



**UNIVERTICAL**<sup>®</sup>  
SIDEWALL CONVEYING SYSTEM

• **CATALOGUE**

# PRODUCTION DRIVEN BY PASSION

From more than 50 years we are a leading company in the production and distribution of rubber conveyor belts, industrial rubber and pvc hoses, rubber sheets and mats.

We have always pursued the aim of efficiently addressing our customers' requests and the continuous search for innovative products as the underlying factor for constant growth to our corporate values.

Driven by passion, knowledge and intuition, forming close ties with our customers and production partners, has enabled us to take a new challenge, introducing on the market a **high quality product made in the heart of Italy.**

All our conveyor belts for vertical or highly tilted transport follow a production process that focuses on complying with the quality standards required by the market: sidewalls and cleats are designed and produced at the warehouse of our Bologna headquarters and assembled to the belt by hot vulcanization.

Our technical staff are highly skilled and exclusively assigned to the project and are ready to support our clients in choosing the most suitable solution for their needs, assuring a high quality, customised product.



QUALITY

MADE IN ITALY





**HOT  
VULCANIZED**

## **THE BELT UNIVERTICAL**

SATI GROUP has been supported by specialists to develop the UNIVERTICAL belt.

Produced at the Sati Group headquarters of Castel Maggiore, the UNIVERTICAL belt stands out for its hot vulcanization process.

In case of specific request by the customer, the cold application may also be supplied.

# The conveyor system sidewalls and cleats

The conveyor system called Univertical is tested and effective. It is used to increase the capacity of the conveyor belt even up to four times more than a standard belt, overcome height differences inclination up to 90°, optimise vertical space, bend even by 180°, minimise material dispersal and decrease the number of conveyors used. Thanks to gravity, in its ideal work position at 90°, the energy required to move the belt is minimal, thus allowing it to be managed easily. As a matter of fact, a 90° set-up optimises the use of the conveyor system and decreases belt and mechanical components wear.

If proper maintenance is performed, this conveyor system is very effective and has very low costs.

## APPLICATIONS



POWER PLANTS



FOUNDRIES



MINES



SHIP LOADING  
AND UNLOADING



STEEL WORKS



RECYCLING  
PLANTS

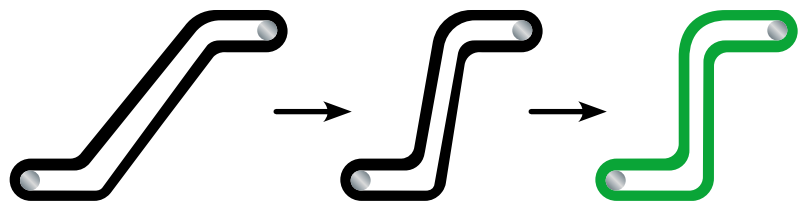


MINE  
EXTRACTION  
SHAFTS

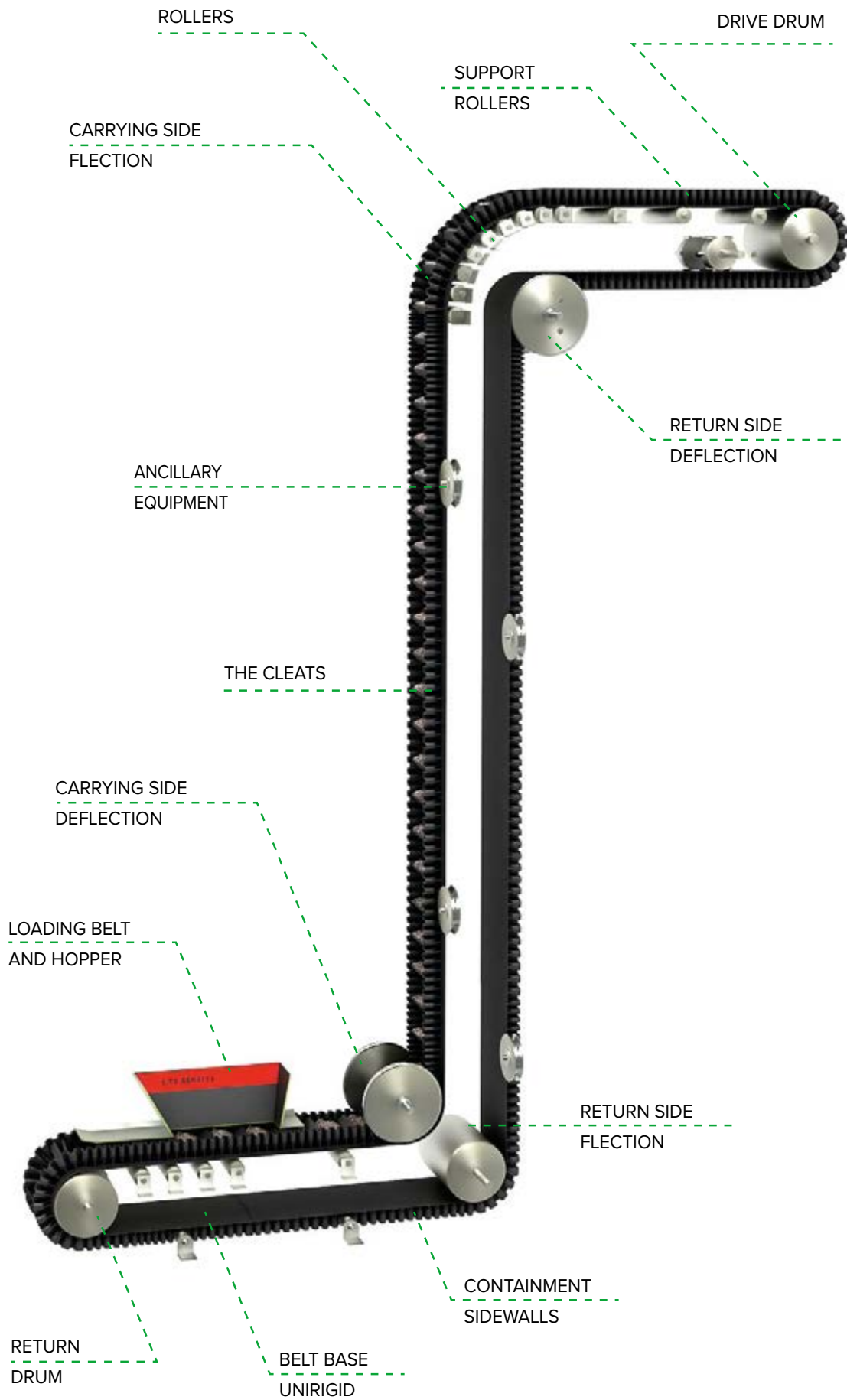


STORAGE  
PLANTS

A 90° set-up optimises the use of the conveyor system and decreases wear of the belt and mechanical components.



**IDEAL!**



## THE UNIRIGID BASE BELT



UNIRIGID is a special belt with a specifically designed carcass, which makes it stiff crosswise and flexible lengthwise.

This feature makes it ideal for application of sidewalls and cleats, assures stability in changes of tilt, eliminates possible damage to the belt in the return stage and does not waste motor force, thus assuring longer service life for your conveyor.

The stiffness of the belt is given by the combination of standard plies, special plies of various materials and correct layout of rubber inter-layers. The choice of base belt must be performed according to the needs of your conveyor:

**EM** The belt carcass consists of crosswise stiff plies only. It is ideal for low-medium intensity work.

**XE** The belt carcass consists of a combination of EP plies and 2 crosswise stiff nylon plies placed above and below the original EP core (the required rigidity, in fact, is only obtained with two plies since using one ply only is not enough). This gives high stiffness and good work load to the belt. Suitable for medium heavy-duty work.

**XESC** The belt carcass consists of a combination of EP plies and 2 crosswise stiff metal plies placed above and below the original EP core. This gives very high cross stiffness and good work load to the belt. Suitable for heavy-duty work with significant height.

**XEST** The belt carcass consists of a combination of metal frame and 2 crosswise stiff metal plies placed above and below the original metal core. This gives very high cross stiffness and high work load to the belt, and very low elongation. Suitable for heavy-duty work with very significant height.



NORMAL BELT







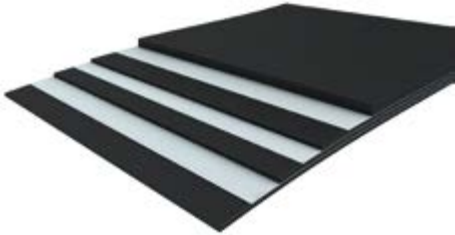
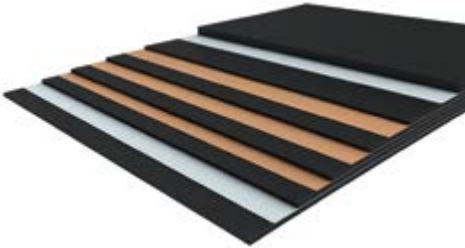
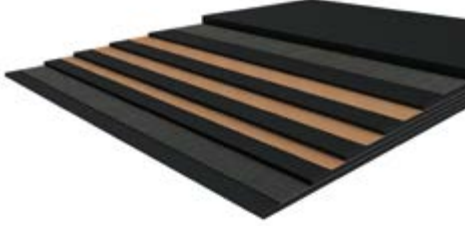

UNIRIGID BELT

After choosing the type of construction of the base belt, its type of compound of the covers must be selected. This decision must be taken based on the features of the material to be conveyed:

<b>Y</b>	<b>HR</b>	<b>OIL</b>	<b>X</b>	<b>K</b>	<b>White</b>
ABRASION RESISTANT	HIGH TEMPERATURE RESISTANT	RESISTANT TO OIL	RESISTANT TO ABRASION AND CUTTING	SELF- EXTINGUISHING	WHITE, SUITABLE FOR CONTACT WITH FOODSTUFF

\*other types also available on request

## TECHNICAL SPECIFICATIONS UNIRIGID:

CODE	CROSS SECTION:	BELT TYPE	COVERS	THEORETICAL WEIGHT kg	Ø MIN.DRUMS mm
					
<b>EM</b>		EM 400/3	4+2	13, 20	315
		EM 500/3	4+2	13,8	400
<b>XE</b>		XE 400/3+2	4+2	13,2	315
		XE 500/4+2	4+2	13,8	400
		XE 630/4+2	4+2	14,5	500
		XE 800/5+2	4+2	18	630
		XE 1000/5+2	4+2	19	800
<b>XESC</b>		XESC 500/3+2	4+2	15,5	400
		XESC 630/4+2	4+2	16,2	500
		XESC 800/4+2	4+2	17,8	630
		XESC 1000/4+2	4+2	19	800
<b>XEST</b>		XEST 1600+2	4+2	On request	1250
		XEST 2000+2	4+2	On request	1250
		XEST 2500+2	4+2	On request	1400
		XEST 3150+2	4+2	On request	1400

## CONTAINMENT SIDEWALLS



The choice of the sidewall depends on cleats choice.

The sidewall must always be higher than the cleat and, based on this parameter, the sidewall may have an inner EP textile reinforcement or not. Our sidewalls are moulded using a high quality compound, resistant to ozone and weathering, with excellent elastic modulus, high breaking strength and high resistance to abrasion.

These technical specifications combined with hot application to the base belt give great vertical stability to the whole as well as excellent lengthwise flexibility, also thanks to the sinusoidal geometry specifically designed in the higher part. This feature allows the sidewall to work excellently on the return part i.e. where the sidewall is strained by continuous friction on the return rollers, thus preventing breakdowns and bending. The sinusoidal geometry is such as to prevent the rollers from entering it.

The solid base makes the sidewall anchoring even safer and contributes to its longer service life. Furthermore, the base design allows the sidewall to be pressed down on both sides during application.



SIDEWALL WITHOUT PLYES

### The sidewalls can also be sold loose.

Available types:

- Standard anti-abrasive
- Moderate anti-oil
- HR1 heat resistant
- HR2 heat resistant
- Self-extinguishing



SIDEWALL WITH PLYES

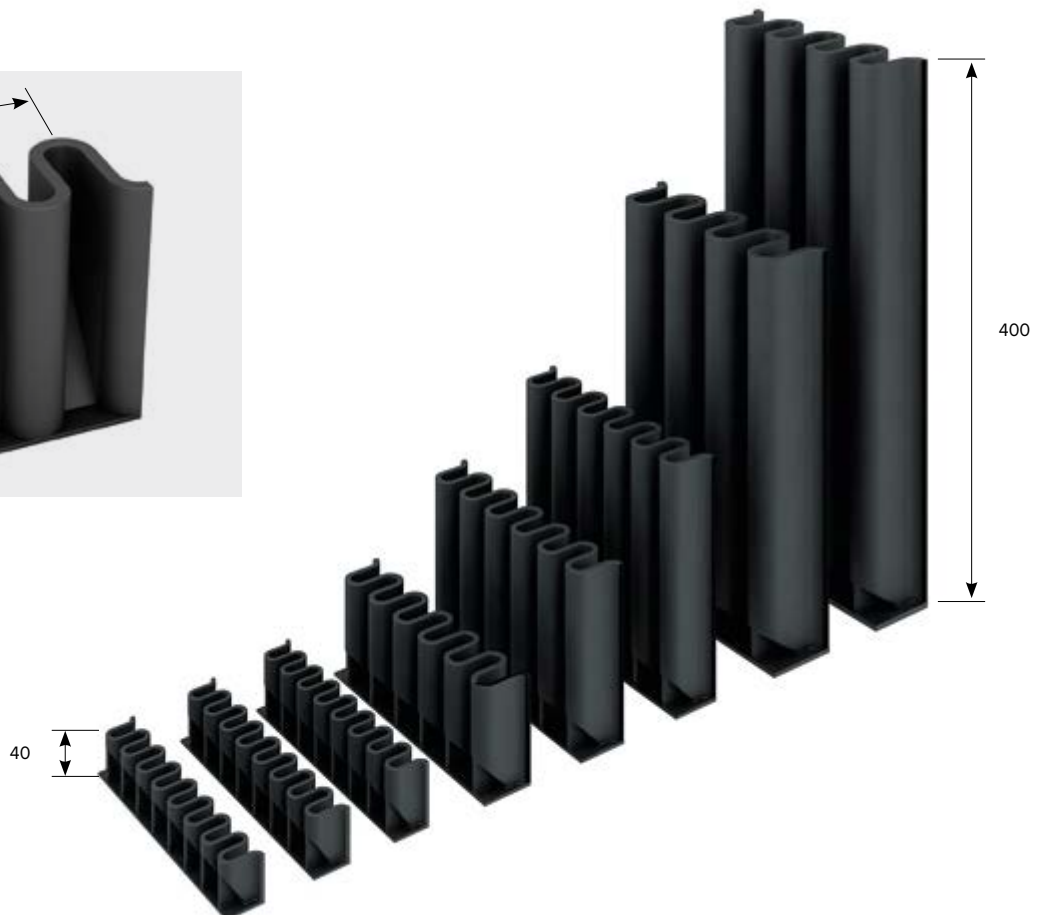
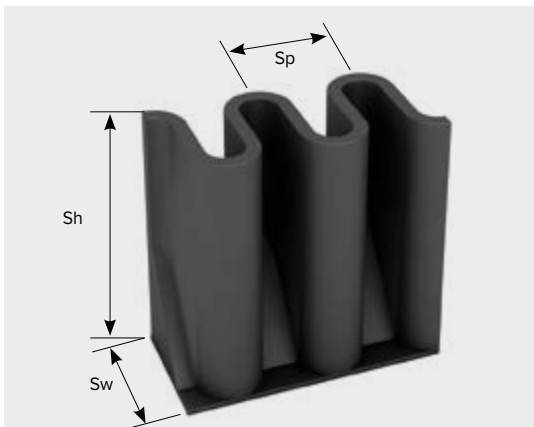




## TECHNICAL SPECIFICATIONS AND TYPES:

TYPE	HEIGHT mm	BASE mm	PITCH mm	WEIGHT kg	Ø MIN.DRUMS mm
	Sh	Sw	Sp	W	Ø
<b>F40</b>	40	50	51,5	0,60	120
<b>F50</b>	50	50	51,5	1,10	150
<b>F60</b>	60	50	51,5	1,30	180
<b>F80</b>	80	50	51,5	1,80	240
<b>F120</b>	120	50	51,5	2,25	360
<b>FT120</b>	120	75	51,5	2,25	360
<b>FT160</b>	160	75	60,0	4,80	500
<b>FT200</b>	200	75	60,0	6,50	600
<b>FT240</b>	240	75	60,0	7,35	720
<b>FT300</b>	300	75	60,0	9,30	900
<b>FT350</b>	350	75	60,0	10,85	1000
<b>FT400</b>	400	75	60,0	12,40	1200

### SIDEWALL SIZES



## CARRYING CLEATS



Sati Group cleats are produced using a high quality blend, resistant to ozone and weathering, have high breaking strength and high resistance to abrasion. These technical features combined with hot application of the same to the base belt assure great vertical stability and capacity.

The choice of carrying cleats and their pitch must be made based on lump size, dimensions and features of the conveyed material.

Respect three basic rules:

- 1** The minimum pitch must be double the largest lump size;
- 2** The cleat width must be at least two and a half times the largest lump size;
- 3** You must know the conveyor's tilt angle and maximum dimensions of the lump size.





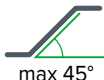





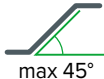





In case of very small sized material, capacity may be optimised by making the cleat pitch very narrow.

After finding out about that, the most suitable cleats may be chosen.

### The cleats can also be sold loose.

Available types:

- Rubber
- Rubber with textile reinforcement
- Base in rubber and rubber bulkhead secured with screws
- Base in rubber and polyurethane bulkhead secured with screws

CLEAT SECTION	TYPE	HEIGHT mm	BASE mm	REINFORCEMENT PLY	WEIGHT kg	ANGLE
						
	<b>T35</b>	35	50		0,90	 max 45°
	<b>T50</b>	50	70	•	1,20	
	<b>T75</b>	75	70		1,50	
	<b>T90</b>	90	100		2,00	
	<b>T110</b>	110	100		2,50	
	<b>TK75</b>	75	100		1,70	 max 75°
	<b>TK90</b>	90	100		2,10	
	<b>TK110</b>	110	100		2,60	
	<b>TKS75</b>	75	100		1,55	 max 90°
	<b>TKS90</b>	90	100		2,20	
	<b>TKS110</b>	110	100	•	2,75	
	<b>TKS140</b>	140	150	•	6,50	
	<b>TKS180</b>	180	150	•	8,30	
	<b>TKS220</b>	220	150	•	9,75	
	<b>TG280</b>	280	230		17,50	 max 45°
	<b>TG330</b>	330	230		18,80	
	<b>TG380</b>	380	230		20,50	
	<b>TP280</b>	280	230	•	19,50	 max 45°
	<b>TP330</b>	330	230	•	21,00	
	<b>TP380</b>	380	230	•	23,50	
	<b>TKSI280</b>	280	230		17,50	 max 90°
	<b>TKSI330</b>	330	230	•	19,00	
	<b>TKSI380</b>	380	230		20,20	
	<b>TKSP280</b>	280	230	•	22,50	 max 90°
	<b>TKSP330</b>	330	230	•	24,00	
	<b>TKSP380</b>	380	230	•	27,20	

TG = Straight cleat / TP = Straight polyurethane cleat / TKSI = Polyurethane tilted cleat / TKSP = Tilted cleat

## ACCESSORIES



### SCREWS AND PLATES

If higher than 110mm or upon the customer's express request, the cleat may be fixed to the sidewall by a set of two nylon plates and four zinc-coated screws.



PLATES  
DIMENSIONS

20x10x70mm

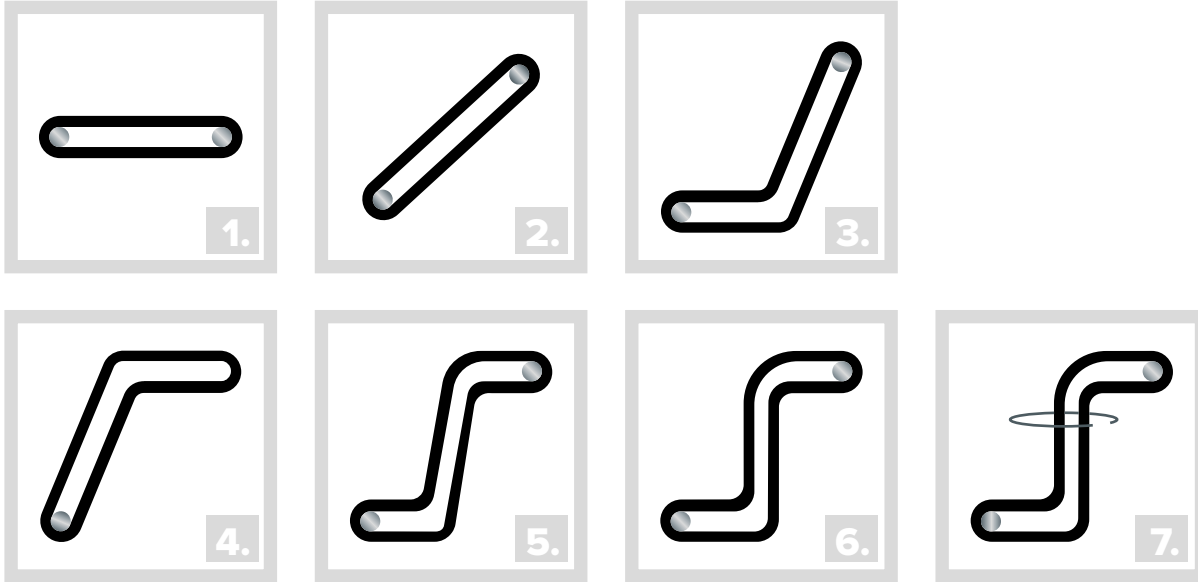


### LATERAL PARTITIONS CONTAINING MATERIAL

Side partitions may be fitted in case of conveying small-sized and/or dusty material. These prevent the material from getting into the gaps between the sidewall and the cleats.

# Questionnaire for sidewalls and cleats conveyor system

## INDICATE CONVEYOR SET-UP



### CONVEYOR DETAILS / COMPLETE AS MANY FIELDS AS POSSIBLE:

CONVEYOR DETAILS / COMPLETE AS MANY FIELDS AS POSSIBLE:				
		Drawing No.		
Supply length	m		Supply angle	°
Height	m		Tilt angle	°
Tilt length	m		Unloading angle	°
Unloading length	m		Comments	

Notes:

### MATERIAL DATA

Description material				Lump size:	mm
Capacity:	t/h	Volume:	m <sup>3</sup> /h	Temperature:	°
Density:	t/m <sup>3</sup>	Rest angle*:	°	Presence of oil	Yes / No

Comments:

\* The angle formed by the material placed on a flat surface.



# Questionnaire for sidewalls and cleats conveyor system

Date: \_\_\_\_\_

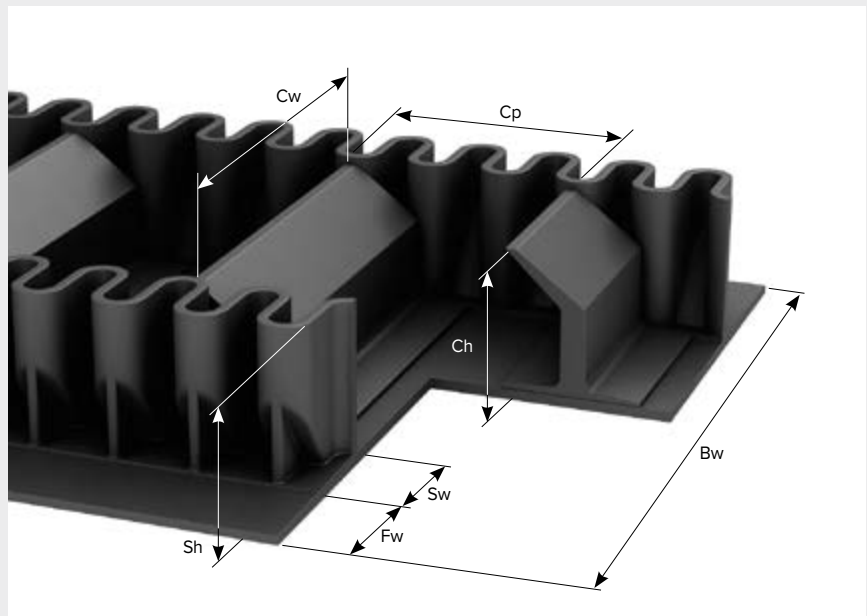
Company: \_\_\_\_\_

Contact: \_\_\_\_\_

Tel. \_\_\_\_\_ Fax \_\_\_\_\_

Email: \_\_\_\_\_

BELT DIMENSIONS	
Belt length:	mm
Bw:	mm
Fw:	mm
Sw:	mm
Cw:	mm
*Cleat type:	mm
Cp	mm
Sh:	mm
Ch:	mm
*Base belt	
*Quality:	
Open / Endless	



\*Please read notes shown below

## \*CLEAT TYPE:



T



TK



TKS



TG



TP



TKSI



TKSP

\*Base belt. The belt must be selected based on conveying needs, we recommend using UNIRIGID belts. In some cases it is permissible to use standard belts.

COVER QUALITY BASED ON USE:	TYPE
Abrasion resistant	<b>Y</b>
Oil resistant	<b>OIL</b>
Heat resistant	<b>HR</b>
Self extinguishing	<b>K</b>

Note: In case of doubts or questions do not hesitate to contact our technical personnel.





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