

Nashik Insulations

Pvt. Ltd.

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PRODUCT INFORMATION



ABOUT US: Nashik Insulations Pvt. Ltd. was as incorporated in India in 10 July 1998. We have well-established manufacturing facilities at Nashik city, about 190 km. from Mumbai in India. The Company is ISO 9001:2015 certified. We are supported by a dedicated team for quality assurance and customer satisfaction. Our endeavor is for quality product, value for money & satisfied customer.



We manufacture:

RESIN GLASS BANDING TAPE

in widths from 5 mm to 100 mm for application in banding of armatures & transformers core.

WOVEN TAPES: GLASS FIBRE TAPES, POLYESTER FIBRE TAPES & GLASS + POLYESTER FIBRE TAPES

in widths from 10 mm to 160 mm or electrical insulations in coils of rotating machines.

Further we present our standard product range in this brochure. We are flexible to customer's requirement. In case you do not find a product to your requirement here, please get in touch, we will be happy to work towards a suitable solution for you.



Nashik Insulations Banding Tape is a high strength non-woven glass tape used for banding of armatures and transformer core. It consists of high strength glass yarns laid parallel, impregnated with special high temperature thermosetting polyester resin. During cure, the resin flows and fills the voids and air spaces to produce a homogeneous laminate with a smooth resin surface.

General Features of Banding Tape

Banding Tape are available in Thermal Class F-155°C, H-200°C & H⁺-220°C Composite material Banding Tape is supplied in a semi cured soft balanced flat ribbon of glass yarn & high temperature polyester resin. Thus ensuring that each yarn bears a distributed share of load. Banding Tape forms a high strength loop, holds the coil in place against centrifugal forces and has a high safety factor, once suitably applied under requisite winding tension & cured to recommended cycle. Supports weight reduction as compared to steel banding wire.

RECOMMENDED APPLICATION :

As a winding restraint on:

- **Traction Armatures, DC & Slip-ring Rotors**
Wind Generators, Automotive Armatures & Other Rotating Machines,
- **Transformer Core Banding**
- **Applications where high tensile strength and insulating properties of the product can be made use of.**

Rotor Banding : Recommended Banding Tapes class F-155°C, H-200°C, H⁺-220°C

- **High Thermal Resistance of upto 200°C.** Short period of heating upto 260°C may be tolerated, whereas solder may melt on steel wires.
- **Very high Arc Resistance** thereby minimizing the possibility of “flash over” which has often been a problem with steel bands.
- **Resistant to humidity and corrosion.**
- **Smooth cured surface** on application of banding tape reduces dirt adhesion, which might otherwise lead to tracking failure.
- **Non-conducting material**, hence eliminates insulation as required under steel banding.
- **Prevents lashing** banding tape bands gone far in eliminating the extreme damage caused by lashing wires & lifting armature coils experienced when steel bands break.

Transformer Core Banding : Recommended Banding Tape class F-155°C

- **Enhances safety factor** - **Resistant to transformer oil**
- **Reduces noise level** - **Humidity resistant**
- **Improves harmonics** - **Good tracking resistance**

APPLICATION CARE :

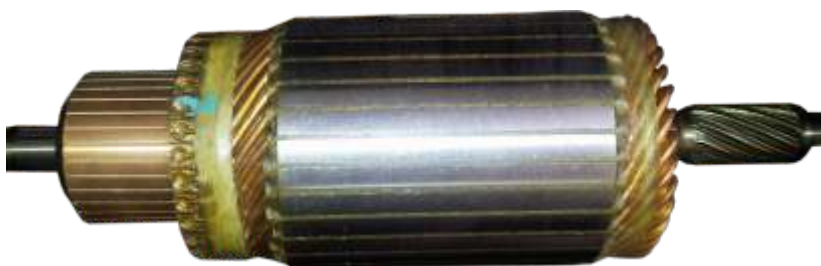
Due application care is recommended for an optimum performance. It is advised that the banding procedure be standardized on the basis of job & monitored for compliance of process parameters to obtain a desired performance. Generally for the banding tape, in addition to product quality and storage condition, method of use play equally important role on product performance.

STORAGE :

Banding Tape should be stored in low temperature atmosphere. See shelf-life guidelines on next page. The tape should be brought back to the ambient condition at the time of use. Except at the time of use it is best to put Banding Tape in plastic cover & make sure to tie a knot on the edge for easier reopening of the tape. Seal it to keep clean and to avoid condensation of moisture on the product at low temperature.

TRANSPORTATION :

Banding Tape require special / quick transportation arrangements. Mutual consultation is suggested for appropriateness depending on transit period, available modes, handling, etc. Considering the sensitivity of Banding Tape promptness is required by the buyer to take delivery of consignment and store suitably.



Automotive Armature



Slip-ring Rotor

Technical Data Sheet :

Characteristics	Values
Thermal Class	F H H+
Thermal rating of Banding	155°C 200°C 220°C
Yarn used	E glass - 75 ½ or equivalent
Thickness	0.3 mm approx.
Width tolerance	± 10%
No of yarns per cm	30 ± 1/cm
Weight per 100 m of 10 mm width	0.56 kg approx.
Tensile strength B stage	≥ 2000 N/cm
Tensile strength C stage	≥ 2500 N/cm
Resin content	Available from 24% to 32% as per customer requirement
Curing cycle (typical)	5 hrs at 150°C, once the job reaches the temp.
Arc Resistance (ASTM D 495)	> 120 Sec.
Elongation	upto 3%
Modulus of Elasticity at room temp.	60,000 N/mm ²
Comparative Tracking Index	600

Product Offer :

Width options (mm)	5, 8, 10, 20, 25, 30, 40, 50, 60, 100
Length per roll options (m)	100, 200, 1000, 1500, 1800
Thermal Class options	Class F-155°C, Class H-200°C, H ⁺ -220°C

Shelf Life Guidelines :

TEMP. (deg C)	10	15	20	30
Shelf life (months)	24	18	12	08



Power Transformer Core



Wind Generator Rotor



**Glass Fibre Tape
Polyester Fibre Tape
Glass + Polyester Fibre Tape**

are produced by weaving on narrow fabric looms in various thickness & weave density. The tapes are available generally in plain weave & twill weave upon request. The tapes are rolled on to a core to a required length. Core size and tape length are as per customer requirement. The tapes are in loom state condition with uniform selvedge.

COMMON FEATURES :

- Excellent di-electric properties.
- Good chemical resistance.
- Good reinforcement to insulating varnishes
- Armoring against mechanical damage.

APPLICATION :

Our woven tapes find application in electrical industry for insulation purposes, in stator & rotor coils in rotating machines, transformers and power cables.

The Glass Fibre Tapes serve as high temperature reinforcement to electrical insulating varnishes on the coil of the motors. Glass Tape are suitable upto class C, have dimensional stability and are incombustible.

The Polyester Fibre Tapes finds application in electrical rotating machine industry for armoring of mica based insulation, finishing and tying of coils. These Woven Polyester Tapes are suitable upto class F and is heat shrinkable supporting added tightness to the windings.

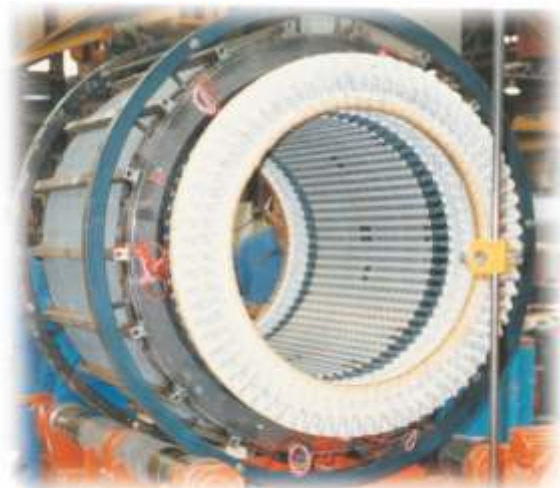
The Glass + Polyester Fibre Tapes are usually used for similar application as glass tape but has advantage of non fraying edges due to polyester yarn being in the weft direction and glass in the warp direction. These Woven Glass + Polyester Tapes are hybrid tapes with high tensile & incombustible properties of glass fibre in the machine direction and ease of handling of polyester fibre across. Or vice versa where polyester is in machine direction as warp to support shrinkage & glass across in weft for use temperature enhancement



SELECTION OF WOVEN TAPE :

The choice of our woven tape to be used for a particular job usually depends on the following

- Temperature class : upto Class F-155°C, upto Class C-230°C + maximum short term temp. upto 500°C
- Thickness : The allowable thickness of the tape in relation to the end use can be an important criterion. The nominal thickness measured between the selvages, for woven tapes are usually from 0.09 mm. to 0.23 mm. Higher thickness are available upon request.
- Width of the tape : Depending on the end use, various widths from 05 mm to 160 mm can be used. The tolerance on width is $\pm 10\%$ mm for nominal widths upto and including 25 mm and ± 1.5 mm for nominal widths over 25 mm or upto 10% based on the requirement.
- Weave Density : No of ends in warp & weft direction per unit length signify weave density. Various options are available.
- Length of the tape : Standard 50 meters. However available as per customer requirement in other lengths also.
- Breaking Strength : This is an important criteria, since while winding, the tape should not tear off or dislocate and should have adequate strength.



TECHNICAL DATA :

Typical values shown for 25 mm unit width of standard thickness. For other widths proportionate values are applicable. Tape are available in width ranging from 10 mm to 160 mm. Item code along with width in mm is required to convey the requirement of the desired tape. For tapes not covered by this table, the customer may please put forth their requirement by providing their specification and sample for us to respond.

ITEM CODE	THICKNESS (normal) mm	TOLERANCE mm	NO. OF ENDS (minimum) warp / cm warp / width	NO. OF ENDS (minimum) weft / cm weft / inch	TENSILE STRENGTH (minimum) N / mm	% SHRINKAGE in length at 155° C for 60 minutes	TYPE of WEAVE
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GLASS FIBRE TAPE

GL-09A	0.09	+ 0.02 /	25	14	22	----	PLAIN
		- 0.01	64	36			
GL-13A	0.13	+ 0.04 /	25	14	30	----	PLAIN
		- 0.01	64	36			
GL-18A	0.18	+ 0.03 /	20	10	45	----	PLAIN
		- 0.02	50	25			
GL-23A	0.23	+ 0.03 /	20	10	45	----	PLAIN
		- 0.02	50	25			
GL-40A	0.40	+ 0.03 /	20	10	70	----	PLAIN
		- 0.03	50	25			

POLYESTER FIBRE TAPE

PM-13A	0.13	± 0.03	24	15	12	5 - 9 % medium shrink	PLAIN
			60	38			
PM-15A	0.15	± 0.03	33	15	16	5 - 9 % medium shrink	TWILL
			82	34			
PM-20A	0.20	± 0.03	34	12	16	5 - 9 % medium shrink	PLAIN
			85	30			
PM-25A	0.25	± 0.03	37	8	45	5 - 9 % medium shrink	PLAIN
			93	20			
PM-25E	0.25	± 0.03	32	12	30	5 - 9 % medium shrink	TWILL
			80	30			
PH-14A	0.14	± 0.03	64	15	15	≥ 10 % high shrink	PLAIN
			160	38			

GLASS + POLYESTER FIBRE TAPE

GP-9A	0.09	+0.02 /	25	14	22	----	PLAIN
		-0.01	64	36			
GP-13A	0.13	+0.04 /	25	14	30	----	PLAIN
		-0.01	64	36			
GP-18A	0.18	+0.03 /	20	10	45	----	PLAIN
		-0.02	50	25			
GP-23A	0.23	+0.03 /	20	10	45	----	PLAIN
		-0.02	50	25			
GP-40A	0.40	+0.03 /	20	10	70	----	PLAIN
		-0.03	50	25			