Banding tapes

Polyglas® H180

- Class H insulation material
- High mechanical resistance
- Moisture resistance
- Corrosion resistance

General description
Polyglas® H 180 is a B stage banding tape made of parallel glass plied yarn pre-impregnated with a special thermosetting polyester PEI base resin. The banding tape forms a mechanical loop to hold coils in place against centrifual forces and replace metal armature or steel bands.

Application
Banding of rotors and overhangs
Banding traction rotors
Banding collectors of motors
Banding transformer core or cylinders when H class is requested
Also used as lashing rope, creating a rigid support for motor and generator windings and end turns during startup and load changes

Specifications

Characteristics as supplied		value	Test norm
Thickness	mm	0.30 ± 0.03	IEC 60371-2
Total weight	g/sqm	600 ± 60	IEC 60371-2
Yarns number	yarn/cm	30 ± 1	ASTM D 902
Volatile content	%	0.9 ± 0.5	ASTM D 2369-A
Resin content	%	26 ± 2	ASTM D 2408-6.2.2
Tensile strength	N/cm	≥ 2000	IEC 60934-2

Characteristics after application and polymerization			
thickness	mm		
Thermal class	°C	200	IEC 60085
Tensile strength each turn	N /cm	2000	Test Method GI09.01b
Elongation at break at 20°C	%	1.2 ± 0.4	/
Modulus of elasticity at 20°C	N/mm²	≥ 60 000	/
Weight loss	%	≤ 5	IEC 2016
Tracking Index	V	600	IEC 60112
Arc Resistance	s	180	ASTM D 495
Breakdown voltage in oil	KV/cm	28 ± 2	IEC 60243-1

Main characteristics
The main advantages of Polyglas® tapes in comparison with steel wire bandages are listed as follows:

Eddy currents proof material and locally not exposed to overheating
Outstanding properties of breaking through fatigue
Elimination of flashover among windings and steel bands
Saving in insulating materials and in weight
Saving in material costs and in process costs through reduced application time
Resistance to corrosion in tropical environments
Reduces noise and improve harmonics of transfomer

Processing

Von Roll Italia S.p.A.
I-24050 Ghisalba (BG)
www.vonroll.com

By using a suitable tensioning device the tape should be applied with up to maximum suggested pull at a temperature ranging from 80 to 100 °C and at a speed around 10 m/min.

This procedure is strongly suggested for those applications in which the purpose is to obtain at least the 60% of pull as residual tension in the cured bandage.

A proper locking of tape to secure the pull applied during bandage must be performed through an hot iron or a soldering pin for a time necessary to fix the ends.

To obtain a shiny surface after curing it's suggested a masking procedure with normal or shrinkable polyester foil. It allows even a controlled flowing off the resin during curing avoiding any bubble or lump on the surface.

Cure Time
Curing times are related for each product to temperature applied for a certain time through following table:
(Time required the object to reach the temperature isn't included in the table)

Temperature °C	Hours
160	2.5
150	3
135	5
120	14
115	20

Shelf life
If not for immediate use, tape must be stored in its original container in a cool and dry area.
Notice: Before removing cooled material from the plastic bag, let the tape reach room temperature

Storage conditions	
Temperature	Shelf life
10 °C	24 months
15 °C	18 months
20 °C	12 months
25 °C	8 months

Form of delivery
Supplied in polyethylene bags which should not be open until time of use.
Type A packing : flat pancakes plastic core ID 83 mm
Type B packing : spools, flange OD 160 mm, width 200mm
Type C packing : spools, flange OD 290 mm, width 280mm

Banding tape widths available from 6.5 to 51 mm packing Type A length 100 or 200 M or spools as below :
Other length like 50 M upon request.

Packaging

Spool type and content						
Tape width	mm	10	15	20	25	30
Packing type		B	B	C	C	C
Roll length	m	750	500	1800	1500	1200