

Petrorays PRODUCTS Co

126/128, Nagdevi street, 2nd Floor, Mumbai - 400 003. India

Phone: (022) 6634 9695 / 2340 3706 / 2346 3492 Fax: +91 (022) 2340 3706

Email: info@chiragtechno.com www.chiragtechno.com

PTFE COATED CONVEYOR BELTS

PTFE (Teflon) is a material of remarkable properties: Nonstick, friction free self lubricating, non-wettable, nonflammable, non brittle, non-toxic, resistant to atmospheric conditions, resistant to fungus growth are some of its major properties. Its electrical properties are equally outstanding. All properties are maintained over a wide temperature range -200°C to +360°C



FIBRE GLASS too is a material of remarkable properties. Fabrics made from continuous filament yarn exhibit superior properties in terms of high tensile strength, low elongation, high temperature resistance etc.

A combination of both produces a unique blend PTFE/GLASS CLOTH, retaining all the properties of both the constituents. It is highly suitable for manufacturing conveyor belts for high temperature resistance etc.

MAIN PROPERTIES

PHYSICAL / MECHANICAL PROPERTIES	ELECTRICAL
<ul style="list-style-type: none"> Outstanding non-stick properties. High tensile & tear strength. Very low elongation at break, the most important property required for any conveyor belt. Light - weight - requires very low power to drive 	<ul style="list-style-type: none"> Unsurpassed dielectric properties, make the belts the only suitable choice for use in micro-wave Ovens. Unique electrical insulation properties

MAIN PROPERTIES

CHEMICAL PROPERTIES	THERMAL PROPERTIES
<ul style="list-style-type: none"> Non-toxic - Safe for hygiene Inert to almost all chemicals, paints & solvents Non-wettable, lower moisture absorption than 0.01% at 100°C Immune to fumes & fungus 	<ul style="list-style-type: none"> Conserves heat energy during passage through oven or dryer. Does not loose energy through radiation Retains all properties throughout wide operating temperature range Operating temperature tem. -200°C to +360°C.

VARIETIES AVAILABLE & TECHNICAL SPECIFICATIONS

Thickness		Weight Gms/ mtr ²	Breaking strength (Kg/Cm)	Edge tear strength (Kgs)	Di-Electric Strength (Volts)
Mil	mm				
3	0.075	135	7	4.5	2500
5	0.125	260	19	9.0	3800
6	0.15	305	19	5.4	6500
10	0.25	500	35	16.0	7000
14	0.35	460	70	30.0	7500
22	0.55	1050	80	40.0	-

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SUPPORT, DRIVING, TENSIONS & GUIDING

The excellent dimensional stability of the conveyor belts makes it possible to use simple systems for support, tensioning, driving and guiding.

Nevertheless, if belts are to be trouble-free throughout their full working life, it is essential that the arrangements for tensioning driving and guiding are specifically designed for the particular application.

SUPPORTS

Steel sliding plate, steel chevrons or rollers are all suitable forms of support for belts.



DRIVING

A single drive roller with a flat face and suitable high friction covering will meet the requirements of most applications.



TENSIONING

Tensioning can be achieved by quite simple means as belts undergo very little expansion or contraction during their working life.



GUIDING

A guiding system is essential for most PTFE belts, Guiding may be by external guide systems or by incorporating a systems in the belt construction, such as metal pins or grommets. External, electrical, or mechanical systems are preferred, since they are suitable for all widths of belts and prolong belt life by preventing edge damage due to incorrect tracking

OPTIMIZING BELT LIFE

Belt life varies by each application, but a few rules will help you maximize life:

- Run at low tensions.
- Use only flat rollers
- Ensure each roller is aligned properly.
- Utilise an automatic guiding systems

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TYPES OF JOINTS / SPLICES

LENO SPLICE (POROUS)

In this splice, two pieces of leno fabric are used for two ends folded together to form loops and a pin is placed to complete the splice. Leno fabric pieces are then stitched to the belts ends. This maintained good porosity in the spliced areas and can be put together without dismantling the machine parts



SMART LOOP (BULL NOSE) SPLICE

In this splice, two pieces of Leno woven Kevlar fabric are used for two ends folded together to form loop and a pin is passed to complete the splice. Kevlar fabric is then stitched to both the ends of the belt. This maintains good porosity in spliced area, adds flexibility and strength to the joint and can be put together without dismantling the machine parts.



PEEK SPIRAL SPLICE

In this splice, peek spiral is held in two pieces of Kevlar fabric and peek pin is placed to complete the joint. Two pieces of Kevlar fabric are then stitched to both ends of the belt, it has got all the advantages like smart loop.



TWO PLY LAMINATED BELT

Two pieces of fabric casted together, TAN on one side & BLACK on other side, or both side TAN color, with splices staggered to attain optimum life. This type of belts are mainly used in fusing machine. Thickness of the belt is maintained throughout the conveying operation



TRACKING DEVICES

The belts can be supplied with Guiding Pins or Dot fasteners on one or both edges, Standard is 12.7mm from edge, 38mm apart. These studs are designed to run through a groove machined in the roller. For belts more than 600mm width the standard method is to incorporate a web guiding mechanism to the machine system, which runs either electrically or mechanically. Tracking devices prolong belt life by preventing edge damage caused by incorrect tracking.



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TYPES OF JOINTS / SPLICES

HEAT SEALED OVER LAP

This is standard splice for most of the applications. Overlap splices are normally 90°. However 67.5° or 45° splices are slightly stronger and more flexible especially when running on small diameter rollers. The overlap joint width also depends on the roller diameter.



HEAT SEALED BUTT

In this splice, ends are butted and joined by sealing a strip of same fabric under the butted ends. The splice is normally at 90° but also available at any other angle. The top surface is as smooth as desired with just a hairline joint.



FINGER SPLICE

This is a very intricate type of joint not mastered by many

In this splice, ends are cut into small inter-locking fingers. The fingers of one end match perfectly in the cutout of the other and vice-versa. Then it is joined by sealing a strip of fabric on each surface



FABRIC PIN SPLICE

This soft seal splice completely eliminates use of any metal in splicing. Loops are formed by fabric at one end. Similar loops at the other end. It is then easy to match the loops in to the cutout. The joint is finally held by fibre pin. This type of belt is employed in microwave ovens and equipments where metal is not recommended and endless belt is not possible for installations.



ALIGATOR / METAL SPLICE

Mechanical splices are used where an endless belt is not possible for installation. This splice is made with metal alligator lacing through which a pin is placed to complete the splice. This provides a belt which can be put together without dismantling the machine parts. Cover flaps can be used to provide continuous release surface on one or both ends of belt



POROUS OVERLAP SPLICE

Overlap type Splice for porous belting material with 4mm or more openings. Weave is carefully aligned and laced to attain good flexibility and strength and to maintain good porosity in spliced area as well



EDGE - REINFORCEMENT

The belts are recommended to be supplied with 25m edge reinforcement of similar or any other material. Sealed or sewn edge safeguards & protects both the edges of the belts during operation. Thus the edge of the belt is prevented from fraying & improving longevity.



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TYPICAL APPLICATIONS

PROCESS	TYPICAL APPLICATIONS
Conveying	Packaging, Screen Printing
Casting	Polymers processing, Manufacturing floor coverings, carpet tiles & Rubber extrusions
Releasing	Food processing, Screen printing, Rubber Extrusion processing, Composites manufacturing
Laminating	Textiles fuse pressing, wood processing, composites manufacturing
Drying	Screen printing, Packaging, Food processing