○		green	2,3	2,4	50	8	16	- 20	+ 100	1200	HF
	2M8 U0-U-G15 FL		○		green	3,0	3,4	50	8	16	- 20	+ 100	1200	MF
	2T12 U0-U-G10 FH		○		green	2,2	2,2	50	12	24	- 20	+ 100	1200	HF
	2M12 U0-G25 GP		○		green	5,5	4,5	100	12	24	- 20	+ 100	1200	HF
	2T12 U0-G25 GP		○		green	5,5	4,5	100	12	24	- 20	+ 100	1200	HF
	2T12 U0-G35 GP		○		green	6,5	6,3	100	12	24	- 20	+ 100	1200	HF
3T18 U0-U-G40 MF		○		purple red	6,1	6,8	100	18	36	- 20	+ 100	1200	HF	
SILICONE	2M8 U0-U-S0 grey		○		grey	1,3	1,1	↗	8	16	- 20	+ 100	2000	LF
	2M8 U0-U-S0	○	○		natural	1,3	1,1	30	8	16	- 30	+ 100	2000	LF
	2MT8 S0-S0	○	○		natural	1,2	1,1	30	8	16	- 40	+ 160	2000	LF
	2MT8 S0-S2	○	○		transp.	1,4	1,3	30	8	16	- 40	+ 160	2000	HF
	2T12 U0-U-S2	○	○		transp.	1,4	1,3	30	12	24	- 30	+ 100	2000	HF
2FG12 S0-S3 W	○			white	1,1	1,5	50	12	24	- 40	+ 250	1400	HF	
↗ = knife edge														
POLYAMIDE	N		○		green	0,6	0,6	15	2	4	- 20	+ 100	1200	LF
	N8		○		green	1,0	0,9	15	3	6	- 20	+ 100	1200	LF
	NT1		○		green	1,2	1,2	15	3	6	- 20	+ 100	1200	MF
	NT2		○		green	2,0	2,1	25	3,5	7	- 20	+ 100	1200	MF
	NT3		○		green	3,0	3,2	50	6	12	- 20	+ 100	1200	MF
NT4		○		green	4,0	4,3	70	6	12	- 20	+ 100	1200	MF	

(1) Minimum roller diameter is dependent on the joint recommended by CHIORINO. Double the value if back flexing.

The technical data of this table have been formulated under normal environment conditions. They are subject to alteration without notice.

EXPLANATION OF TYPE DESIGNATION

Example:



CHARACTERISTICS OF CHIORINO BELTS

- **TEXTILE CARCASS:** CHIORINO belts have mainly polyester textile carcass, exceptions are SILON, polyurethane elastic belts (EL series) and polyamide belts (N and NT series). Explanation of type designation applies only to standard polyester textile carcass.
- **HACCP** (Hazard Analysis and Critical Control Points). The conveying surface of the HP polyurethane belts prevents bacteria growth and guarantees total resistance to baking oils and animal fats. Its high resistance to hydrolysis makes them suitable for usual cleaning procedures by means of water and steam.
- **QUIET RUNNING:** the belts having a LdB bottom fabric give quiet running properties.
- **CONVEYING SURFACE COEFFICIENT OF FRICTION:**
 - LF** = surface with low coefficient of friction
 - MF** = surface with medium coefficient of friction
 - HF** = surface with high coefficient of friction

COEFFICIENT OF FRICTION ON DRIVING SURFACE

Type of coating	Raw steel sheet	Lamin. plastic or wood	Steel roller	Rubberized roller
0, U0	0,20	0,25	0,20	0,30
U3, U5	0,40	0,50	0,40	0,60
V5	unsuitable		0,40	0,60
S0	0,30	0,40	0,30	0,50

TOLERANCES ON ENDLESS BELTS AND CUT LENGTHS

Widths [mm]			Lengths [mm]			
from 0 to 500	from 501 to 1000	from 1001 to 3000	from 0 to 2500	from 2501 to 5000	from 5001 to 10000	over 10000
± 1,0%	± 0,8%	± 0,5%	± 0,5%	± 0,4%	± 0,3%	± 0,2%
These tolerances do not consider variations due to special environmental conditions.						

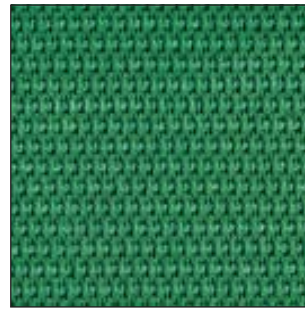
SURFACE PATTERN (SCALE 1:1)



FL



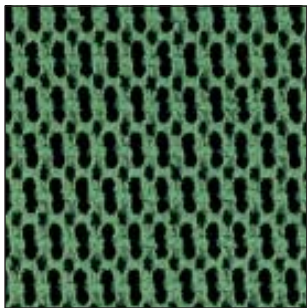
FM



FH



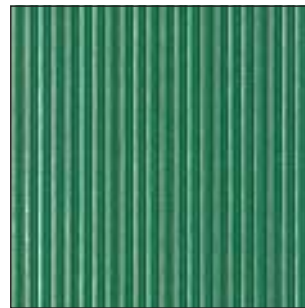
RT



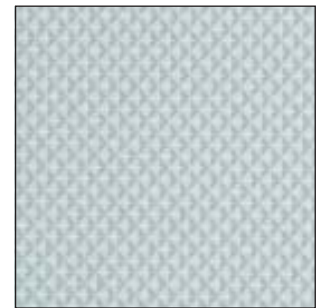
GP



GPL



LG



PN



FB



ST



LT



CL

CONFIGURATION OF THE PULLEYS

FORMULAS TO DETERMINE THE VALUES:

1) **Pulley width** calculation:

$$b = 1,1 \cdot b_o + 10 \quad [mm]$$

2) **Taper** calculation:

$$e = \frac{d_e + 100}{500} \quad [mm]$$

3) Calculation of the **cylindrical section** according to the total width of the pulley:

$$b_c = \frac{b}{2} \quad [mm]$$

LEGENDA:

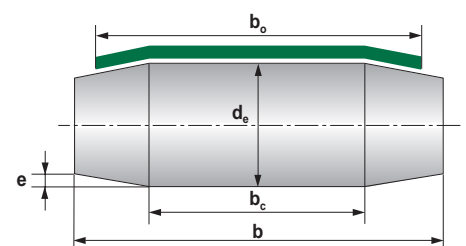
b = pulley width

b_c = width of the cylindrical section

b_o = belt width

d_e = external diameter

e = taper



JOINTING METHODS

CHIORINO offers a wide choice of jointing systems, designed to match all the application needs. Here below we summarise the types of joints that can be selected to make CHIORINO belts endless.

FINGER JOINTS

Traditional splicing method that guarantees thickness and alignment evenness:

- **MICRO Z**: fast joint for single ply belts and belts without textile support (EL series) in thermoplastic polyurethane;
- **SINGLE Z**: it offers the maximum of flexibility. Ideal on fixed knife edges. Seam sealing foil can be used to increase strength and for heavy applications;
- **DOUBLE Z**: it provides high strength and can be used in alternative to single Z.

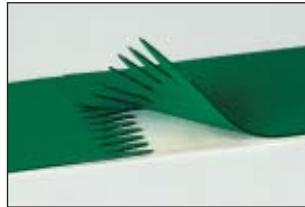


Photo 1 - MICRO Z



Photo 2 - SINGLE Z



Photo 3 - DOUBLE Z

OVERLAP

This system is applicable to thermoplastic polyurethane belts without textile support.



Photo 4

SKIVED

Special method for some belts and for special applications as alternative to the traditional finger joints.

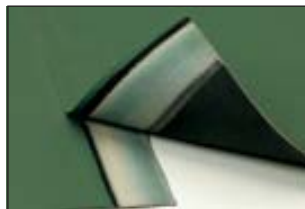


Photo 5

STEP

Special method for some belts and for special applications as alternative to the traditional finger joints.



Photo 6

METAL FASTENERS

Mechanical fasteners suitable in those situations where ease and speed of fitting is required, or where the fitting itself is difficult. They are available both in galvanized and stainless steel, in the following types:

- **M/G**: suitable for every belt type, in particular for airport systems, for food industry and for textile industry;
- **M/SL**: suitable for every belt type and application. They do not need equipment for their application;
- **M/SW**: suitable for belts thicker than 2 mm. They guarantee superior strength. They are in particular used in the agricultural industry.



Photo 7 - M/G



Photo 8 - M/SL



Photo 9 - M/SW

PLASTIC FASTENER

Non metallic fastener made of polyester fabric and spirallace. It has a high resistance to chemicals, guarantees flexibility and a short replacement time. It is FDA approved.

It is suitable for over 16 mm diameter pulleys and in particular in those applications involving X-Ray scanners or metal detectors.



Photo 10

“FAST JOINT”

CHIORINO has designed **fast and easy to make** jointing systems obtained by using purpose designed equipment.

Features of the CHIORINO fast joint systems:

- they can be executed on conveyor and transmission belts having thermoplastic material cover, up to 200 mm wide;
- no use of cements;
- they guarantee ease of use and speed of execution; a few minutes, using the equipment below and following the jointing procedures ensuring quality joints.

The fast joint systems differ according to the belt types and their widths:

• Thermoplastic polyurethane belts without textile support (EL series).

The type of joint suggested is OVERLAPPED (photo 4, page 10), using the following equipment:

- up to 50 mm wide with the press **P50 T**;
- up to 80 mm wide with the press **P120 T**;
- up to 200 mm wide with the press **EL250**.

This method does not require any preparation like finger punching.

• Thermoplastic polyurethane belts with textile support, up to 50 mm wide.

The type of joint suggested is MICRO Z FINGERS (photo 1, page 10), using the following equipment:

- finger puncher **F50 M**;
- press **P50 T**.

• Thermoplastic polyurethane belts with textile support, up to 80 mm wide.

The type of joint suggested is SINGLE Z FINGERS (photo 2, page 10), using the following equipment:

- finger puncher **F80 ME**;
- press **P120 T**.

See page 27 for further information about these equipments.



Finger puncher **F50 M**



Finger puncher **F80 ME**



Press **P50 T**



Press **P120 T**



Press **EL250**

Important!

- 1 - The jointing systems described above must be related to the belt type and the working conditions.
- 2 - The Technical Support is available, even on site, to provide the necessary instructions in order to correctly join CHIORINO belts.

LATERAL PROFILES AND LONGITUDINAL GUIDES


Type of profile	Code		Sizes [mm] b x h	Min. pitch [mm]		Min. diam. (1) [mm]		Base		Hardness [Sh.A]		Notes
	PVC	PUR		long.	lateral	long.	lateral	flat P	grooved S	PVC	PUR	
	K6	-	6 x 3	40	40	30	50	●	-	60	-	Trapezoidal profiles, mainly fitted on conveyor belts as guides.
	K8	K8 U	8 x 5	40	40	40	50	●	●	60	70	
	K10	K10 U	10 x 6	40	40	60	50	●	●	60	70	
	K13	K13 U	13 x 8	45	45	80	80	●	●	60	70	
	K17	K17 U	17 x 11	45	45	120	100	●	●	60	70	
K30	-	30 x 15	60	60	220	150	●	-	60	70		
	KN8	KN8 U	8 x 5	40	40	35	-	●	●	60	70	Knotched trapezoidal profiles are more flexible than K types and can be used on smaller roller diameters.
	KN10	KN10 U	10 x 6	40	40	40	-	●	●	60	70	
	KN13	KN13 U	13 x 8	45	45	50	-	●	●	60	70	
	KN17	KN17 U	17 x 11	45	45	100	-	●	●	60	70	
	KN30	-	30 x 15	60	60	180	-	●	-	60	70	
	S8	S8 U	8 x 8	40	40	80	50	●	●	60	70	Profiles with square or rectangular section. Fitted both laterally for inclined conveyors and longitudinally as sidewalls.
	S12	S12 U	12 x 12	45	45	120	80	●	●	60	70	
	S15	-	15 x 20	60	60	220	100	-	●	60	70	
	S20	-	20 x 15	60	60	220	130	-	●	60	70	
	S25	-	20 x 25	60	60	300	150	-	●	60	70	
	L20	-	23 x 20	-	55	-	80	-	●	60	-	Inclined lateral profiles (80°).
	L30	-	23 x 30	-	55	-	80	-	●	60	-	
	L40	-	23 x 40	-	55	-	80	-	●	60	-	
	L50	-	27 x 50	-	55	-	100	-	●	60	-	
	L60	-	27 x 60	-	55	-	100	-	●	60	-	
	L70	-	27 x 70	-	55	-	100	-	●	60	-	
	L80	-	27 x 80	-	55	-	100	-	●	60	-	
	T20	-	23 x 20	-	55	-	80	-	●	60	-	Lateral profiles perpendicular to the conveyor belt (90°).
	T30	-	23 x 30	-	55	-	80	-	●	60	-	
	T40	-	23 x 40	-	55	-	80	-	●	60	-	
	T50	-	27 x 50	-	55	-	100	-	●	60	-	
	T60	-	27 x 60	-	55	-	100	-	●	60	-	
	T70	-	27 x 70	-	55	-	100	-	●	60	-	
	T80	-	27 x 80	-	55	-	100	-	●	60	-	
	-	L20 U	20 x 20	-	55	-	60	●	-	-	85	Polyurethane, two-step incline lateral profile (80°). Short base allows use with smaller roller diameters.
	-	L30 U	20 x 30	-	55	-	60	●	-	-	85	
	-	L40 U	20 x 40	-	55	-	60	●	-	-	85	
	-	L50 U	20 x 50	-	55	-	60	●	-	-	85	
	-	L80 U	20 x 80	-	55	-	60	●	-	-	85	
	-	T20 U	20 x 20	-	55	-	60	●	-	-	85	Polyurethane, lateral profiles perpendicular to belt (90°). Short base allows use with smaller roller diameters.
	-	T30 U	20 x 30	-	55	-	60	●	-	-	85	
	-	T40 U	20 x 40	-	55	-	60	●	-	-	85	
	-	T50 U	20 x 50	-	55	-	60	●	-	-	85	
	-	T60 U	20 x 60	-	55	-	60	●	-	-	85	
	L20 RF	-	20 x 20	-	65	-	80	●	-	60	-	Inclined lateral profiles (80°). Flat base without groove, eliminates contamination from product.
	L30 RF	-	20 x 30	-	65	-	80	●	-	60	-	
	L40 RF	-	20 x 40	-	65	-	80	●	-	60	-	
	L50 RF	-	20 x 50	-	65	-	80	●	-	60	-	
	L70 RF	-	20 x 70	-	65	-	80	●	-	60	-	
	T20 RF	-	20 x 20	-	65	-	80	●	-	60	-	Lateral profiles perpendicular to belt (90°). Flat base without groove, eliminates contamination from product.
	T30 RF	-	20 x 30	-	65	-	80	●	-	60	-	
	T40 RF	-	20 x 40	-	65	-	80	●	-	60	-	
	T50 RF	-	20 x 50	-	65	-	80	●	-	60	-	
	T60 RF	-	20 x 60	-	65	-	80	●	-	60	-	
	T80 RF	-	20 x 80	-	65	-	80	●	-	60	-	

(1) Minimum pulley diameters referred to environment conditions of 20 °C.


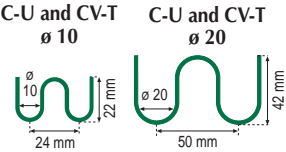
POLYURETHANE AND PVC SIDEWALLS

Type of profile	Code	Sizes ø x h [mm]	Thickn. [mm]	Min. diam. (1) [mm]	Hardness [Sh.A]	Notes
-----------------	------	------------------------	-----------------	---------------------------	--------------------	-------

POLYURETHANE SIDEWALLS

	C-U 10/20	10 x 20	1,7	50	85	Polyurethane sidewalls, without base, fitted longitudinally. They allow the use of small pulley diameters.	Endless belts shall have inside length multiple of 24 mm for ø 10 types and multiple of 50 mm for ø 20 types.
	C-U 10/30	10 x 30	1,7	70	85		
	C-U 10/40	10 x 40	1,7	100	85		
	C-U 10/50	10 x 50	1,7	120	85		
	C-U 20/60	20 x 60	1,7	150	85		
	C-U 20/80	20 x 80	1,7	190	85		

PVC SIDEWALLS WITH TEXTILE CORE

	CV-T 10/20	10 x 20	1,7	60	60	Sidewalls with textile core, purposely designed to be applied on PVC belts on any thickness and number of plies for use in special applications (e.g. in food-processing, agriculture or for general conveying of loose bulk products).	<p>The drawings below show width and pitch of the sidewalls.</p> 
	CV-T 10/30	10 x 30	1,7	80	60		
	CV-T 10/40	10 x 40	1,7	110	60		
	CV-T 10/50	10 x 50	1,7	140	60		
	CV-T 20/60	20 x 60	3,4	170	60		
	CV-T 20/80	20 x 80	3,4	210	60		

(1) Minimum pulley diameters referred to environment conditions of 20 °C.

CHIORINO manufactures **profiles, guides and sidewalls** from special PVC and polyurethane compounds in various Sh.A hardnesses giving high flexibility and resistance to abrasion and oils. They have been designed to be perfectly compatible with the conveyor belt covers and are fitted by means of different vulcanising systems which guarantee a perfect and long lasting bond using equipment normally available in all the fabrication workshops of CHIORINO.

- **Standard colours:** green and white. Special colours can be supplied on request.
- **Minimum pulley diameters:** the values of the minimum pulley diameters are meant as a guide only and they are based on a 2 mm thick belt, working at room temperature. The minimum pulley values which refer to K, KN and S profiles are valid only when fitted on the driving surface of the belt.
- In case of **back-flexing** (for K and S guides) diameters have to be increased by 50%.
- It is not advisable to fit KN guides longitudinally on the conveying surface. For the fitting of K, KN e S profiles please contact the CHIORINO Technical Support.

Profiles fitted by means of
HIGH FREQUENCY welding machine



Profiles fitted by means of
HOT AIR welding machine



SPECIAL APPLICATIONS

On request, CHIORINO will carry out the special applications described below on endless or open length conveyor belts. The CHIORINO Technical Support is available to provide you with more information.

SEALED EDGES

This is a procedure performed to protect the edges of PVC or polyurethane belts.

The edge is protected to insulate the fabric structure from the infiltration of conveyed material in order to ensure a longer wear of the belt and to comply with standards on hygiene and with the HACCP concept.



CORRUGATED PROFILES

These are applied with a special procedure on PVC or polyurethane belts used to convey fruit.

The special configuration of the profile deadens the impact of the conveyed product and prevents it from becoming bruised. The flexing of the profile during running allows the use of smaller diameter drums.



FINGER PROFILES

These are applied with a special procedure on PVC-W belts used in the fruit and vegetable industry on grading and sorting plants.

They are made with a special compound resistant to low temperatures. The finger height is either 100 or 130 mm. With the 130 mm size the fingers are jointed by a reinforcement which limits flexing caused by the weight of the products.



GUIDE BUTTONS

In special instances when the belt must be kept perfectly in place, PVC or polyurethane guides can be replaced with excellent results by buttons. These buttons allow drums with smaller diameters to be used.

Made of plastic, they are smooth-running and wear-resistant; they are riveted on the belt, on one or on both edges.

At least three buttons must be in contact with the drum (fig. 2). Consequently the pitch between buttons will be determined by the roller diameter.



Fig. 1

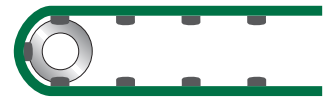


Fig. 2

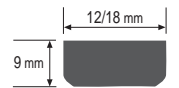
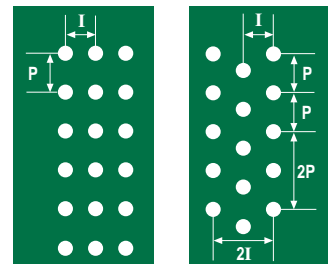


Fig. 3

PERFORATED BELTS

This procedure is performed so that belts have air suction to prevent the conveyed material from moving around; it is also carried out to allow cooling air to pass through. Shown above are two examples of belt perforation. Perforations can also be executed according to the customer's specifications.



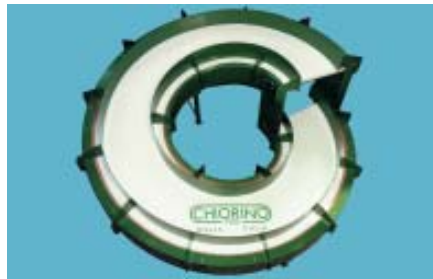
CORNER BELT CONVEYORS

Corner belt conveyors allow the solving of logistic problems through the deviation of the conveying system from a few degrees to a 180 ° turn.

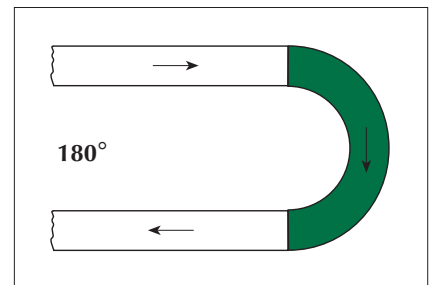
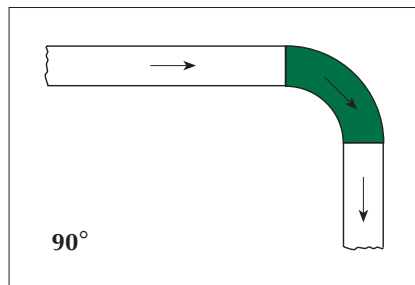
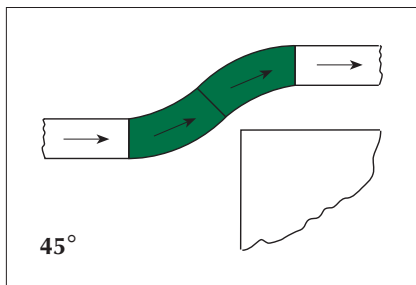
Their main features are a constant flow of the material being transported and remarkable space saving.

The standard angles are 45°, 90° and 180°, but it is also possible to supply any other angle with no limitation in the shape of rollers (tapered end rollers or knife edges) for the continuous transfer of items throughout the system avoiding instability problems and the use of connection plates or rollers.

The belt conveying surface can be PUR, PVC or rubber according to the application it is meant for: chemical, foodstuffs, graphics and cartons, wood and brick industry; mail automation, material handling, airports etc.



CURVE TYPES



STANDARD PRODUCTION PROGRAM

Inside radius	<i>(ri)</i>	[mm]	300	500	700	1000			
Belt working width	<i>(lu)</i>	[mm]	300	400	500	600	700	800	1000

For non standard sizes please contact CHIORINO Technical Support.

TECHNICAL DATA NECESSARY FOR MAKING A CURVE

Bend angle in degrees (α)	Running direction	
Inside radius (<i>ri</i>)	Speed	
Belt working width (<i>lu</i>)	Height from the ground	
Type and weight of the conveyed material	Possibility to reverse direction	

GUIDE TO BELT SELECTION ACCORDING TO CONVEYOR DESIGN

Type	Conveying on skid bed	Conveying on rollers	Conveying on skid bed on top and return	Trough conveying on skid bed	Trough conveying on rollers	Inclined conveying	Swan neck conveying	Bucket elevator	Accumulator belts	Curved conveyor
1M6 U0-V3 A N	•	•								
1M6 U0-V5	•	•								
1M6 U0-V5 W	•	•								
1M6 U0-V5 N	•	•							•	
1M6 V5-V5		•								
2T5 0-V-0	•	•	•	•	•					•
2MT5 U0-V3	•	•		•	•				•	
2MT5 U0-V3 N	•	•		•	•				•	
2MT5 U0-V3 SM N	•	•		•	•				•	
2M8 U0-V-U0	•	•	•						•	
2M8 U0-V5	•	•								
2M8 U0-V5 A	•	•								
2M8 U0-V5 FM	•	•								
2M8 U0-V5 W	•	•								
2M8 U0-V5 W A	•	•								
2M8 U0-V5 PN W	•	•								
2M8 U0-V5 FM N	•	•				•				
2M8 V5-V5 W		•								
2M8 U0-V17 GP	•	•				•				
2M10 U0-V10	•	•					•			
2M10 U0-V10 W	•	•					•			
2M12 U0-V-U0 grey	•	•	•						•	
2M12 U0-V-U0 FR	•	•	•						•	
2T12 U0-V0	•	•	•	•	•				•	•
2M12 U0-V3	•	•					•		•	
2M12 U0-V3 N	•	•					•		•	
2M12 U0-V7 LG	•	•				•				
2M12 U0-V8 RT	•	•				•				
2M12 U0-V10	•	•					•			
2M12 U0-V10 A	•	•					•			
2M12 U0-V10 W	•	•					•			
2M12 U0-V10 N	•	•					•		•	
2M12 U0-V10 FR	•	•							•	
2T12 U0-V10	•	•		•	•					•
2T12 U0-V10 W	•	•								•
2T12 U0-V10 FM FR	•	•								•
2M12 V5-V10		•								
2T12 V5-V10 W		•			•			•		•
2M12 U0-V15 CL W	•	•				•				
2M12 U0-V15 FB W	•	•				•				
2M12 U0-V15 GPL N	•	•				•				
2M12 U0-V15 LG FR	•	•				•				
2M12 U0-V15 ST W	•	•				•				
2M12 U0-V20 FB FR	•	•				•				
2M12 U0-V20 GP	•	•				•		•		
2M12 U0-V20 GP FR	•	•				•				
2T12 U0-V20 GP W	•	•		•	•	•				•
2M20 U0-V25 RT	•	•				•				
3T18 U0-V0	•	•	•	•	•				•	
3M18 U0-V15 A	•	•					•			
3M18 U0-V15 W	•	•					•			
3T18 U0-V15	•	•		•	•					
3T18 U0-V15 W	•	•		•	•					
3M30 U0-V25 RT	•	•				•				
SILON 25 W	•	•	•	•	•				•	
SILON 25 HC	•	•	•	•	•				•	
SILON 40 HC	•	•	•	•	•				•	
SILON 40 HC FR	•	•	•	•	•				•	
SILON 60 HC	•	•	•	•	•				•	

ATTENTION! The above suggestions are aimed at making belt selection easier, but are for guidance only.

GUIDE TO BELT SELECTION ACCORDING TO CONVEYOR DESIGN

Type	Conveying on skid bed	Conveying on rollers	Conveying on skid bed on top and return	Trough conveying on skid bed	Trough conveying on rollers	Inclined conveying	Swan neck conveying	Bucket elevator	Accumulator belts	Curved conveyor	
POLYURETHANE	1M4 U0-U0	•	•	•					•		
	1M4 U0-U0 A	•	•	•					•		
	1M4 U0-U1 W S A	•	•			•					
	1M4 U0-U2 HP W	•	•			•					
	1M4 U0-U2 HP W A	•	•			•					
	1M4 U0-U2 N SP	•	•						•		
	1M6 U0-U2	•	•						•		
	1M6 U0-U2 W A	•	•						•		
	2M5 U0-U0 HP A	•	•	•					•		
	2M5 U0-U1 W S A	•	•			•					
	2M5 U0-U2 A	•	•					•	•		
	2M5 U0-U2 HP W	•	•			•					
	2M5 U0-U2 HP W A	•	•			•					
	2M5 U0-U2 HP PN W	•	•			•					
	2M5 U0-U2 HP blue	•	•			•					
	2M5 U0-U2 HP blue A	•	•			•					
	2M5 U0-U2 LF W A	•	•						•		
	2MT6 U0-0	•	•	•	•	•			•		
	2M8 U0-U0 grey SP	•	•	•					•		
	2T8 U0-0	•	•	•	•	•			•	•	
	2M8 U0-U2 SP	•	•					•	•		
	2M8 U0-U2 N	•	•						•		
	2M8 U0-U5 TR	•	•					•	•		
	2M12 U0-U3 R A	•	•					•	•		
	2M12 U0-U3 R W A	•	•					•	•		
	2M12 U0-U10 W	•	•						•		
	2M12 V5-V-U10 W	•	•						•		
	2T12 U0-U2 W SP	•	•		•	•			•	•	
	2M12 U0-U15 LT W	•	•				•		•		
	2M12 U0-U20	•	•					•	•		
	ST 06	•	•								
	EL 2-U10 FL	•	•	•	•	•					
	EL 2-U10 W	•	•	•	•	•					
EL 2-U10 HP W	•	•	•	•	•						
EL 3-U15 FL	•	•	•	•	•						
EL 4-U20 FH	•	•	•	•	•	•					
EL 4-U20 W	•	•	•	•	•						
1M6 U0-U5 FL	•	•									
1M6 U3-U3 FL		•									
1M6 U5-U5 FL		•									
ELASTOMER	2T6 0-U-G5 FL	•	•		•	•	•			•	
	2M8 U0-U-G5 FL	•	•				•				
	2M8 U0-U-G10 FH	•	•				•				
	2M8 U0-U-G15 FL	•	•				•				
	2T12 U0-U-G10 FH	•	•		•	•				•	
	2M12 U0-G25 GP	•	•				•				
	2T12 U0-G25 GP	•	•		•	•				•	
	2T12 U0-G35 GP	•	•		•	•				•	
3T18 U0-U-G40 MF	•	•		•	•						
SILICONE	2M8 U0-U-S0 grey	•	•								
	2M8 U0-U-S0	•	•								
	2MT8 S0-S0	•	•								
	2MT8 S0-S2	•	•			•					
	2T12 U0-U-S2	•	•		•	•				•	
2FG12 S0-S3 W	•	•			•				•		
POLYAMIDE	N	•	•	•					•		
	N8	•	•	•					•		
	NT1	•	•			•					
	NT2	•	•			•					
	NT3	•	•			•					
NT4	•	•			•						

ATTENTION! The above suggestions are aimed at making belt selection easier, but are for guidance only.

GUIDE TO BELT SELECTION ACCORDING TO DIFFERING APPLICATIONS

	TYPE	LOGISTICS AND SERVICES					FOOD					PAPER AND ITS BY-PRODUCTS			MECHANICAL		TEXTILE				MISCELLANEOUS INDUSTRIES						
		AIRPORTS	IN-HOUSE HANDLING	POST OFFICE AUTOMATION	SUPERMARKETS CHECK-OUTS	SPORTS EQUIPMENT	PACKAGING AND CONFECTIONARY	BISCUITS	DOUGH	CHOCOLATE	FRUIT AND VEGETABLE PROCESSING	MEAT	PAPER	CARTON FOLDING	NEWSPAPERS AND MAGAZINES	WOOD	MAGNETIC CONVEYING	PUNCHING AND CUTTING	CONE TRANSPORT	NON-MOVEN	FINISHING	LAUNDRY	LEATHER AND ITS BY-PRODUCTS	MARBLE AND GRANITE	TILES	CERAMIC	CEMENT
POLYURETHANE	1M4 U0-U0						•			•																	
	1M4 U0-U0 A						•			•																	
	1M4 U0-U1 W S A						•	•	•	•																	
	1M4 U0-U2 HP W						•	•	•	•																	
	1M4 U0-U2 HP W A						•	•	•	•	•																
	1M4 U0-U2 N SP						•												•								
	1M6 U0-U2						•																				
	1M6 U0-U2 W A						•	•	•	•															•		
	2M5 U0-U0 HP A						•	•	•	•	•		•			•									•		
	2M5 U0-U1 W S A						•	•	•	•																	
	2M5 U0-U2 A			•			•	•	•	•							•										
	2M5 U0-U2 HP W						•	•	•	•	•																
	2M5 U0-U2 HP W A						•	•	•	•	•																
	2M5 U0-U2 HP PN W						•	•	•	•	•																
	2M5 U0-U2 HP blue						•	•	•	•	•																
	2M5 U0-U2 HP blue A						•	•	•	•	•																
	2M5 U0-U2 LF W A						•	•	•	•	•																
	2M26 U0-0						•	•	•																		
	2M8 U0-U0 grey SP						•	•	•							•											
	2T8 U0-0						•	•	•																		
	2M8 U0-U2 SP			•	•		•	•	•				•			•	•	•		•							
	2M8 U0-U2 N			•			•	•	•																		
	2M8 U0-U5 TR						•	•	•				•														
	2M12 U0-U3 R A			•			•	•	•							•	•	•									
	2M12 U0-U3 R W A						•	•	•																		
	2M12 U0-U10 W						•	•	•		•							•									
	2T12 U0-U2 W SP						•	•	•																		
	2M12 U0-U15 LT W						•	•	•																		
2M12 U0-U20	•															•	•							•		•	
ST 06																											
EL 2-U10 FL			•	•		•	•	•					•		•	•											
EL 2-U10 W						•	•	•																			
EL 2-U10 HP W						•	•	•		•																	
EL 3-U15 FL			•	•		•	•	•					•		•							•					
EL 4-U20 FH						•	•	•															•				
EL 4-U20 W						•	•	•																			
1M6 U0-U5 FL				•		•	•	•				•		•	•							•					
1M6 U3-U3 FL				•		•	•	•				•		•	•												
1M6 U5-U5 FL				•		•	•	•				•		•	•												
ELASTOMER	2T6 0-U-G5 FL				•		•	•					•	•													
	2M8 U0-U-G5 FL						•	•				•	•	•													
	2M8 U0-U-G10 FH						•	•				•	•	•								•					
	2M8 U0-U-G15 FL						•	•				•	•	•													
	2T12 U0-U-G10 FH	•					•	•				•	•	•		•	•					•					
	2M12 U0-G25 GP						•	•				•	•	•												•	
	2T12 U0-G25 GP	•					•	•				•	•	•												•	
	2T12 U0-G35 GP						•	•				•	•	•												•	
	3T18 U0-U-G40 MF						•	•				•	•	•													
SILICONE	2M8 U0-U-S0 grey						•	•																			
	2M8 U0-U-S0						•	•	•																		
	2MT8 S0-S0						•	•	•																		
	2MT8 S0-S2						•	•	•																		
	2T12 U0-U-S2						•	•	•																		
2FG12 S0-S3 W						•	•																				
POLYAMIDE	N						•	•				•	•														
	N8						•	•				•	•														
	NT1						•	•				•	•														
	NT2						•	•				•	•														
	NT3						•	•				•	•														
NT4						•	•				•	•															

ATTENTION! The above suggestions are aimed at making belt selection easier, but are for guidance only.

FLAT TRANSMISSION BELTS

CHIORINO manufactures from raw materials a wide range of high duty transmission belts with excellent resistance to temperature, oils, dust and abrasion.

They are widely used as live roller drives, tangential drives, power transmission drives crossed or multiple, for low, medium and high power, as machine feeding belts and process belts in the paper and folding industry. In particular the main applications are in:

- graphic industry
- carton box folding industry
- textile industry
- packaging and confectionary
- mechanical constructions
- wood industry
- flour mills
- marble and tiles industry

The CHIORINO product range includes:

★ **POLYAMIDE core and POLYURETHANE, ELASTOMER or LEATHER covered belts** (P, Z, T, DG, LT, LL series).









★ **POLYESTER traction and THERMOPLASTIC POLYURETHANE covered belts** (DU series): fast joint splicing with CHIORINO equipment, particularly used on folder gluers in the box folding industry and on live rollers drives.

★ **ARAMID traction and POLYURETHANE covered belts** (see page 24): fast joint splice with CHIORINO equipment, mainly used as tangential drive in the textile industry and on live roller drives.

Belts can be supplied endless spliced or with prepared ends for on-site splicing, to be done with dedicated solutions and CHIORINO designed equipment.



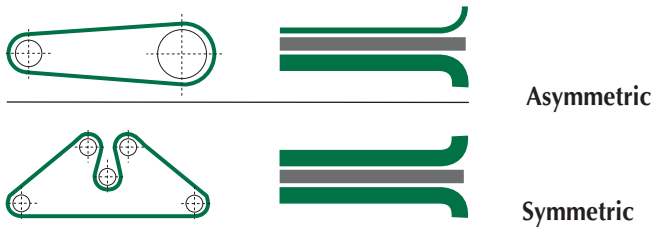
STANDARD PRODUCTION PROGRAM

Type	Total thickness  [mm]	Weight  [kg/m ²]	Minimum diameter (1)  [mm]	Pull for 1% elongation  [N/mm]	Tensile strength  [N/mm]	Top surface 			Driving surface 			Max. temper. resist.  [°C]	Characteristics and applications
						colour	material	coefficient of friction on steel	colour	material	coefficient of friction on steel		
P0	0,9	1,0	15	2	80	green	PUR	0,3	green	elastom.	0,6	+ 100	Suitable for both light and medium drives: power operated tools, auxiliary drives in the textile and mechanical industry, etc. Installed as conveyor belts in the packaging and graphic arts industries. Antistatic.
PRO	1,0	1,1	20	3	120	"	"	"	"	PUR	0,3	"	
P1	1,4	1,5	25	5	200	"	"	"	"	elastom.	0,6	"	
P2	2,1	2,3	50	7,5	300	"	"	"	"	"	"	"	
Z1	1,4	1,5	25	5	200	black	PUR	0,3	black	elastom.	0,6	+ 100	Suitable for both medium and high horsepower drives; extremely abrasion resistant; oil, grease proof; antistatic. Designed to perform well in difficult working conditions. Recommended for: pumps, ventilators, mixers, rolling-mills, turbines saws for marble, chippers, etc.
Z2	2,3	2,8	60	7,5	300	"	"	"	"	"	"	"	
Z3	2,6	3,1	100	10	400	"	"	"	"	"	"	"	
Z4	3,4	3,9	150	15	600	"	"	"	"	"	"	"	
Z6	3,7	4,2	200	20	800	"	"	"	"	"	"	"	
Z9	4,9	5,8	300	30	1200	"	"	"	"	"	"	"	
Z12	5,6	6,3	400	40	1600	"	"	"	"	"	"	"	
T0	1,4	1,5	20	2	80	grey	elastom.	0,7	grey	elastom.	0,7	+ 100	Specially designed for tangential drives in the textile industry. The high-quality features are: rectilinear and quiet running, antistatic, optimum grip, energy saving, resistance to abrasion, heat, oil, dust, are obtained in every field. Suitable for multiple drives.
T1	1,7	1,8	25	5	200	"	"	"	"	"	"	"	
T1R	2,1	2,3	25	5	200	"	"	"	"	"	"	"	
T2	2,3	2,6	60	7,5	300	"	"	"	"	"	"	"	
T2R	3,2	3,6	75	7,5	300	"	"	"	"	"	"	"	
T3	2,6	2,8	100	10	400	"	"	"	"	"	"	"	
T3R	3,4	3,7	100	10	400	"	"	"	"	"	"	"	
T4	3,1	3,4	150	15	600	"	"	"	"	"	"	"	
T4R	3,9	4,5	150	15	600	"	"	"	"	"	"	"	
T4S	5,1	5,9	150	15	600	"	"	"	"	"	"	"	
T6	3,4	4,0	200	20	800	"	"	"	"	"	"	"	
T1-T	1,8	2,1	25	5	200	black	elastom.	0,7	yellow	elastom.	0,7	+ 100	New generation, providing straight running and dimensional stability to an outstanding degree. The OE type is specially designed to suit the newest open-end spinning frames.
T2-T	2,7	3,1	60	7,5	300	"	"	"	"	"	"	"	
T3 OE	2,7	3,0	90	10	800	"	"	"	"	"	"	"	
T3-T	2,9	3,4	100	10	400	"	"	"	"	"	"	"	
T4-T	3,4	3,7	150	15	600	"	"	"	"	"	"	"	
DG1/15	1,6	1,8	20	5	200	green	elastom.	0,7	green	elastom.	0,7	+ 100	These double rubber faced belts have special elastomers which maintain continuous frictional values. Antistatic. Suitable for: folder-gluer machines, tube winders, post office machinery and in the graphic arts industry, multiple drives, etc.
DG1/30	3,0	3,4	30	5	200	"	"	"	"	"	"	"	
DG1/40	4,0	4,6	40	5	200	"	"	"	"	"	"	"	
DG2/20	2,4	2,8	40	7,5	300	"	"	"	"	"	"	"	
DG2/30	3,2	3,7	40	7,5	300	"	"	"	"	"	"	"	
DG2/40	4,0	4,8	50	7,5	300	"	"	"	"	"	"	"	
DG2/60	5,5	6,3	60	7,5	300	"	"	"	"	"	"	"	
DG1/45MF	4,5	5,1	50	5	200	purple red	elastom.	1,0	green	elastom.	0,7	+ 100	The MF elastomer cover offers the highest grip.
DG2/60MF	6,5	7,1	75	7	300	"	"	"	"	"	"	"	
DU12/30	3,0	3,4	30	12	150	green	PUR	0,6	green	PUR	0,6	+ 70	Belts with polyester traction core and cover of thermoplastic polyurethane. Mainly used on folder-gluer in the paper industry and on roller drives. Fast joint endless making.
DU12/40	4,0	4,5	30	12	150	"	"	"	"	"	"	"	
DU12/50	5,0	5,6	50	12	150	"	"	"	"	"	"	"	
DU12/60	6,0	6,9	50	12	150	"	"	"	"	"	"	"	
LT0	2,1	2,0	30	3	120	red	PUR	0,3	grey	leather	0,4	+ 80	Belts with chrome leather driving surface. Contrary to belts with synthetical covers, LT belts are recommended for all drives subject to violent over loads since the leather driving surface allows temporary slipping without burning. Suitable for: conic drives, drives with belt-shifters, chippers, crushers, paper mills, etc. Suitable for cross drives.
LT1	2,5	2,5	50	5	200	"	"	"	"	"	"	"	
LT2	3,1	3,1	75	7,5	300	"	"	"	"	"	"	"	
LT3	3,3	3,4	100	10	400	"	"	"	"	"	"	"	
LT4	3,8	4,0	150	15	600	"	"	"	"	"	"	"	
LT6	4,4	4,6	200	20	800	"	"	"	"	"	"	"	
LT9	5,6	5,9	300	30	1200	"	"	"	"	"	"	"	
LT12	6,1	6,8	400	40	1600	"	"	"	"	"	"	"	
LL0	2,4	2,4	30	3	120	grey	leather	0,4	grey	leather	0,4	+ 80	Belts with double chrome leather covers. The same characteristics and applications envisaged for the LT series apply also to the LL series. Suitable for multiple drives and cross drives.
LL0R	3,6	3,4	30	3	120	"	"	"	"	"	"	"	
LL1	3,2	3,2	50	5	200	"	"	"	"	"	"	"	
LL2	4,0	4,1	75	7,5	300	"	"	"	"	"	"	"	
LL3	4,2	4,4	100	10	400	"	"	"	"	"	"	"	
LL4	4,8	5,0	150	15	600	"	"	"	"	"	"	"	
LL6	6,0	6,0	200	20	800	"	"	"	"	"	"	"	

(1) The above mentioned values depend on the running speed.

The technical data of this table have been formulated under normal environment conditions. They are subject to alteration without notice.

FLAT BELTS STRUCTURE



Top surface	PR - P - Z - DU - AR - LT	Polyurethane
	T - DG	Elastomer
	DG MF	Elastomer high coeff. of friction
	LL	Leather
Traction core	PR - P - Z class 0÷6	Mono ply polyamide
	T - DG class 9÷12	Double ply polyamide
	LL - LT	
	DU	Polyester
Driving surface	AR	Aramidic fibre
	PR - DU - AR	Polyurethane
	P - Z - T - DG	Elastomer
	LT - LL	Leather

ROLLS SIZES

The max. production width of the transmission belts is 500 mm (except DU and AR series available 2000 mm wide).

Max. rolls' length:

PR - P - Z - T - DG	120 m approx.
LT 0÷6 - LL 0÷4	120 m approx.
LT 9÷12 - LL 6	60 m approx.

Narrower, shorter, longer rolls can be supplied upon request.

ENDLESS BELTS TOLERANCES

Tolerances on the dimensions of the endless belts:

Length		Width	
up to 5000 mm	± 0,5%	up to 60 mm	±1 mm
from 5000 to 20000 mm	± 0,3%	from 60 to 150 mm	±1,5 mm
over 20000 mm	± 0,2%	over 150 mm	±2 mm

CONFIGURATION OF THE PULLEYS

To assist tracking of the belt it is advisable to crown the drive pulley. When considering drives with minimal difference between the pulleys' diameters or with vertical or semi-crossed drives, it is advisable to also crown the smaller pulley, decreasing the **h** value by half. With multiple pulley drives, the pulleys to be crowned are only those touched by the same face of the belt. It is important to crown the pulley (s) as shown in the figure below. Do not fit pointed or truncated cone-shaped pulleys.

Materials recommended: cast iron or steel with smooth surface finish. The **dimension h** is a value of the pulley diameter up to 400 mm (see table 1).

For $\varnothing \geq 400$ mm, **h** is a value of the diameter \varnothing , as well as the face width **b** of the pulley (see table 2).

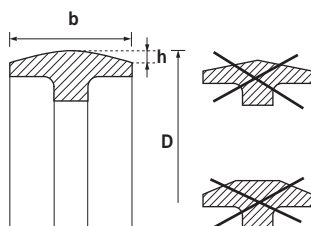
Usually the belt width recommended is a minimum 10 mm narrower than the pulley face width.

1) Dimensions for pulleys having diameter D from 40 to 355 mm.

The values of the dimension **h**, related to the diameter **D**, are shown in the table herebelow (ISO R 22 / DIN 111):

table 1

Diameter D	Dimension h max.
from 40 to 112	0,3
125 and 140	0,4
160 and 180	0,5
200 and 224	0,6
250 and 280	0,8
315 and 355	1



2) Dimensions for pulleys having diameter D from 400 to 2000 mm.

The values of the dimension **h**, related to the diameter **D** and to width **b**, are shown in the table herebelow (ISO R 22 / DIN 111):

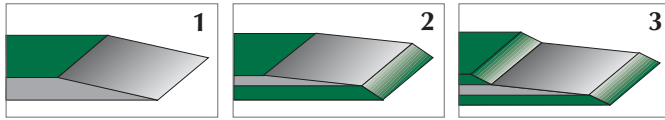
table 2

Width b	≤ 125	140 and 160	180 and 200	224 and 250	280 and 315	355	≥ 400
Diameter D	Dimension h max.						
400	1	1,2	1,2	1,2	1,2	1,2	1,2
459	1	1,2	1,2	1,2	1,2	1,2	1,2
500	1	1,5	1,5	1,5	1,5	1,5	1,5
560	1	1,5	1,5	1,5	1,5	1,5	1,5
630	1	1,5	2	2	2	2	2
710	1	1,5	2	2	2	2	2
800	1	1,5	2	2,5	2,5	2,5	2,5
900	1	1,5	2	2,5	2,5	2,5	2,5
1000	1	1,5	2	2,5	3	3	3
1120	1,2	1,5	2	2,5	3	3	3,5
1250	1,2	1,5	2	2,5	3	3,5	4
1400	1,5	2	2,5	3	3,5	4	4
1600	1,5	2	2,5	3	3,5	4	5
1800	2	2,5	3	3,5	4	5	5
2000	2	2,5	3	3,5	4	5	6

JOINTING METHODS

SKIVED JOINT

The CHIORINO transmission belts can be made endless using a standard skive; directions here below.



K cement	for polyamide	PR - P - Z - T - DG - LT - LL
H primer	for elastomer	Z - T
B cement		
R cement + I hardener	for elastomer and leather	DG - LT - LL
AD cement + C hardener	for MF elastomer	DG MF

Kit	Recommended directions (the adhesives are packed into their own KITS)
NAILCOL	<p>Series PR - P - DG</p> <p>Apply the K cement on the polyamide part of the splices. Let dry for 5 minutes, then match the belt ends, paying attention to align properly. Press according to the instructions shown.</p>
CARBOCOL	<p>Series Z</p> <p>Apply the K cement on the polyamide part of the splices. Apply the H primer on the elastomer part of the two splices and the B cement on the elastomer part of a single splice.</p> <p>Series T</p> <p>Apply the K cement on the polyamide part of the splices. Apply the H primer on the four elastomer parts of the two splices and the B cement on the two elastomer parts of a single splice.</p> <p>Let dry for 5 minutes, then match the belt ends, paying attention to align properly. Press according to the instructions shown.</p>
GUMMICOL	<p>Series DG - LT - LL</p> <p>Apply the K cement on the polyamide part of the splices. Let dry for 5 minutes. Pour the I hardener with the R cement (pot-life 2-3 hours). Apply the above mix on the elastomer or leather part of the splices. Let dry for 5 minutes, then match the belt ends, paying attention to align properly. Press according to the instructions shown.</p>
MF CARBOCOL	<p>Series DG MF</p> <p>Apply the K cement on the polyamide part of the splices and let dry for 5 minutes. Pour the AD cement with the C hardener (pot-life 2-3 hours) and apply the mix on the splices of the top surface. Pour the I hardener with the R cement (pot-life 2-3 hours) and apply the mix on the splices of the driving surface. Let dry for 5 minutes, then match the belt ends, paying attention to align properly. Press according to the instructions shown.</p>

To ensure best joint life it is advisable not to run or tension the belt for 24 hours.

FAST JOINT

The thermoplastic flat belts of the DU and AR series can be made endless up to 80 mm wide in a very short time with the fast joint system without use of cement, by means of the equipment shown here below (see also page 27).



Type of belt	Type of splice suggested	Type of cement			Pressing data		
		top surface	traction core	driving surface	temper. [°C]	press. [bar]	time [min.]
P0	1	—	K	—	100±120	3÷4	5
PRO	1	—	K	—	100±120	3÷4	5
P1	1	—	K	—	100±120	3÷4	10
P2	1	—	K	—	100±120	3÷4	10
P4	1	—	K	—	100±120	3÷4	20
Z1	2	—	K	H-B	100±120	3÷4	10
Z2	2	—	K	H-B	100±120	3÷4	15
Z3	2	—	K	H-B	100±120	3÷4	15
Z4	2	—	K	H-B	100±120	3÷4	20
Z6	2	—	K	H-B	100±120	3÷4	25
Z9	2	—	K	H-B	100±120	4÷5	30
Z12	2	—	K	H-B	100±120	4÷5	40
T0	3	H-B	K	H-B	100±120	3÷4	10
T1	3	H-B	K	H-B	100±120	3÷4	10
T1R	3	H-B	K	H-B	100±120	3÷4	10
T2	3	H-B	K	H-B	100±120	3÷4	15
T2R	3	H-B	K	H-B	100±120	3÷4	20
T3	3	H-B	K	H-B	100±120	3÷4	20
T3R	3	H-B	K	H-B	100±120	3÷4	25
T4	3	H-B	K	H-B	100±120	3÷4	25
T4R	3	H-B	K	H-B	100±120	3÷4	30
T4S	3	H-B	K	H-B	100±120	3÷4	30
T6	3	H-B	K	H-B	100±120	4÷5	30
T1-T	3	H-B	K	H-B	100±120	3÷4	15
T2-T	3	H-B	K	H-B	120±130	3÷4	25
T3 OE	3	H-B	K	H-B	120±130	3÷4	20
T3-T	3	H-B	K	H-B	120±130	3÷4	20
T4-T	3	H-B	K	H-B	120±130	3÷4	25
DG1/15	1	—	K	—	100±120	3÷4	10
DG1/30	3	R + I	K	R + I	100±120	3÷4	20
DG1/40	3	R + I	K	R + I	100±120	3÷4	20
DG2/20	1	—	K	—	100±120	3÷4	20
DG2/30	3	R + I	K	R + I	100±120	3÷4	20
DG2/40	3	R + I	K	R + I	100±120	3÷4	30
DG2/60	3	R + I	K	R + I	100±120	3÷4	30
DG1/45MF	3	AD + C	K	R + I	80±90	4÷5	20
DG2/60MF	3	AD + C	K	R + I	80±90	4÷5	25
LT0	2	—	K	R + I	80±90	3÷4	10
LT1	2	—	K	R + I	80±90	3÷4	10
LT2	2	—	K	R + I	80±90	3÷4	15
LT3	2	—	K	R + I	80±90	3÷4	15
LT4	2	—	K	R + I	80±90	3÷4	20
LT6	2	—	K	R + I	80±90	3÷4	30
LT9	2	—	K	R + I	80±90	4÷5	40
LT12	2	—	K	R + I	80±90	4÷5	60
LL0	3	R + I	K	R + I	80±90	3÷4	10
LL0R	3	R + I	K	R + I	80±90	3÷4	10
LL1	3	R + I	K	R + I	80±90	3÷4	10
LL2	3	R + I	K	R + I	80±90	3÷4	15
LL3	3	R + I	K	R + I	80±90	3÷4	20
LL4	3	R + I	K	R + I	80±90	3÷4	20
LL6	3	R + I	K	R + I	80±90	3÷4	30

The technical data of this table have been formulated under normal environment conditions. They are subject to alteration without notice.

TRANSMISSION BELTS AND SPINDLE TAPES FOR TEXTILE INDUSTRY

TRANSMISSION BELTS FOR TANGENTIAL DRIVES

- **Black-yellow series (T-T):** polyamide transmission belts with synthetic elastomer covers which are ground to ensure low noise performance; high resistance to wear and constant friction. In particular, this range includes **T3 OE** type, which has been purposely developed for the most sophisticated **open-end spinning machines**.
- **T series:** traditional range of polyamide belts with elastomer cover, purposely developed to work on spinning frames, twisters and texturizing machines. They ensure silent running, antistatic, absolute yarn uniformity, low energy absorption, resistance to high temperature and long life.
- **AR 60/2 type:** belt with aramidic fibre traction core giving very high dynamic performance and with thermoplastic cover which enables very fast jointing. For a more accurate evaluation for the technical characteristics please request the relevant technical data sheet.

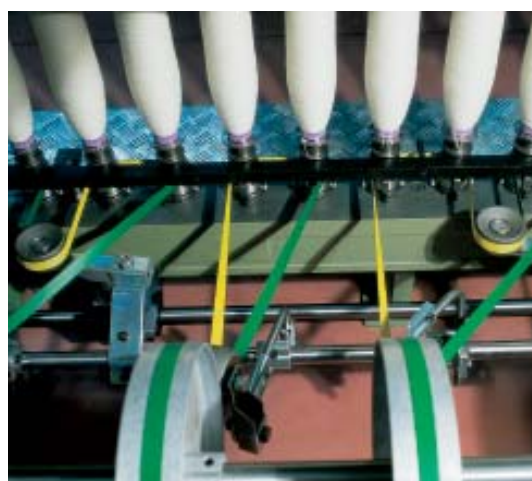
TAPES FOR SPINDLE DRIVES

The CHIORINO spindle tapes ensure the following advantages: low energy absorption, silent running, dimensional stability running on small diameter spindles at high speed, uniformity of yarn count, no dust accumulation on edges, long life. They have good antistatic properties, low stretch and flexibility.

- **ST 06 type:** made of thermoplastic material, with high-modulus polyester carcass. Can be made endless thanks to the exclusive **Micro-Z** technique (see page 10).
- **CNG and CNPG types:** capable of ensuring, thanks to their modern structure, higher efficiency compared to traditional cotton tapes.

CHIORINO design, build and supply the equipment for jointing on site, which keeps machine down-time to a minimum.

The CHIORINO Technical Support is available to determine the appropriate belt type to suit any configuration of tangential drive.

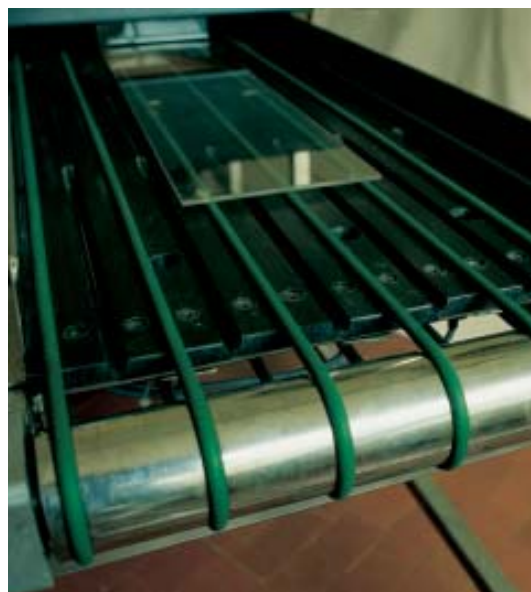


POLYURETHANE ROUND AND V-BELTS

CHIORINO manufactures by extrusion both polyurethane round and V Section belts which are used in various markets for transmission of light duty drives, at medium low speeds and conveying light loads. Main characteristics: extremely good tensile strengths, elasticity and flexibility values; very high resistance to abrasion, tearing, grease and pure mineral oils, petrols and hydrolisis. The recommended working temperatures is between -20 and +60 C degrees. The round belts of the "RU" range are produced in green colour with rough surface. A smooth version is available upon depends. The V-belts are manufactured in a single range which has a smooth surface, 92 Sh.A hardness and is bright green in colour.

FAST JOINT

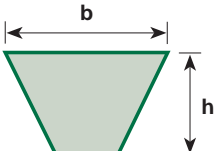
Being thermoweldable polyurethane it enables quick endless jointing of belts: CHIORINO has designed for the above purpose easy to use equipment namely the **S15 welder** - picture on the right - (see page 28) which can produce joints of high quality which can produce belts of any size.



ROUND BELTS SERIE "RU" - PRODUCTION PROGRAM

Belt's diameter [mm]	NOMINAL TRANSMISSIBLE POWER [kW] - Tension 8%				Dynamic load on axes [N]		Minimum pulley's diameter [mm]
	Speed [m/sec] :				4%	8%	
	2,5	5	10	15			
2	0,01	0,02	0,04	0,06	5,8	9	15
3	0,02	0,05	0,07	0,12	13	21	20
4	0,04	0,08	0,16	0,23	23	36	35
5	0,06	0,13	0,25	0,37	35	58	45
6	0,09	0,18	0,36	0,50	52	85	50
7	0,12	0,25	0,50	0,75	70	115	60
8	0,17	0,35	0,70	0,90	90	150	70
10	0,27	0,55	1,05	1,50	140	230	80
12	0,40	0,80	1,50	2,00	210	330	100
15	0,58	1,15	2,00	3,30	320	520	130

V-BELTS - PRODUCTION PROGRAM

	Type	Profile b x h [mm]	Dynamic load on axes at 8% [N]	Minimum pulley's diameter [mm]
	8 x 5	8 x 5	16	20
	10 x 6	10 x 6	28	35
	13 x 8	13 x 8	45	45
	17 x 11	17 x 11	62	50

The technical data of these tables have been formulated under normal environment conditions. They are subject to alteration without notice.

JOINTING EQUIPMENT

The **ENGINEERING DIVISION** of CHIORINO designs and supplies equipment for making endless conveyor and transmission belts. This booklet illustrates **LIGHTWEIGHT EQUIPMENT** and equipment suitable for **JOINTING ON SITE**, which are available ex-stock.

CHIORINO can also supply for the **PROFESSIONAL WORKSHOPS**:

- **cutting benches**;
- **cutting and slitting machines**;
- **skiving machines and splitting machines (lappers)**;
- **punching machines and workshop presses**;
- **hot-air welders** and **high frequency machines** for applying profiles and guides.

To obtain further information on the above equipment please contact the CHIORINO Technical Support.

*All the above equipment can be supplied either with 220 or 380 V and 50 or 60 Hz frequency.
Every machine complies with the CE european directives and it is complete with the operating and maintenance instructions.*

FAST JOINT EQUIPMENT

CHIORINO has designed **fast and easy to make** jointing systems obtained by using purpose designed equipment.

Features of the CHIORINO fast joint systems:

- they can be executed on conveyor and transmission belts having thermoplastic material cover, up to 200 mm wide;
- no use of cements;
- they guarantee ease of use and speed of execution; a few minutes, using the equipment below and following the jointing procedures ensuring quality joints.

The fast joint systems differ according to the belt types and their width:

- **Thermoplastic polyurethane belts without textile support (EL series).**

The type of joint suggested is OVERLAPPED (photo 4, page 10), using the following equipment:

- up to 50 mm wide with the press **P50 T**;
- up to 80 mm wide with the press **P120 T**;
- up to 200 mm wide with the press **EL250**.

This method does not require any preparation like finger punching.

- **Thermoplastic polyurethane belts with textile support, up to 50 mm wide.**

The type of joint suggested is MICRO Z FINGERS (photo 1, page 10), using the following equipment:

- finger puncher **F50 M**;
- press **P50 T**.

- **Thermoplastic polyurethane belts with textile support, up to 80 mm wide.**

The type of joint suggested is SINGLE Z FINGERS (photo 2, page 10), using the following equipment:

- finger puncher **F80 ME**;
- press **P120 T**.

FAST JOINT PUNCHERS (FINGER CUTTERS)

Type F50 M

Hand-operated puncher for MICRO-Z joints. Suitable for single-ply polyurethane and PVC belts up to 50 mm wide and a maximum of 2 mm thickness (spindle tapes, graphic arts, etc.).

Dimensions (width x length x height) [mm]	Weight [kg]
110 x 250 x 130	8



Type F80 ME

Hand-operated puncher for SINGLE-Z joints up to a maximum of 80 mm width. Suitable for thermoplastic belts and belting (paper and printing industry, etc.).

Dimensions (width x length x height) [mm]	Weight [kg]
640 x 200 x 350	14



FAST JOINT PRESSES

Type P50 T

Press with 2 heated platens, suitable to vulcanize thermoplastic and thermosetting materials up to 50 mm wide and a maximum of 3 mm thickness. Cooling clamp, holding plate and shears available for 60 mm max. width.

Dimensions (width x length x height) [mm]	Plates' sizes (width x length) [mm]	Weight [kg]
320 x 60 x 90	70 x 50	6



Type P120 T

Press with 2 heated platens, suitable to vulcanize thermoplastic and thermosetting materials up to 80 mm wide. Cooling clamp and holding plates available.

Dimensions (width x length x height) [mm]	Plates' sizes (width x length) [mm]	Weight [kg]
330 x 155 x 130	100 x 140	4



Type EL250

Press with 2 heated platens, suitable to vulcanize thermoplastic polyurethane elastic belts (EL series) up to 200 mm wide and a maximum of 2 mm thickness.

Dimensions (width x length x height) [mm]	Plates' sizes (width x length) [mm]	Weight [kg]
400 x 140 x 200	230 x 25	17



PUNCHERS (FINGER CUTTERS)

Type F700 M

Hydraulic operated puncher, for SINGLE Z fingers on belts up to a maximum of 5 mm thickness.

Dimensions (width x length x height) [mm]	Weight [kg]
820 x 380 x 340	30



SKIVERS

Type B80 D

Hand operated plate skiver for conveyor and transmission belts up to 80 mm wide and a maximum of 5 mm thickness.

Dimensions (width x length x height) [mm]	Weight [kg]
320 x 250 x 250	5



Type B100 R / RM

Roller skiver without motor (B100 R) or with motor (B100 RM) for conveyor and transmission belts up to 100 mm wide and a maximum of 5 mm thickness.

Type	Dimensions (width x length x height) [mm]	Weight [kg]
R	330 x 260 x 170	8,5
RM	570 x 260 x 250	25



Type B300 SA

Skiver ideal to obtain accurate skives with preset angle on belts and belting up to 300 mm wide with 90° straight cut and max. thickness 10 mm.

Dimensions (width x length x height) [mm]	Weight [kg]
550 x 600 x 450	42



POLYURETHANE ROUND AND V-BELTS WELDER

Type S15

Welder for jointing PU round and V-belts. It can be supplied with clamp and pliers.

Dimensions (width x length x height) [mm]	Weight [kg]
160 x 90 x 110	3



PRESSES FOR VULCANIZING SKIVED CONVEYOR AND TRANSMISSION BELTS

Type P100 K

Press for vulcanizing skived conveyor and transmission belts up to 100 mm wide and a maximum of 5,5 mm thickness.

Dimensions (width x length x height) [mm]	Plates' sizes (width x length) [mm]	Weight [kg]
300 x 145 x 140	120 x 105	2



Type P200

Press for vulcanizing skived polyurethane and PVC conveyor and transmission belts up to 200 mm wide.

Dimensions (width x length x height) [mm]	Plates' sizes (width x length) [mm]	Weight [kg]
350 x 210 x 190	220 x 160	11



PRESSES WITH COOLING SYSTEM FOR THERMOPLASTIC AND THERMOSETTING BELTS

Type	Dimensions (width x length x height) [mm]	Plates' sizes (width x length) [mm]	Max. width [mm]	Weight [kg]
P 300 L	640 x 230 x 210	430 x 150	300	24
P 400 L	740 x 230 x 210	530 x 150	400	28
P 600 L	940 x 230 x 210	730 x 150	600	36
P 800 L	1140 x 230 x 250	930 x 150	800	50
P 1000 L	1340 x 230 x 270	1130 x 150	1000	65



Type	Dimensions (width x length x height) [mm]	Plates' sizes (width x length) [mm]	Max. width [mm]	Weight [kg]
P 1200 L	1690 x 225 x 290	1360 x 150	1200	101
P 1600 L	2090 x 225 x 310	1760 x 150	1600	131
P 2200 L	2540 x 235 x 385	2360 x 150	2200	196
P 2600 L	2940 x 235 x 480	2760 x 150	2600	260
P 3000 L	3360 x 235 x 580	3160 x 150	3000	340
P 3400 L	3760 x 235 x 640	3560 x 150	3400	390



L S series

Presses for vulcanizing conveyor and transmission belts with a minimum inside circumference of 400 mm.

Type	Dimensions (width x length x height) [mm]	Plates' sizes (width x length) [mm]	Max. width [mm]	Weight [kg]
P 400 L S	800 x 250 x 350	530 x 100	400	25
P 600 L S	950 x 250 x 350	730 x 100	600	31
P 800 L S	1150 x 250 x 350	930 x 100	800	39



“MF” ENDLESS RUBBER MANDRIL MADE BELTS

CHIORINO manufactures a wide range of MF elastomer belts suitable for applications in various industrial sectors (carton folding industry, packaging, post office automation etc.).

The main characteristics of “MF” CHIORINO endless belts are:

- **no joint:** manufactured with endless technology which guarantees endless uniformity of the surface and the coefficient of friction;
- **absolute thickness regularity;**
- **perfect dimensional stability** due to the polyester fabric core.

The **elastomer covering** which keeps its original working surface during the whole working life is available in the following colour and hardness range dependent on the coefficient of friction required on application:

- **L** = raspberry, 35 Sh.A
- **R** = purple red, 45 Sh.A
- **B** = beige, 50 Sh.A;
- **GR** = grey, 55 Sh.A

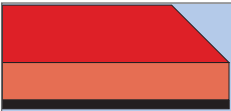
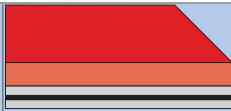


Maximum production thickness: 15 mm, with precision ground finish.

Tooth belts can be applied to the bottom surface to provide absolute synchronous drive where required avoiding any risk of slippage. The toothed belt can be in **elastomer** (metric and imperial pitch) or in **polyurethane** (metric pitch).

Other special constructions including **punched holes** where air suction units are fitted can be manufactured on request.

On pages 31 and 32 there is a summary of the CHIORINO types for the most important applications.

BELTS CONSTRUCTIONS

			
<p style="text-align: center;">Elastic belt (without fabric core)</p> <p>Two elastomer layers:</p> <ul style="list-style-type: none"> – feedside, high coefficient of friction, is available in the colours and hardnesses stated above; – black driveside, hard-wearing. 	<p style="text-align: center;">Belt with polyester fabric core</p> <p>Composition:</p> <ul style="list-style-type: none"> – feedside, high coefficient of friction, is available in the colours and hardnesses stated above; – fabric core; – natural colour driveside, hard-wearing and low coefficient of friction. 	<p style="text-align: center;">For synchronous drive metric or imperial pitch timing belt base in elastomer</p> <p>Timing belts designed for synchronous drive in both metric and imperial pitch. The high friction coefficient elastomer cover is available in the colours and hardness stated above.</p>	<p style="text-align: center;">For synchronous drive metric timing belt base in polyurethane</p> <p>Timing belts designed for synchronous drive in metric pitch. The high friction coefficient elastomer cover is available in the colours and hardness stated above.</p>

CARTON FOLDING INDUSTRY

Truly endless belts type **MF...-351 G** used as feeder belts on folder-glueers for smooth and corrugated cardboard. The outer cover made of self-regenerating elastomer maintains the coefficient of friction unchanged. The elastomer inner cover guarantees a consistent feeding even on the fastest machines.

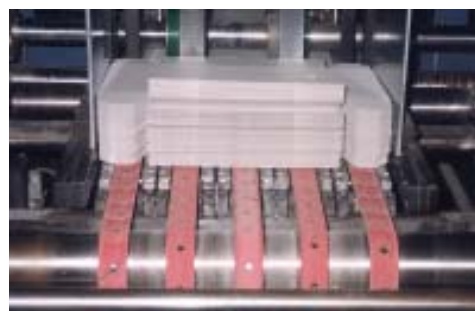
The CHIORINO truly endless belts are made without using any rubber latex and for this reasons they are suitable for manufacturing boxes in the food and pharmaceutical industries.

These belts are available with three different versions of the MF cover to be selected according to the type of material to be processed:

- "**L**" **raspberry**: suitable for smooth cardboard, either glossy or matt;
- "**R**" **purple red**: suitable for abrasive smooth cardboard, PVC boxes, corrugated cardboard;
- "**B**" **beige**: suitable for very abrasive and heavy cardboard

STANDARD PRODUCTION PROGRAM

Type	Outer cover			Fabric core	Inner cover		
	material	colour	hardness [Sh.A]		material	colour	hardness [Sh.A]
MF L-351 G	elastomer	raspberry	35	polyester	elastomer	green	65
MF R-351 G	"	purple red	45	"	"	"	"
MF B-351 G	"	beige	50	"	"	"	"



DRAW-DOWN MACHINES

CHIORINO have specially developed a range of endless belts for draw-down (formfill) machines to improve the filling of the packets mainly in the food industry. The packets are gripped and drawn down by two specially constructed belts, usually located vertically for easier filling control of the product with loose products (drops, chips, pasta etc.). Speeds are extremely high ranging from 80 to 150 packets per minute.

The MF elastomer covering is available in three different versions of the MF cover according to the type of packaging, in order to get the best ratio of needed friction and surface abrasion resistance.

- "**L**" **raspberry**: for PVC and polyethylene films;
- "**R**" **purple red**: particularly suitable for abrasive packagings (paper, fabric);
- "**B**" **beige**: particularly suitable for abrasive packagings (paper, fabric).

STANDARD PRODUCTION PROGRAM

Type	Outer cover			Fabric core	Inner cover		
	material	colour	hardness [Sh.A]		material	colour	hardness [Sh.A]
MF R-052	elastomer	purple red	45	---	elastomer	purple red	45
MF R-053	"	"	---	---	elastomer	black	65
MF L-311	elastomer	raspberry	35	polyester	---	natural	---
MF R-311	"	purple red	45	"	---	"	---
MF B-311	"	beige	50	"	---	"	---

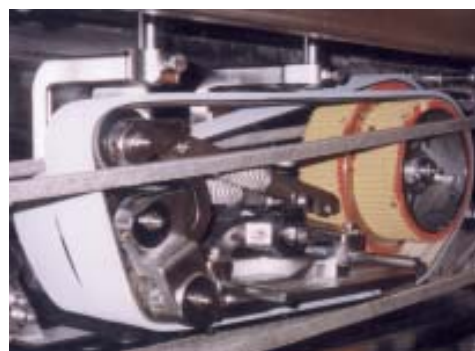


CAP TWISTING MACHINES

Truly endless belts purposely designed for the use on machines for the automatic cap twisting in particular in the manufacturing process of preserve jars. They offer high resistance to temperature, speed and abrasion.

STANDARD PRODUCTION PROGRAM

Type	Outer cover			Fabric core	Inner cover		
	material	colour	hardness [Sh.A]		material	colour	hardness [Sh.A]
MF GR-400	elastomer	grey	55	polyester	---	black	---
MF B-420	"	beige	50	"	---	natural	---



The technical data of these tables have been formulated under normal environment conditions. They are subject to alteration without notice.

“UT” BELTS FOR HAUL-OFF MACHINES

Haul-off belts are primarily used for the extrusion of cables, plastics and plastics pipes on continuous production lines.

CHIORINO haul-off belts have many advantages including:

- silent operation;
- higher speed;
- energy savings;
- no size limits (length, width, thickness).

CHIORINO manufactures the **UT 271** haul-off belt available in different hardnesses (from 45 to 65 Sh.A) and in various colours including white for food processing.

The ENDLESS UT belts are designed without joints and have drive surfaces to suit most applications.

Grinding and milling operations can be done on the carrying surface to produce **lateral** or **longitudinal grooves** to meet customer specifications.



ENDLESS BELTS FOR MISCELLANEOUS INDUSTRIES

The truly endless CHIORINO product range can cover most of industries needs, but customised solutions for special applications can be developed in conjunction with the user.

For such processes CHIORINO developed truly endless belts of special construction including thin thickness, elastic or with specially designed textile carcasses.

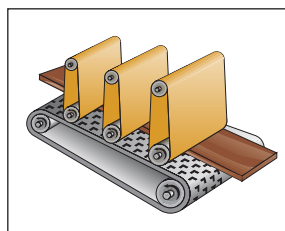
They can be found in applications such as:

- Post Office and Banking applications
- Tile industry
- Agro-food industry



"WD" BELTS FOR THE WOODWORKING INDUSTRY

CHIORINO have perfected for the woodworking Industry, a range of "ENDLESS WD" belts for sanders, planers, gaugers, calenders etc. Manufactured with a polyester carcass and covered with grey elastomer of varying degrees of Shore hardness and surface patterns they have an extremely high coefficient of friction for positive feed. The success of CHIORINO product is due to a combination of high quality materials with modern technology to provide a range of belts which lay flat and with the correct selection of surface pattern prevents deformation under high pressure.



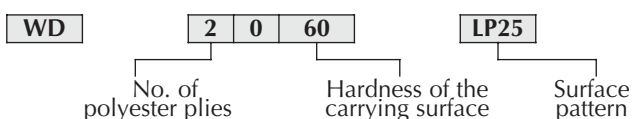
they have an extremely high coefficient of friction for positive feed. The success of CHIORINO product is due to a combination of high quality materials with modern technology to provide a range of belts which lay flat and with the correct selection of surface pattern prevents deformation under high pressure.



STANDARD PRODUCTION PROGRAM

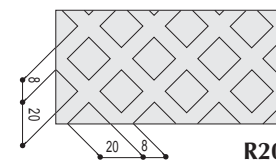
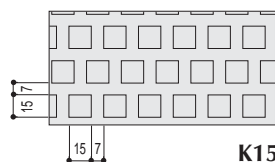
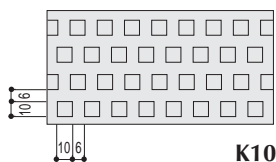
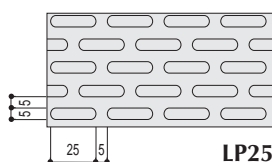
Type	Polyester fabrics [n.]	Hardness [Sh.A]	Thickness [mm]	Max. admitt. working load [N/mm]	Min. pulley diameter [mm]	Minimum internal circumference [mm]	Production width [mm]
WD 2060 LP25	2	60	8 ÷ 9	18	100	1660	1100
WD 2060 K10	2	60	8 ÷ 9	18	100	1660	1100
WD 2070 LP25	2	70	8 ÷ 9	18	100	1660	900 / 1100
WD 2070 K10	2	70	8 ÷ 9	18	100	1660	900 / 1100
WD 3060 LP25	3	60	10	24	120	1660 / 2050	1100 / 1400
WD 3060 K10	3	60	10	24	120	1660 / 2050	1100 / 1400
WD 3060 K15	3	60	10	24	120	1660 / 2050	1100 / 1400
WD 3060 R20	3	60	10	24	120	1660 / 2050	1100 / 1400
WD 3070 smooth	3	70	10	24	120	1660 / 2050	1100 / 1400
WD 3070 K10	3	70	10	24	120	1660 / 2050	1100 / 1400

EXPLANATION OF TYPE CODE:



SURFACE PATTERN

Type	Surface pattern	Dimensions [mm]	Amount of relief [%]	Coefficient of friction	Notes
LP25	High-relief	25 x 5	45 - 55	1,00	High coefficient of friction used for pre-painted pieces and polishing.
K10	Square	10 x 10	50 - 50	0,75	Standard. Ideal for polishing and gauging.
K15	Square	15 x 15	50 - 50	0,70	Standard. Used on machines with vacuum.
R20	Diamond	20 x 20	45 - 55	0,70	Used in particular working conditions; also suitable for machines with vacuum.



The technical data of these tables have been formulated under normal environment conditions. They are subject to alteration without notice.

RUBBER AND SILICONE ROLLS AND SHEETING

CHIORINO manufactures rolls and sheeting in a wide variety of polymers depending on the type of application:

- **elastomer** where high flexibility is required;
- **silicone** for high temperature and non-stick application.

MF sheeting are manufactured in rolls of **max. width 1600 or 2000 mm** and **standard length of 100/200 m**. They can also be supplied cut to size according to customer's requirement.

They are available in **hardnesses from 35 to 50 Sh.A** and in different colours. They are manufactured in **standard thicknesses from 2,0 to 10 mm**; other thicknesses are available on request.

CHIORINO rubber products are widely used in the following industries:

- **FURNITURES manufacturing:** on veneering presses, for the application of PVC or wood films on shaped panels. Pads perfectly follow the panels' shapes under pressure, transferring the desired temperature during the working cycle. The silicone pad **LI SI W** can operate at temperatures up to 200° C.
- **CARTON BOX FOLDING INDUSTRY:** MF rubber produced by CHIORINO are vulcanised on carcasses to manufacture truly endless feeding belts for box folding machines. The same rubber can be supplied in rolls and used for covering timing or flat belts for the same purpose. They can be supplied with a Sh.A hardness of **35** or **45** degrees to be suitable for any kind of carton, giving high surface friction and excellent wearing properties.
- **PACKAGING:** as covering for flat or timing belts.
- **LEATHER INDUSTRY.**

MF sheeting without fabric support is used in a wide range of other industrial sectors: mining and ceramics for material sieving, linings for piping for pumping water and silt from rivers, protective linings for animal cages, window wipers, bullet fragmentation and rebound control in shooting galleries, etc.

The availability of different Shore hardness allows this material to cover a wide range of industry.



STANDARD PRODUCTION PROGRAM

Application	Series	Material	Hardness [Sh.A]	Colour	Standard thicknesses [mm]	Temperature resistance [°C]		Max. prod. width [mm]
						min.	max.	
VENEERING	LI-G	elastomer	45	brown	2,5 - 3,5 - 4,0 - 5,0	-20	+120	2000
	LI-G GR		50	grey	4,0	-20	+120	2000
	LI-SI	silicone	40	white	2,0 - 3,0 - 4,0	-50	+160	1600
	LI-SI W		45		1,5 - 3,0	-50	+200	1600
PAPER	LC-G L	elastomer	35	raspberry	8,0	-20	+ 80	1600
	LC-G R		45	purple red	3,0 - 6,0 - 8,0 - 10,0	-20	+ 80	1600
LEATHER STAKING	LP-G FL	elastomer	45	brown	2,5	-20	+120	2000

The technical data of this table have been formulated under normal environment conditions. They are subject to alteration without notice.

"TEXGUM" ROLLER COVERINGS

"Texgum" roller coverings are designed to increase the coefficient of friction of rollers and are used mainly in the weaving and finishing sectors of the Textile industry. They are manufactured to the highest possible standards using specially designed elastomers.

The comprehensive range is suitable for all types of machinery and offers technical qualities such as:

- high quality textile carcass with very good dimensional stability even for wet processing;
- high wear resistant covers in natural rubber, specially formulated elastomers and silicones;
- constant quality due to the fully automated cycle of production control.



STANDARD PRODUCTION PROGRAM

Type	Colour	Covering	Thickness [mm]	Weight [kg/m ²]	Temp. resistance [°C]		Rolls' length [m]
					min.	max.	
NG0	sand	natural elastomer	1,5	1,6	0	+ 100	115
NG3	sand	"	2,0	2,2	0	+ 100	100
NG5	sand	"	1,9	2,1	0	+ 100	100
NG7	sand	"	1,7	1,9	0	+ 100	115
NG7-S	sand	"	2,5	2,6	0	+ 100	115
NG8	sand	"	2,0	2,0	0	+ 100	100
SG0	dark grey	synthetic elastomer	1,8	2,1	- 10	+ 120	115
SG0-D	light grey	"	2,3	2,1	- 10	+ 120	115
SG0-E	sand	"	2,8	2,2	- 10	+ 120	115
SG0-M	grey	"	2,2	2,3	- 10	+ 120	115
SG0-S	dark grey	"	2,5	2,6	- 10	+ 120	115
SG1	dark grey	"	2,0	2,6	- 10	+ 120	115
SG1-E	sand	"	3,0	2,3	- 10	+ 120	115
SG1-S	dark grey	"	2,8	2,9	- 10	+ 120	115
SG3	light grey	"	2,0	2,2	- 10	+ 120	100
SG4	dark grey	"	4,2	2,9	- 10	+ 120	100
SG5	light grey	"	2,0	1,8	- 10	+ 120	100
SG6	light grey	"	2,0	2,3	- 10	+ 120	115
SG7	white	"	2,0	2,2	- 10	+ 120	115
SG7-gr	grey	"	2,0	2,2	- 10	+ 120	115
SG7-H	amber	"	2,0	2,2	- 10	+ 120	115
SG7-L	white	"	1,7	2,0	- 10	+ 120	115
SG7-M	amber	"	1,9	1,3	- 10	+ 120	115
SG7-S	white	"	2,5	2,9	- 10	+ 120	115
SG8	beige	"	2,0	2,1	- 10	+ 120	100
NP0/A	light grey	neoprene	3,5	0,7	- 40	+ 70	50
PU0	turquoise	polyurethane	1,7	1,9	- 20	+ 80	100
PU5	turquoise	"	2,4	2,3	- 20	+ 80	100
PU7	turquoise	"	2,0	2,0	- 20	+ 80	100
PV0	transparent or light green	PVC	1,8	2,0	0	+ 60	100
PV5	transparent or light green	"	2,3	2,4	0	+ 60	100
PV6	transparent or light green	"	1,9	2,0	0	+ 60	100
PV7	transparent or light green	"	1,9	2,0	0	+ 60	100
SI0	white	silicone	1,1	1,0	- 20	+ 160	115
SI0-S	white	"	2,0	2,1	- 20	+ 160	115
SI0-FG	white	"	1,4	1,3	- 50	+ 200	115
SI0-FG tr	transparent	"	1,4	1,3	- 50	+ 200	115
SI2-FG	transparent	"	1,5	1,4	- 50	+ 200	115
FLO	green	velvet (flock pile)	2,4	0,8	- 10	+ 60	50
FLO ne	black	"	2,5	1,0	0	+ 100	100

Surface patterns:

- 0 = smooth
- 1 = light fabric
- 2 = medium fabric
- 3 = heavy fabric
- 4 = grip face
- 5 = pimples
- 6 = fine sandblast
- 7 = medium sandblast
- 8 = heavy sandblast

Special executions:

- D = high shore hardness
- E = foam synthetic elastomer
- FG = fiberglass textile carcass
- H = high performance
- L = less rubber
- M = soft
- S = extra rubber

Textile carcass: polyester fabric, except for the FG types, in fiberglass.

Self-adhesive version (/A): can be supplied for all types, except for SI0-FG.

Rolls' width: available in 50 mm width. Other widths upon request.

Adhesives: – *Texcol* for all types except SI0-FG.

– *Saratoga*® for SI0-FG type.

The technical data of this table have been formulated under normal environment conditions. They are subject to alteration without notice.

RUBBER PRODUCTS FOR TEXTILE INDUSTRY

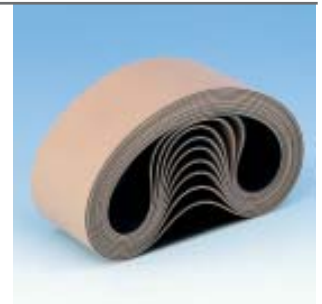
CHIORINO Condenser Rubbers, Spinning and Texturizing Aprons, Cots, as well as Spindle Tapes and Tangential Belts, are used throughout the world and installed as original equipment on many textile machines. The key to their success can be attributed to CHIORINO's close cooperation with most of important Textile O.E.M.'s and the complete in-house manufacturing of the finished product. The Company's continuous development of raw materials ensures that our sales organisation throughout the world has total confidence in supplying the most modern and technically supreme products. The following illustrates the range of CHIORINO rubber accessories used in the Textile Industry, for which individual brochures are available giving more detailed information.

SPINNING APRONS

The high quality standard of the CHIORINO spinning aprons ensures great drafting uniformity with any type of fibre.

Made of synthetic rubber, antistatic, with very good resistance to wear, spinning oils and cracking caused by ozone, the CHIORINO spinning aprons are composed of two outside elastomer layers with different characteristics and of a spiral-shaped textile insert.

They can be supplied endless or open. Open aprons can be joined using the specific solution.



COTS FOR PRESSURE ROLLERS

CHIORINO can supply an efficient range of cots, capable of offering the following advantages: total absence of winding, highly conductive surface, which can be ground to a mirror finish, excellent fibre control, thanks to elasticity and permanent friction.

The CHIORINO cots are made of antistatic, wear-resistant differing rubber compounds, various colours and Shore hardness degrees are available.

Any cot size and special executions (reinforced or with metal core) can be supplied.



TEXTURIZING APRONS

Employed on texturizing machines for processing of continuous filament synthetic fibres.

Made of two elastomer layers with different characteristics and with spiral-shaped textile insert. Particularly suitable for high speed, they have very high load-at-break modulus and are not subject to vertical or transversal vibrations. They ensure: resistance to oils and temperature, very good resistance to wear, high resistance to cracking.



TEXTURIZING COTS

Employed on draw twisters and texturizing machines, they ensure: resistance to oils and temperature, excellent fibre control, good elasticity and coefficient of friction, even after prolonged running period. They are made of antistatic, wear-resistant rubber. Various degrees of hardness are available. Can have various kinds of inside reinforcement, which make them suitable to work at very high speeds.



RUBBING APRONS

Used by roving frame finishers, they are suitable for working at ultra-high speeds. Their special properties ensure: high flexibility and do not stretch over time, excellent rubbing power throughout the apron life, maximum resistance to wear and harsh chemicals. Can be produced with either smooth or grooved internal surface.



CONDENSER RUB APRONS

Produced using highly specialised technology and materials, the CHIORINO condenser rub aprons are used all over the world thanks to the following qualities: excellent rubbing, high carcass resistance, very good resistance to spinning oils, very long life. Can be produced with either smooth or grooved outside, depending on the application.



COVERINGS FOR EXPANDING ROLLERS

Products featuring exclusive CHIORINO technology, they provide the basic component of the expanding units with rotating bending rollers. Particularly suitable for weaving, finishing and controlling phases of fabric and films due to the following characteristics: exceptionally high resistance to wear, production maintenance of surface friction through time, even in the presence of chemical and physical agents, wide range of types and structures for use on most machines with varying types of materials.



CONDENSER TAPES

A reliable product with very long life, to complete the CHIORINO range of items for woollen spinning. Made with a traction core of polyamide with high elasticity, which allows excellent regulation both for endless and continuous tapes. Dimensionally stable, antistatic and resistant to spinning oils, ensure perfect web division.



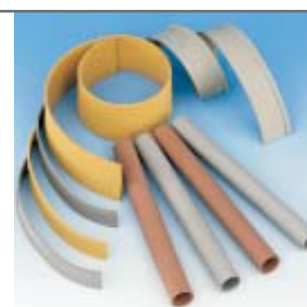
SPECIAL APRONS

To suit special applications. Employed for drawing heads, combing machines, web conveying, etc. Made of thermoplastic material or elastomer, endless. Can be supplied to any required dimension.



CLEANERS

Lists and tubes made of antistatic, wear-resistant materials, employed in the cleaning process on preparation and spinning machines. Very quick and easy to fit.



WORLDWIDE NETWORK OF DISTRIBUTION AND SALE

EUROPE



CHIORINO U.K. (Birmingham, United Kingdom)



CHIORINO U.K. (Leeds, United Kingdom)



CHIORINO S.A. (Paris, France)



CHIORINO S.A. (Lyon, France)



CHIORINO S.A. (Barcelona, Spain)



CHIORINO GmbH (Kelkheim, Germany)



CHIORINO BENELUX (Utrecht, Holland)

Benelux **CHIORINO BENELUX B.V.**
Westkanaaldijk 5-07 - 3542-DA
UTRECHT (HOLLAND)
Tel. +31-30-2413060 - Fax +31-30-2413059
info@chiorino.nl

Byelorussia **CHIORINO-K**
901,31, Kuzme Chornogo Str. - MINSK
Tel. +375-22-481624 - Fax +375-17-2856467
chiorino@nsys.by

Cyprus **YIAVIS Belts Ltd.**
P.O.BOX 20510 - 1660 NICOSIA
Tel. +357-22-481624 - Fax +357-22-485440
yaviind@spidernet.com.cy

Czech Rep. and Slovak Rep. **REKO s.r.o.**
Husova 249 - 55101 JAROMER
Tel. +420-491-840015 - Fax +420-491-840013
odbyt@reko-sro.cz

Denmark **P. ELLEGAARD A/S**
Tagtaekervej 17 - 8800 VIBORG
Tel. +45-86-629600 - Fax +45-86-615889
heh@ellegaard.com

Branch: RINGSTED 4100 - Naestvedvej 356
Tel. +45-57-643008 - Fax +45-57-643565

Finland **TKA-YHTYMAE OY**
Hyllilaenkatu 2 - FIN-33730. TAMPERE
Tel. +358-3-38411 - Fax +358-3-3841255
www.tka.fi - tka.tampere@tka.fi

France **CHIORINO SAS**
L'Esplanade - 12-14, rue Paul-Henri Spaak
St.-THIBAUT DES VIGNES - 77400 LAGNY
Tel. +33-1-64304075 - Fax +33-1-64305851
chiorino.paris@wanadoo.fr

Branches: AGENCE RHONE-ALPES
3, rue Alexandre Grammont
69800 SAINT-PRIEST
Tel. +33-4-78210863 - Fax +33-4-78201723
chiorino-lyon@wanadoo.fr

AGENCE OUEST - Z.I. Beau Soleil
44450 S.JULIEN DE CONCELLES
Tel. +33-2-40365467 - Fax +33-2-40541964
chiorino.grand-ouest@wanadoo.fr

Société S.A.R.L. S.E.T.S
164, Rue de Roubaix - 59420 MOUVAUX
Tel. +33-3-20240128 - Fax +33-3-20362714
info@ssets-chiorino.com - www.ssets-chiorino.com

AGENCE CHIORINO SUD-OUEST
RN 21 - Soubirous - 47300 VILLENEUVE SUR LOT
Tel. +33-5-53419342 - Fax +33-5-53419446
vschiorino@wanadoo.fr

Germany **CHIORINO GmbH**
Pestalozzistr. 3 - D-65779 KELKHEIM
Tel. +49-6195-97920 - Fax +49-6195-979220
chiorino@chiorino.de - www.chiorino.de

Hungary **HEVEDER-TRADE Kft.**
Mag. u.3. 10/1 - 1214 BUDAPEST
Tel. +36-1-427-0406 - Fax +36-1-278-5279
zsuzsanna.szegedi@megadyne.hu

Norway **P. ELLEGAARD A/S**
Tagtaekervej 17 - 8800 VIBORG (DENMARK)
Tel. +45-86-629600 - Fax +45-86-615889
heh@ellegaard.com

Poland **CHIORINO Sp.z. o.o.**
Ul. Piekna 13 - 85-303 BYDGOSZCZ
Tel. +48-052-3487708 - Fax +48-052-3487707
chiorino@chiorino.com.pl - www.chiorino.pl

Portugal **ITALCOR, LDA.**
Rua Clube Atlético de Rio Tinto,
156-158, 164-166 - 4435-188 RIO TINTO
Tel. +351-22-4854140 - Fax +351-22-4860176
chiorino.portugal@italcor.pt - www.italcor.pt

Romania **ROMITEX**
Sd Decibal Nr. 17, Bloc S 16, Sc 2, Etaj 5°, App. 35
BUCAREST - Tel. & fax +40-1-6204730
romitex@go.ro - romitexceremia@go.ro
romitex@duros.ro

Slovenia **KONUS KONEK Ltd.**
Mestni trg 18, SI-3210 SLOVENSKE KONJICE
Tel. +386-3-7573180 - Fax +386-3-5754368
www.konuskonex.com - info@konuskonex.com

In charge of:

Bosnia-Herzegovina **KONUS ECOL d.o.o.** - Mese Selomovica 42
77000 BIHAC - Tel. & Fax +387-37-229036

Croatia **GUMIIMPEX d.o.o.** - Pavleka Miskine 64C
42000 VARAZDIN - Tel. +385-42-404500
Fax +385-42-404540 - info@gumiimpex.com

Jugoslavia **KONUS LOTEX d.o.o.**
Marka Radulovica bb - 15300 LOZNICA
Tel. +381-15-882077 - Fax +381-15-875034

Macedonia **TEKA INVEST d.o.o.** - Dame Gruev 3/2 - 11 Reon 78
91000 SKOPJE - Tel. & Fax +389-2-222175
tekainv@mt.net.mk

Spain **CHIORINO S.A.**
P.I. Can Sant Joan, c/Anoia, 2-12
08191 RUBI (BARCELONA)
Tel. +34-93-5860480 - Fax +34-93-6979121
chiorino@chiorino.es

Branches: PATERNA (VALENCIA) 46988
P.I. Fuente del Jarro, c/Villa de Madrid, 47
Tel. +34-96-1340751 - Fax +34-96-1340095
valencia@chiorino.es

VITORIA (ALAVA) 01013
Avda. del Cantábrico, 4 - Pabellón 3
Tel. +34-945-120472 - Fax +34-945-120488
vitoria@chiorino.es

Sweden **WENNERLUNDS MASKIN AB**
Box 14130 - S-40020 GOETEBORG
Tel. +46-31-878055 - Fax +46-31-273656
delivery address: Heliumgatan 3 - S-43153 MOLNDAL

United Kingdom and Ireland **CHIORINO U.K. Ltd**
Town End, Gildersome, Morley
LEEDS LS27 7HE
Tel. +44-870 606 5060 - Fax +44-113 238 0247
master@chiorino.co.uk - www.chiorino.co.uk

Branches: MIDLANDS: Highlands Road, Shirley, Solihull
WEST MIDLANDS B90 4NH
Tel. +44-121 705 8271 - Fax +44-121 711 3741

SOUTH: 2 Horatius Way, Silver Wing
Industrial Park - CROYDON CR0 4RU
Tel. +44-20 8680 9797 - Fax +44-20 8680 0419

SCOTLAND: 18 Nasmyth Court, Houston
Industrial Estate - LIVINGSTON EH54 5EG
Tel. +44-1506 434880 - Fax +44-1506 439298

EAST: Unit 1, Potteric Carr Road, Middlebank
DONCASTER DN4 5JB
Tel. +44-1302 738566 - Fax +44-1302 738588

NORTH EAST: Unit BT76/55G, South Nelson Road,
S. N. Ind Est CRAMLINGTON NE23 9 WF
Tel & Fax +44-1670 713497

NORTH AMERICA

U.S.A. CHIORINO, INC.
Harmony Business Park, 125 Ruthar Drive
NEWARK, DE 19711
Tel. +1-302-292-1906 - Fax +1-302-292-8777
chiorino@delanet.com

In charge of:

CT - DC - DE - IL - IN - MA - MD - ME - MI - MN -
NH - NJ - NY - OH - PA - RI - VT - WI - CANADA

SPLAWN BELTING, INC.
1758 Anthony Road - P.O. Box 1299
BURLINGTON, NC 27216
Tel. +1-336-227-4277 - Fax +1-336-222-9124
www.splawnbelt.com - info@splawnbelt.com

In charge of:

AL - AR - AZ - CA - CO - FL - GA - IA - ID - KS - KY -
LA - MO - MS - MT - NC - ND - NE - NM - NV - OK -
OR - SC - SD - TN - TX - UT - VA - WA - WV - WY

CENTRAL AMERICA

Mexico CIA. INDUSTRIAL BIELLA S.A. DE C.V.
Centeno No. 798, Col. Granjas Mexico
Delegación Iztaacalco - C.P. 08400, MEXICO D.F.
Tel. +52-55-56575746 - Fax +52-55-56575746
biella@prodigy.net.mx

Branches: MONTERREY, NUEVO LEON
Boulevard Puerta del Sol No. 531, Local E
Colinas de San Jeronimo Monterrey, N. L. - C.P. 64630
Tel. +52-81-86764680 - Fax +52-81-86764681
biella@prodigy.net.mx

PUEBLA
Celle 9 Norte No. 4201, Despacho 202
Colonia Santa Maria - C.P. 72070
Tel. +52-22-22207949 - Fax +52-22-22207949
biella@prodigy.net.mx

SOUTH AMERICA

Argentina WARBEL S.A.
RESISTENCIA CHACO - Ruta 11 km 1.006 - C.P. 3500
Tel. +54-3722-461500 - Fax +54-3722-461800
warbel@satlink.com.ar

Branches: CAMPANA - Avda. Mitre n° 936 - C.P. 2804
Tel. +54-3489-439556 - Tel. cell. +54-3489-15566436
carlosgarcia@warbel.com.ar

CORDOBA - Pedro Zanni 161 - C.P. 5000
Tel. +54-351-4808190 - Fax +54-351-4807100
Tel. cell. +54-351-156149654

OLAVARRIA - Rivadavia n° 1956 - C.P. 7400
Tel. +54-2284-444866 - Tel. cell. +54-3722-15669626
warbelolavarría@infovia.com.ar

ROSARIO - Tel. +54-341-4389600 / 4398250
Fax +54-341-4383063 - Tel. cell. +54-341-156181015
sergiogarcia@warbel.com.ar

Brasil WARBEL DO BRASIL Ind. e Com. Ltda.
R. Bartolomeu Lourenço de Gusmão, 599
CEP, 81610-060 CURITIBA - PARANÁ
Tel. +55-41-3768679/2765321 - Tel. cell. +55-41-99841838

Colombia REIMPEX LTDA.
Carrera 50E No. 10 Sur - 173 - A.A. 62-326
MEDELLIN - Tel. +57-4-2858855
Fax +57-4-3651312 - reimpepx@epm.net.co

Venezuela GUMIS VALENCIA C.A.
Urbanización Industrial Carabobo
Calle Michelena C/C Av. Norte 1, Edif. Gumis
VALENCIA - gumisval@telcel.net.ve
Tel. +58-41-325702, 321272 - Fax +58-41-321839

ASIA

Singapore CHIORINO FAR EAST Pte. Ltd.
30 Kaki Bukit Road 3 #02-07 Empire Technocentre
SINGAPORE 417819
Tel. +65/67426266 - Fax +65/67476266
chiosin@pacific.net.sg - www.chiorino.com.sg

In charge of:

Cambodia **Japan** **Philippines**
China **Malaysia** **South Korea**
Hong Kong **Myanmar** **Taiwan**
Indonesia **North Korea** **Thailand**

Saudi Arabia ARABIAN UNIVERSAL EST. South. Shopping Center
P.O. Box 3105 - 21471 JEDDAH
Tel. +966-2-6477159 - Fax +966-2-6477142
jeddah@arabianuniversal.com

Branch: RIYADH, P.O. Box 63587
Tel. +966-1-4383520 - Fax +966-1-4383471
riyadh@arabianuniversal.com

India BELTING ENTERPRISES Ltd.
A-21, Nand Bhuvan, Indl. Estate Mahakali
Caves Road, Andheri (East) - BOMBAY 400 093
Tel. +91-22-28373354 - Fax +91-22-28372456
info@beltent.com

Israel GALPARTS Ltd. 26 Ben Avigdor St. - 67218 TEL AVIV
Tel. +972-3-5621173 - Fax +972-3-5622041

Turkey AIR-FORM KONVEYÖR BANT SAN.TIC.LTD.STI.
Vezircifligi Mah Fatih Cad. - Körfez Sok. No. 5
41140 KULLAR KOCAELI air-form@superonline.com
Tel. +90-262-3495920/20-21 - Fax +90-262-3495922

AFRICA

South Africa PRECISION BELTING (PTY) LTD
P.O. Box 15015 - WESTMEAD 3608 - NATAL
Tel. +2731 7925500 - Fax +2731 7004221
sales@chiorino.co.za

Branches: CAPE TOWN - P.O. Box 240 - MAITLAND 7405
Tel. +2721 5101361 - Fax +2721 5101284

JOHANNESBURG - P.O. Box 131172
NORTHMEAD 1511 - chiorinogp@icon.co.za
Tel. +2711 3971268 - Fax +2711 3971290

Egypt MAGITEC
Sheraton Building B Block 1185 Mekarar
Build. 4 S, App. 2 Heliopolis - CAIRO
Tel. & Fax +20-2-2683407 magitec2000@mail.com

Kenya BELTPRO K Ltd - P.O. Box 10135 00400
NAIROBI Tel. +254-2-535902 - Fax +576-2137915

OCEANIA

Australia ROB HARVEY PTY LTD
BRISBANE - 7 Colebard St. East, Acacia Ridge QLD 4110
Tel. +61-7-3274 1900 - Fax +61-7-3274 1294
www.robharvey.com.au - sales@robharvey.com.au

Branches: ADELAIDE - Unit 2-3/520 Grand Junction Rd., Angle Park SA 5010
Tel. +61-8-8445 6722 - Fax +61-8-8445 6282
sales@robharvey.com.au

CAIRNS - 42 Joan Street - Bungalow QLD 4870
Tel. +61-7-4031 8300 - Fax +61-7-4031 8311
sales@robharvey.com.au

MELBOURNE - 31/32 Brett Dr., Carrum Downs VIC 3201
Tel. +61-3-9775 1600 - Fax +61-3-9775 0322
sales@robharvey.com.au

PORT MACQUARIE - 7 Lakeside Way
Lake Cathie NSW 2445 - Tel. & Fax +61-2-6584 8912

SYDNEY - 25 Harley Crescent, Condell Park NSW 2200
Tel. +61-2-9793 1811 - Fax +61-2-9793 1822
sales@robharvey.com.au

New Zealand R.R. FISHER & CO. LTD
85 Byron st., Sydenham, CHRISTCHURCH,
P.O. Box 10-055 - Tel. +64-3-3770025
Fax +64-3-3770086 - RRFisher@xtra.co.nz

Branch: AUCKLAND, 13 Spring St., Papatoetoe - P.O.B. 23-293
Tel. +64-9-2784059 - Fax +64-9-2798286



CHIORINO-K (Minsk, Byelorussia)



CHIORINO Sp.z. o.o. (Bydgoszcz, Poland)



KONUS KONEX (Slovenske Konjice, Slovenia)



CHIORINO INC. (Newark, U.S.A.)



CHIORINO FAR EAST (Singapore)



PRECISION BELTING (Westmead, South Africa)



ROB HARVEY (Brisbane, Australia)

ITALIAN BRANCHES

CHIORINO S.p.A. - FILIALE DI MILANO
Via G. di Vittorio 51
20068 - PESCHIERA BORROMEO (MI)
Tel. +39-02.55305466
Fax +39-02.55308313



CHIORINO PARMA s.r.l.
Via S. Leonardo 95
43100 PARMA
Tel. +39-0521.271275
Fax +39-0521.772826
chiorinoparma@chiorino.com



CHIORINO VENETO s.r.l.
Via 1° Maggio - Z.I.
31014 COLLE UMBERTO (TV)
Tel. +39-0438.430460
Fax +39-0438.430410
chiorinoveneto@chiorino.com



HEADQUARTERS AND PRODUCTION PLANTS



CHIORINO S.p.A.
Via S. Agata 9
13900 BIELLA - ITALIA

“Biella Sud” plant:
Via Mongilardi 20

Tel. +39-015.8489.1
Fax +39-015.8496161

www.chiorino.com

