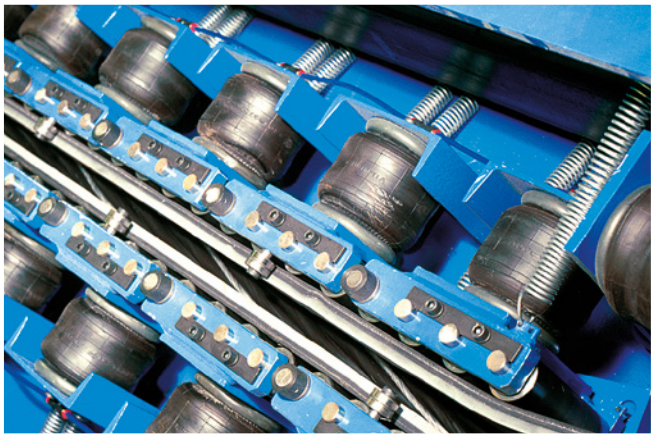
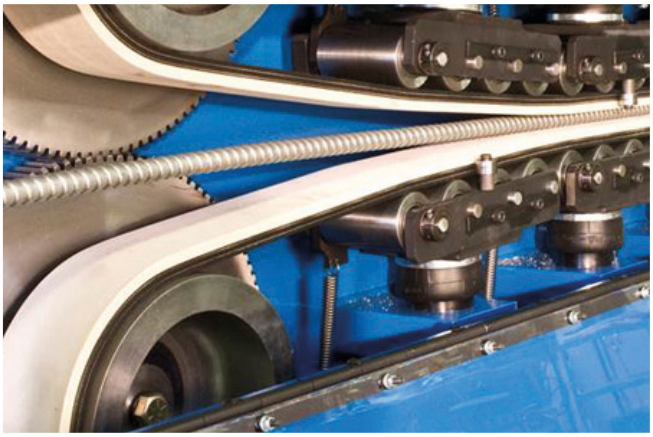
BeltTS
Belt Technical Specialties

Catroll - Multicatroll Polycatroll



**SLEEVE BELT (WITHOUT JOINT)
FOR HAUL-OFF UNITS**



This family includes:

CATROLL: truly endless tracks with smooth inside surface, for haul off units fitting flat pulleys;

POLYCATROLL: truly endless tracks with ribbed inside surface, for haul off units fitting poly-V pulleys type L, J and M.

MULTICATROLL: similar to POLYCATROLL but with different section ribs;

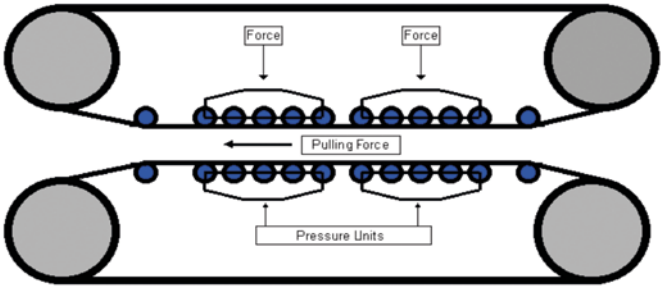
They mainly belong to a very important part of extrusion lines for the manufacture of:

High technology and standard cables as well as conductors in general. Typically they include telecommunication cables, submarine cables, tension cables (HT, MT and LT) and electrical conductors;

Extruded profiles (in plastic, rubber, metal);

Piping: flexible irrigation hoses, for gardening, building and nautical environments, medical devices and other special applications.

Each haul-off unit is equipped with a pair of endless belts that are operated by means of pulleys – two pairs at least – axially overlapped and parallel. (Pic.1)

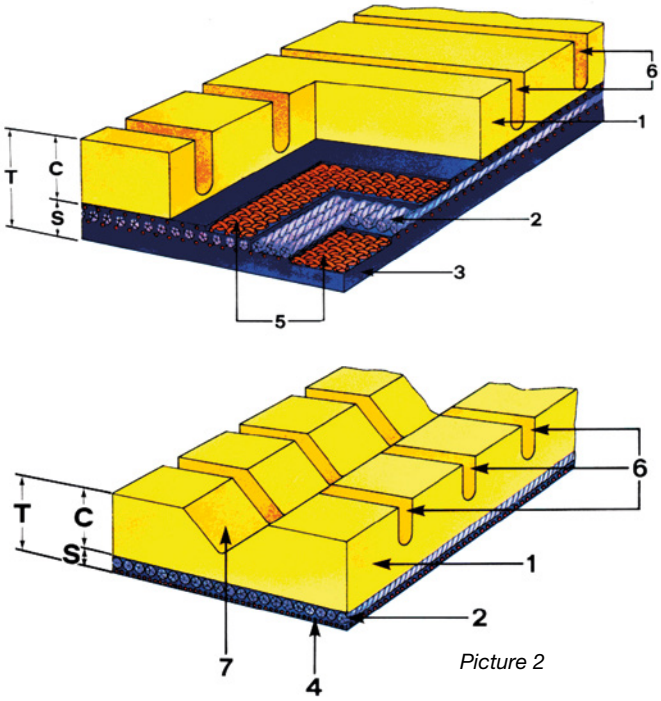


Picture 1

The inner surface of the belt is loaded with pressure, by means of pneumatically operated roller systems, for ensuring grip over the cable and for attaining the highest drawing rate.
Consequently CATROLL belts operate the highest grip on the product at the lowest axial load on the sliding pads. This prevents hazardous deformations of section, in case of fragile cables, wires or pipes.

The tensile core of a CATROLL belt is made of a layer of synthetic fiber cord at very high rates of tensile modulus and any cord is spirally woven along its own rolling axis.
The adopted manufacturing process originates an endless and seamless belt. The seamless design of belts prevents weak points along the whole length and allows the complete exploitation of the resistance class of tensile core. The design of the belt prevents the downgrading due to the seam.

Rubber covers, on the inner and on the outer surface of belts respectively, are closely assembled with the tensile core and vulcanized, obtaining a package with a better resistance compared to belts where components are simply glued together. (Pic. 2)



Picture 2

1. Top rubber cover
2. Tensile core
3. Bottom rubber cover
4. Sliding fabric (may replace 3.)
5. Retaining fabric
6. Transverse notches (SP220)
7. Longitudinal grooves (SP222)

T. Overall thickness
C. Top cover thickness
S. Thickness of other components

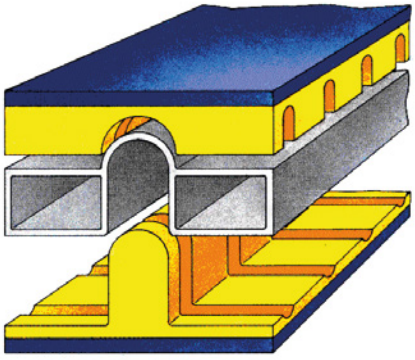
Rubber compounds provide:

1. **a higher friction coefficient**
2. **a very good tear and abrasion resistance**
3. **a very good flexural ability**
4. **a very good resistance to permanent deformation**

CATROLL / POLYCATROLL / MULTICATROLL are designed to meet customers' needs and to provide a customized product for any application.
This is the main reason for which our belts are selected and adopted more and more by the main OEMs for their haul-off units as well as a replacement part for the most qualified Cable/Pipe Producers of the world.

Typically, Haul Off Units are used with the same technology for different applications: f.i. production of pipes and profiles is generally very similar to cable production.

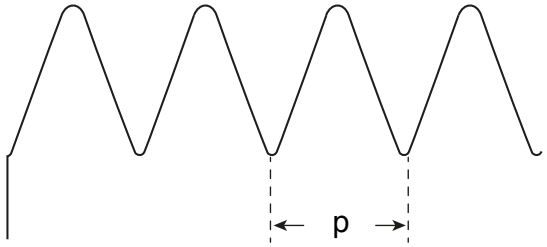
On the other hand, profiles may need a different belt surface, therefore it is always necessary to detect the dimension and – above all – the shape of the extruded product. (Picture 3).



Picture 3: SP222 Profile

POLYCATROLL and MULTICATROLL (multi-rib belts), are characterized by the Pitch shape and rate.

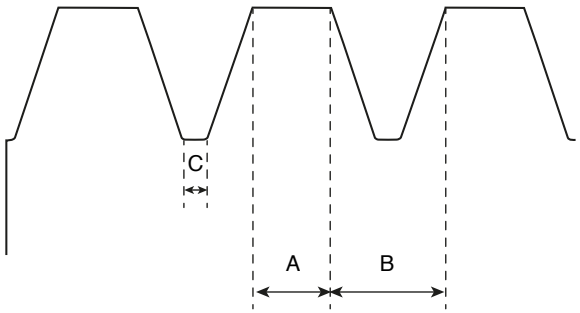
For POLYCATROLL:



Pulley Category	Pitch (p) mm	Minimum Belt Height mm
J	2.34	12.00
L	4.70	14.00
M	9.40	21.50

Pitch and Height rates

For MULTICATROLL:



Pulley Category	A mm	B mm	C mm
5V/x*	7.00	15.80	1.17
5VN/x*	5.08	15.24	10.16

* x = number of ribs

Other dimensions are available upon request.

TOP RUBBER COVER					
Type	**Color**	**Hardness °ShA**	**Abrasion resistance***	**Grip**	**Features**
NA	BLACK	65-75	● ● ● ●	● ●	Good balance between properties
M	BLACK	65	● ● ● ●	● ● ●	As NA compound with better grip
PA	GREY	40-50-60	● ● ●	● ● ● ●	Improved tear resistance - no staining
HB	WHITE	65	● ● ●	● ●	HYPALON rubber: Good oil, chemical and heat resistance - no staining
NC	BLACK	65	● ●	● ●	NITRILE rubber: Very good oil and good heat resistance
NCB	WHITE	65	● ●	● ●	NITRILE rubber: Very good oil and good heat resistance - no staining

* data related to Compounds with comparable Hardness

Upon request: Excellent abrasion resistance, Nitrile low hardness and FDA compounds

TENSILE CORE						
Type	**Material**	**Tensile strength N/mm**	**Elongation at break**	**Safety Factor**	**Max Elongation at 400 N/Wire**	**Max Elongation at 1000 N/Wire**
SME 400	POLYESTER	400	11 %	10	4.13 %	n.a.
SME 800	POLYESTER	800	12 %	8	1.08 %	n.a.
SMC1250	PVA	1050	6 %	6	0.80 %	1.70 %
SMK1250	KEVLAR	1600	5 %	4	0.60 %	1.20 %

MINIMUM PULLEY DIAMETER					
Core Code	**Carcass + bottom cover ***	**Top Cover Thickness**	**Minimum pulley diameter ** (mm)**		
	mm	**mm**	**40 °ShA**	**50 °ShA**	**60-70 °ShA**
SME 400	8	7	100	120	150
		12	120	140	160
		17	140	160	200
SME 800	9	6	160	180	240
		11	190	220	280
		16	220	250	320
SMC 1250	10	5	200	220	240
		10	230	260	280
		15	280	320	350
SMK 1250	9	6	240	280	340
		11	260	300	360
		16	280	320	380

* Minimum: 3 mm ** Only typical data for selection purposes. Not to be used for part or tool design.

TOLERANCES			
INNER LENGTH			%
Up to 5000 mm			± 0.5
Over 5000 mm			± 0.75
WIDTH			**mm**
Up to 200 mm			3 max
Over 200 mm			4 max
THICKNESS			**mm**
Not Grinded	With Respect to Nominal Value		-0/+2
	With Respect to Uniformity	Top Cover > 60 °ShA	± 0.8
		Top Cover < 60 °ShA	± 1.2
Grinded	With Respect to Nominal Value		± 0.5
	With Respect to Uniformity		± 0.1

Our Technical Department is at your complete disposal to study the right

CATROLL / POLYCATROLL / MULTICATROLL

for each specific Unit/Application.

For this purpose, a Questionnaire is already available in our website: www.beltts.com

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